Western Refining Southwest LLC
A subsidiary of Marathon Petroleum Corporation

I-40 Exit 39
Jamestown, NM 87347

January 18, 2024

Mr. Ricardo Maestas
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505

RE: Area of Concern 26 – Process Units and Area of Concern 27 – Boiler and Cooling Unit Area Investigation Report
Western Refining Southwest LLC, D/B/A Marathon Gallup Refinery
EPA ID #NMD000333211
HWB-WRG-21-022

Dear Mr. Maestas:

Attached please find the Investigation Report for Area of Concern 26 – Process Units and Area of Concern 27 – Boiler and Cooling Unit Area, as outlined in the revised "Area of Concern 26 – Process Units and Area of Concern 27 – Boiler and Cooling Unit Area Investigation Work Plan" submitted to the New Mexico Environment Department on June 14, 2023.

If you have any questions or comments regarding the information contained herein, please do not hesitate to contact Mr. John Moore at (505) 879-7643.

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction of supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,
Western Refining Southwest LLC, D/B/A Marathon Gallup Refinery

Timothy J. Peterkoski
Director of Environment and Climate Strategy
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Enclosure

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WESTERN REFINING SOUTHWEST LLC

D/B/A MARATHON GALLUP REFINERY

AREA OF CONCERN 26 – PROCESS UNITS AND

AREA OF CONCERN 27 – BOILER AND COOLING

UNIT AREA INVESTIGATION REPORT

JANUARY 18, 2024

Executive Summary

Western Refining Southwest LLC D/B/A Marathon Gallup Refinery (Refinery) is submitting this investigation report summarizing the soil and light non-aqueous phase liquid (LNAPL) sampling at Area of Concern (AOC) 26 and AOC 27. The sampling was conducted to further define the nature and extent of potential impacts from AOC 26, which encompasses the Process Units of the Refinery, and AOC 27, which is the Boiler and Cooling Unit Area. Sampling was conducted in accordance with the "Area of Concern 26 – Process Units and Area of Concern 27 – Boiler and Cooling Unit Area Investigation Work Plan" submitted to the New Mexico Environment Department (NMED) on June 14, 2023 (MPC 2023).

The investigation was conducted the week of August 14, 2023, where 24 soil borings were drilled in and around AOC 26 and 27. LNAPL was sampled from the two downstream wells that had sufficient LNAPL volume to collect a sample. LNAPL samples were collected to provide an initial assessment of potential source areas within AOC 26 or AOC 27. A total of 76 soil samples were collected, in addition to 9 blind duplicates. Soil samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, gasoline range organics (GRO), diesel range organics (DRO), oil range organics (ORO), and total chlorides and were compared to NMED Industrial, Construction Worker, and Residential soil screening levels (SSLs) (NMED 2021) . Metal analytes were also compared to NMED soil leachate (SL)-SSLs with a dilution attenuation factor (DAF) of 20 (NMED 2021).

Several detected and non-detected exceedances were identified in borings between 0 and 10 feet below ground surface. The soil analytical results in comparison to the human health and leachate based SSLs are summarized below:

- 1 detected and 17 non-detected Industrial SSL exceedances
- 5 detected and 4 non-detected Construction Worker SSL exceedances
- 2 detected and 185 non-detected Residential SSL exceedances
- 94 detected and 0 non-detected SL-SSL exceedances

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List of Acronyms

%	percent
AOC	Area of concern
bgs	below ground surface
DAF	dilution attenuation factor
DRO	diesel range organics
ft	foot or feet
GRO	gasoline range organics
LNAPL	light non-aqueous phase liquid
mg/kg	milligrams per kilogram
NDMA	n-nitroso-dimethylamine
NMED	New Mexico Environment Department
ORO	oil range organics
PEF	particulate emission factor
PID	photoionization detector
Refinery	Marathon Gallup Refinery
SL	soil leachate
SPLP	Synthetic Precipitation Leaching Procedure
SSL	Soil Screening Level
SVOC	semi-volatile organic compounds
TPH	total petroleum hydrocarbons
VOC	volatile organic compounds
$\mu g/m^3$	micrograms per cubic meter

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1.0 Introduction

Western Refining Southwest LLC (D/B/A Marathon Gallup Refinery) (Refinery) is submitting this investigation report summarizing the soil and LNAPL sampling at the Area of Concern (AOC) 26 – Process Units and AOC 27 – Boiler and Cooling Unit Area, conducted during the week of August 14, 2023. The Refinery is located approximately 17 miles east of Gallup, New Mexico along the north side of Interstate Highway I-40 in McKinley County (Figure 1-1). The physical address is I-40, Exit #39 Jamestown, New Mexico 87347. The Refinery property covers approximately 810 acres and is currently indefinitely idled. The sampling was conducted to further delineate the nature and extent of potential impacts within AOC 26 and 27, which will ultimately inform future remedy evaluations for AOC 26 and 27.

Sampling was conducted in accordance with the "Area of Concern 26 – Process Units and Area of Concern 27 – Boiler and Cooling Unit Area Investigation Work Plan" submitted to the New Mexico Environment Department (NMED) on November 30, 2021 (MPC 2021). A Disapproval from NMED was received by the Refinery on March 18, 2022 (NMED 2022), and a revised version was submitted to NMED on June 10, 2022 (MPC 2022). An Approval with Modifications from NMED was received by the Refinery on March 22, 2023 (NMED 2023), and a revised version entitled "Area of Concern 26 – Process Units and Area of Concern 27 – Boiler and Cooling Unit Area Investigation Work Plan" (Work Plan) was submitted to NMED on June 14, 2023 (MPC 2023).

1.3 Background

AOC 26 is located in the southeastern part of the Refinery (as shown on Figure 1) and consists of the following process units: crude distillation, fluidized catalytic cracking, alkylation, reforming, diesel hydro-treating, naphtha hydro-treating, merox treater, ammonium thiosulfate, sulfur recovery, saturated gas, isomerization, blended gas, and gas conditioning. The process units were constructed in the 1950s and additional units have been added since then; the process units were in continuous operation until the Refinery idled in August 2020.

AOC 27 is also located in the southeastern part of the Refinery (Figure 1) and consists of the 4 boilers and 4 cooling towers. The boilers and cooling towers were constructed in the 1950s and were in continuous operation until the Refinery idled in August 2020.

1.2 Historical Information

Previous sampling in the vicinity of AOC 26 and 27 has been limited. As stated in Section 7 of the "Assessment Report for AOC 26 – Process Units" (MPC 2020a), sampling in AOC 26 has been limited to releases and excavation confirmation sampling. As stated in Section 7.3.e of the "Assessment Report for AOC 27 – Boiler and Cooling Unit Area" (MPC 2020a), "[t]here have not been any spills or other indications of releases from the boilers or cooling units that required sampling."

Further details regarding historical information and documentation can be reviewed in the "Assessment Report for AOC 26 – Process Units" (MPC 2020a) and "AOC Assessment Report, AOC 27 – Boiler and Cooling Unit Area" (MPC 2020b), both submitted to NMED in 2020.

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1.3 Scope and Objectives

The scope of this investigation was outlined in the Work Plan submitted to NMED on June 14, 2023 (MPC 2023). The purpose of this investigation as stated in the Work Plan was to evaluate the diesel and gasoline occurrences in AOC 26 and to evaluate the absence of residual contamination in AOC 27 (MPC 2021).

The project objectives were to:

- Drill and sample 24 soil borings, 19 in the vicinity of AOC 26 and 5 in the vicinity of AOC 27, to 40 feet (ft) below ground surface (bgs) or until refusal, whichever occurs first.
- Collect up to six light non-aqueous phase liquid (LNAPL) samples: one sample each from downstream monitoring wells MKTF-37, MKTF-38, MKTF-39, MKTF-47, MKTF-48, and OW-61, assuming sufficient sample volume is present.

2.0 Field Investigation

This section provides information pertaining to the drilling and sampling activities that were completed the week of August 14, 2023.

Subsurface utility locates were conducted in a three-step process. A subsurface geophysical survey was conducted to locate private utilities at each of the 24 proposed soil boring locations by Ground Penetrating Radar Services. After the geophysical survey, New Mexico One Call was contacted to locate and mark underground public utilities in and around the Site before any excavations began. Finally, V-trenching was completed to a depth of 5 ft bgs utilizing air-knifing by Gallup Pipeline and Compliance Services. Soil borings were completed by utilizing a Geoprobe™ with Direct Push Technologies provided by Yellow Jacket Drilling and LNAPL samples were collected by a qualified technician using disposable bailers.

2.1 Soil Borings

A total of 24 soil borings were advanced using a direct push drilling rig. 19 borings were located in the vicinity of AOC 26, with 5 in the vicinity of AOC 27. The total depth of each boring was dependent on the subsurface conditions encountered in the field and refusal was met in all 24 borings prior to reaching 40 ft bgs (Table 2-1). Boring locations are shown on Figure 2-1. 12 soil borings had no groundwater present at the time of drilling, and groundwater was encountered in 12 borings (SB-02 through SB-04, SB-06, SB-07, SB-09, SB-11, SB-13, SB-14, SB-17, SB-19, and SB-22) at varying depths ranging from 7 ft bgs at boring SB-23 to 21.55 ft bgs at boring SB-09. Generally, fill material was observed in all of the 24 borings, in varying thickness across AOC 26 and AOC 27 with an average thickness of 5 ft on the southern side of the process units and up to an average of 15 ft thick on the northern side of the process unit, followed by layers of clayey soils and fewer layers of sandy soils. Bedrock was encountered in 12 of the 24 borings at various depths ranging 10 to 30.5 ft across the investigation area. The bedrock that was encountered in AOC 26 and AOC27 was a mudstone with layers of siltstone, claystone and sandstone. Soil boring logs are provided in Appendix A.

The intervals at which analytical soil samples were collected from each boring approved by NMED in the Work Plan were as follows (and as summarized on Table 2-1):

- Surface sample (6 to 12 inches bgs) (designated as “Surface” samples on Table 2-1)
- Just above the water table, if applicable (designated as “Water” samples on Table 2-1)
- The bottom of the boring (designated as “Depth” samples on Table 2-1)
- The zone with the highest photoionization detector (PID) reading, if applicable (designated as “PID” samples on Table 2-1)

Continuous soil samples were collected using a soil probe rod with an acetate liner. Each 5 ft interval was inspected for visual contamination and measured for volatile organic compounds (VOC) using a PID. Seven soil borings exhibited little to no signs of impact (SB-18 through SB-24), all located on the southern border of the

investigation area. 10 borings (SB-01, SB-04 through SB-10, SB-12, and SB-15) had a third sample taken because they either showed signs of impact or had groundwater present. 5 borings (SB-02, SB-03, SB-11, SB-13, and SB-14) showed signs of impacts and had a fourth sample taken from the zone with the highest PID reading, per the Work Plan.

2.2 LNAPL Sampling

Two of the six monitoring wells (MKTF-39 and OW-61) identified in the Work Plan as wells to be sampled for LNAPL were sampled with disposable bailers according to the procedure outlined in the Work Plan. The other four monitoring wells (MKTF-37, MKTF-38, MKTF-47, and MKTF-48) had insufficient LNAPL volume present during the week of sampling and were not sampled.

2.3 Deviations from Approved Plan

Deviations from the Work Plan included the following:

- In five soil borings (SB-04, SB-06, SB-07, SB-17, and SB-21), the surface sample was not collected due to little or no recovery within that sample interval. Per the Work Plan, attempts were made to collect additional cores within 6 lateral inches of the boring, but these additional cores also demonstrated poor recovery.
- 12 soil borings did not have a sample collected near groundwater. There was no recovery just above groundwater in two borings (SB-09 and SB-23) due to low density and high moisture content in the soil above the point of refusal, and groundwater was not encountered at the time of drilling in ten borings (SB-05, SB-08, SB-10, SB-12, SB-15, SB-16, SB-18, SB-20, SB-21, SB-23).
- One sample was not collected due to a sampling error by the field sampling team. Soil boring SB-12 is missing a sample from the sample interval with the highest PID reading.
- There were four additional soil samples taken at borings with low PID readings where the soil exhibited a strong hydrocarbon odor. The additional samples were collected at the intervals where the strongest odor was observed in each of the 4 borings. The additional samples taken were SB-18 (10-11 ft), SB-19 (10-11 ft), SB-20 (10-11 ft), and SB-24 (19.5-20.5 ft).

3.0 Laboratory Analytical Results

Results of the soil and LNAPL data with applicable standards are presented in the following tables:

- Tables 3-1A to 3-1D – Soil results compared to 2022 NMED SSLs
- Table 3-1E – Soil results compared to 2022 soil-leachate (SL)-soil screening levels (SSLs) with a dilution attenuation factor (DAF) of 20
- Table 3-2A to 3-2C– LNAPL results

Analytical laboratory reports are included in Appendix B. Data validation reports are included in Appendix C. Soil sampling results compared to the 2022 Industrial, Construction Worker, and Residential SSLs are summarized in the following sub-sections. Metals results are compared to the 2022 NMEDSL-SSLs with a DAF of 20.

Non-detect exceedances, in which the reporting limit of a non-detect result is greater than an NMED SSL, were also identified. Non-detect reporting limit exceedances are noted as data quality exceptions and are identified by non-detect results shown in bold on the tables for samples within 10 ft bgs. There were multiple instances of ND exceedances for VOCs, SVOCs and metals below 10 ft bgs, which are briefly discussed below, but are not shown in bold on the tables as the pertinent receptors are assumed to be exposed within 10 ft bgs.

3.1 Soil

This section outlines the analytical results from the soil boring samples in comparison to human health-based screening levels. Residential screening levels apply to samples collected from 0 to 10 ft bgs and are included on Tables 3-1A to 3-1Dbut are not further discussed in this section. Residential SSLs are not remedial drivers at this time, based on the industrial use of the property.

Industrial SSLs were used for screening data collected at the surface (0.5 ft to 1 ft), and Construction Worker SSLs were used for screening data collected from 1 ft bgs to 10 ft bgs. For samples from 0.5 ft to 10 ft bgs, exceedances of Construction Worker, Industrial Worker, and Residential SSLs are marked with A, B, or C qualifiers, respectively. Non-detect exceedances are marked with a lowercase qualifier of the respective standard. Samples taken in the vicinity of AOC 27 are marked with an asterisk (*) in the lists below.

3.1.1 VOCs

The sample results for VOCs compared to 2022 NMED Industrial, Construction Worker, and Residential SSLs are provided in Table 3-1A. No Industrial or Construction Worker SSL exceedances or non-detect exceedances were identified for VOCs for samples collected from 0.5 – 10 ft bgs. There were no VOCs detected above human health-based screening levels below 10 ft bgs.

Non-detect exceedances for Industrial Worker SSLs were identified below 10 ft bgs for two VOCs (1,2-Dibromo-3-Chloropropane and 1,2,3-Trichloropropane), all at depths associated with known smear zone

and/or groundwater contamination. There were no non-detect VOC exceedances associated with Construction Worker SSLs below 10 ft bgs.

3.1.2 SVOCs

The sample results for semi-volatile organic compounds (SVOCs) compared to 2022 NMED Industrial, Construction Worker, and Residential SSLs are provided in Table 3-1B. No Industrial or Construction Worker SSL exceedances were detected for SVOCs for samples collected between 0.5 ft bgs to 10 ft bgs. However, non-detect exceedances for Construction Worker SSLs were identified for bis(2-chloroethyl)ether in the following samples:

- SB-07 (5-10 ft)*
- SB-11 (1-5 ft)
- SB-21 (8.5-9.5 ft)
- SB-23 (4-5 ft)

There were no non-detect exceedances for Industrial SSLs in surface samples. There were five boreholes with non-detect exceedances in samples collected below 10 ft bgs in comparison to Construction Worker SSLs for bis(2-chloroethyl)ether; however, the highest detection limit (3 mg/kg) was only 1.5 times over the Construction Worker SSL (1.95) for that analyte.

An industrial non-detect exceedance was identified in SB-20 (0.5-1 ft) for dibenzo(a,h)anthracene, with the detection limit (4.6 mg/kg) slightly over the Industrial SSL of 3.23 mg/kg .

Industrial non-detect exceedances were also identified for n-nitroso-dimethylamine (NDMA) in the following surface samples, with the highest detection limit of 5.5 mg/kg approximately 10 times over the Industrial SSL of 0.503 mg/kg:

- SB-01 (0.5-1 ft)
- SB-02 (0.5-1 ft)
- SB-05 (0.5-1 ft)*
- SB-08 (0.5-1 ft)
- SB-10 (0.5-1 ft)*
- SB-11 (0.5-1 ft)
- SB-12 (0.5-1 ft)
- SB-13 (0.5-1 ft)
- SB-14 (0.5-1 ft)
- SB-15 (0.5-1 ft)
- SB-16 (0.5-1 ft)
- SB-18 (0.5-1 ft)
- SB-19 (0.5-1 ft)
- SB-20 (0.5-1 ft)
- SB-22 (0.5-1 ft)
- SB-23 (0.5-1 ft)
- SB-24 (0.5-1 ft)

There were no non-detect exceedances of NDMA below 10 ft in comparison to Construction Worker SSLs.

3.1.3 Metals

The sample results for metals compared to 2022 NMED Industrial, Construction Worker, and Residential SSLs are provided in Table 3-1C. No Industrial SSL exceedances (and no non-detect exceedances) were identified for metals in surface samples. The Refinery submitted a Background Soil Investigation Report in December 2022, which proposed that the NMED Construction Worker SSLs be used for all metals soil samples except for total manganese (Western 2022). For the Rehobeth formation, a total manganese background value of 1,042 mg/kg was proposed and for the Simitarq-Celavar formation, a total manganese background value of 1,866 mg/kg was proposed. Table 3-1C does not screen the data since these background values have not been approved.

Detected Construction Worker SSL exceedances were identified for total manganese in 4 samples within 10 ft bgs:

- SB-07 (5-10 ft)*
- SB-08 (5-10 ft)
- SB-11 (1-5 ft)
- SB-21 (5-6 ft)

There were additional detected exceedances for manganese in samples collected below 10 ft bgs in comparison to the Construction Worker SSL, but as previously stated they are not listed here and they are not shown in bold on the tables as the default exposure depth for that receptor is up to 10 ft bgs.

3.1.4 General Chemistry

The sample results for general chemistry analytes compared to 2022 NMED Industrial, Construction Worker, and Residential SSLs are provided in Table 3-1D. No Construction Worker or Industrial SSL non-detect exceedances were identified for general chemistry analytes for samples within 10 ft bgs. TPH impacts were detected below 10 ft bgs at depths associated with known smear zone and/or NAPL in groundwater.

Industrial SSL exceedances were identified for DRO in SB-01 (0.5-1 ft).

3.1.5 Migration to Groundwater Screen

Per NMED SSL guidance, SL-SSLs with a DAF of 20 are compared to the maximum reported concentration as a first step screening assessment in Table 3-1E. In the investigation area, the presence of LNAPL and associated smear zone effects are the primary sources of benzene, ethylbenzene, toluene, and total xylenes (BTEX) and TPH to groundwater. These sources are expected to persist long in the investigation area, the presence of LNAPL and associated smear zone effects are the primary sources of benzene, ethylbenzene, toluene, and total xylenes

(BTEX) and TPH to groundwater. These sources are expected to persist longer than any vadose zone sources and, as such, a comparison to DAF SSLs is not applicable.

To aid in interpretation of the metals data, the ratio of constituent concentration to the corresponding DAF SSL was calculated as a way of screening for locations that may need further evaluation in the short. Ratios below 10 indicate that based on the conservative model used to develop the NMED DSAF SSLs, there is a relatively small chance that the constituent is leaching to groundwater. Ratios above 10 may indicate that further analysis, such as the calculation of a site-specific soil screening level for migration to groundwater, or re-sampling soils for analysis using the Synthetic Precipitation Leaching Procedure (SPLP) laboratory method to determine potential soil pore water concentrations.

There were 3 VOCs identified in SB-01 and SB-02 with SL-SSL ratios greater than 10. There were GRO, DRO, and ORO detections with SL-SSL ratios greater than 10 in SB-01, SB-07, SB-16, SB-22, SB-23, and SB-24. There were 28 analytes, VOCs and SVOCs, that had non-detect exceedances of SL-SSLs in 21 borings (SB-01 through SB-03, SB-05, SB-07 through SB-16, and SB-18 through SB-24). The majority of these non-detect exceedances occurred in samples taken at 0.5 to 1 ft bgs. Non-detect exceedances of bis(2-chloroethyl)ether, NDMA, and 1,2,3-trichloropropane (TCP) accounted for over 60% of the SL-SSL ratios over 100. Given the shallow depth of the non-detect exceedances and the high SL-SSL ratios, additional evaluation is warranted, as further discussed in Section 4.

3.2 LNAPL

This section outlines the analytical results from the LNAPL samples. The purpose of analyzing LNAPL in downstream monitoring wells near AOC 26 and AOC 27 was to determine if the LNAPL present in those wells are related to potential impacts within AOC 26 or AOC 27, as outlined in the Work Plan. Analytical results for MKTF-39 identify the LNAPL composition as 91% DRO and 2.6% GRO. Benzene was not detected in MKTF-39. The composition of OW-61 was 52% DRO and 32% GRO with a benzene concentration of 1200 milligrams per kilogram (mg/kg). Analysis of SVOCs in LNAPL samples was performed outside of the method hold time for Environmental Protection Agency Method 8270C for most analytes. As a result, the sample results were flagged with either an estimated concentration, J, or were rejected, R. The rejected data are not used for evaluation of the results. The LNAPL screened in OW-61 had a concentration of GRO 29.4% higher than the LNAPL screened in MKTF-39. Similarly, the DRO result for OW-61 was 39% lower than the result for MKTF-39. Based on the difference in GRO and benzene concentration, it is likely that the LNAPL screened in MKTF-39 originates from a separate source than the LNAPL screened in OW-61. 3.3 QA/QC Samples

Methanol blank samples were provided by the laboratory as trip blanks. Methanol blank samples were sent in the coolers by the laboratory and were not altered between sampling and analysis. There were no analytes detected in the trip blank samples.

Equipment blanks were also collected and analyzed by the laboratory. Analytes were detected in one of the equipment blanks collected during the soil sampling (see Part #19 of Data Validation Report for the laboratory

report 2308A58 [Appendix C]). Samples with detections of these analytes that were less than the blank results and/or less than the reporting limit were assigned U qualifiers. Samples with detections of these analytes that were less than 10 times the blank results were assigned JB qualifiers.

Tier II data validation was performed on the data package provided by the laboratory. The Tier II data validation included a review of the completeness of the data packages, chain of custody forms, sample condition receipts, sample preservations, holding times, the case narrative, and the quality control summary. Several data points were assigned data qualifiers during Tier II data validation indicating one or more results are an estimated concentration ("J"), an estimated concentration but may be biased low ("J-"), an estimated concentration but may be biased high ("J+"), an estimated reporting limit ("UJ"), evaluated to be undetected at the reporting limit ("U"), or were rejected ("R"). The analytical result for antimony at SB-10 (23.5-24.5 ft bgs) was rejected due to low matrix spike and/or matrix spike duplicate percent recovery, indicating possible matrix interference. Data completeness for this set is 99.01% percent acceptable. Tier II data validation reports are presented in Appendix C.

3.4 Analytical Results Summary

Out of the 149 analytes investigated for at AOC 26 and AOC 27, the number of analytes that were identified that exceed their applicable screening levels, detected and non-detected are summarized in the following table:

Sample Matrix	Standard	VOCs	SVOCs	Metals	General Chemistry
Soil	Industrial	0	0 detected 17 non-detected	0	1 detected 0 non-detected
	Construction Worker	0	0 detected 4 non-detected	5 detected 0 non-detected	0
	Residential	0 detected 46 non-detected	0 detected 139 non-detected	0	2 detected 0 non-detected

In terms of non-detect exceedances, NDMA had non-detect exceedances in comparison to Industrial SSLs for several surface samples; the highest ratio of detection limit concentrations to Industrial SSLs was 10.9. Based on chemical and physical properties of NDMA, there is little chance that the analyte would be detected at lower detection limits.

The highest ratio of detected limit concentrations to Construction Worker SSLs was 2.8. for bis(2-chloroethyl)ether, which was only slightly over (1.5x) and most non-detect exceedances were at depths below 10 ft bgs.

With respect to SL-SSLs, additional sampling and/or resampling is recommended in select locations that have high ratios of constituent concentrations to SL-SSLs.

The ratios of non-detected soil concentrations to SL-SSLs was measured as high as 269,607. VOCs and SVOCs bis(2-chloroethyl)ether, NDMA, and TCP accounted for all 93 SL-SSL ratios over 400.

4.0 Conclusions

This investigation was conducted to evaluate the diesel and gasoline occurrences in AOC 26 and to evaluate the absence of residual contamination in AOC 27. The results of this investigation will be used to inform future remedy evaluations. As summarized previously, few detected exceedances were identified with respect to Industrial and Construction Worker receptors, which are the applicable receptors under current and reasonable anticipated future land-use. However, visual impacts were noted in all borings where high PID readings were measured, which includes SB-01 through SB-07 and SB-11 through SB-17. Visual impacts were also observed in SB-18 through SB-20 and SB-24 at depths consistent with smear zone. The visual impacts in these four borings were accompanied by a strong hydrocarbon odor despite the lack of a PID reading.

Per the TPH results, impacts were confirmed within 10 ft bgs in both AOC 26 and AOC 27. A DRO exceedance was identified in SB-01 within AOC 26 for both Industrial and Construction Worker SSLs. In AOC 27, GRO and DRO exceedances were identified in SB-06 for both Industrial and Construction Worker SSLs. However, given the results of the individual analytes in comparison to Industrial SSLs and Construction Worker SSLs, risks to those receptors are constrained and within acceptable limits for reasonably anticipated site uses. Future remedy evaluations will be conducted (including site-wide risk assessment) at Refinery closure.

With respect to the detected manganese exceedances, one factor unrelated to site contamination contributes to the low Construction Worker SSL and thus to the exceedance of this value by the manganese detection limit achieved by the laboratory. First, the driving pathway for the construction worker SSL is particulate inhalation, and the model used to calculate the particulate emission factor (PEF) is highly conservative (see Equation 50, p. 71 of NMED 2021). The calculated PEF (2.1E+6 kilograms per cubic meter) used to derive the construction worker SSLs for non-volatile chemicals (including manganese) corresponds to an ambient air concentration (475 µg/m^3) that is above the 24-hour National Ambient Air Quality Standard for particulate matter (150 µg/m^3 for particles less than 10 micrometers in diameter). It is expected that this level of particulates should be avoided using dust control measures. Air monitoring for particulates, or mitigation, is recommended if particulate concentrations during future construction activities are expected to exceed 150 µg/m^3. In addition, it is noted that total manganese values should also be screened against site-specific background values, when approved by NMED.

With respect to LNAPL samples, results indicate that there are at least two different types of LNAPL in areas adjacent to AOC 26 and 27, and as such these AOCs cannot be ruled out as possible source areas. The LNAPL screened within MKTF-39 had a higher concentration of GRO than DRO, similar to the exceedances identified in nearby SB-6.

SL-SSL exceedances were observed for VOCs, SVOCs, and metals at borings in both AOC 26 and AOC 27 between 0 and 12 ft bgs.

Additional sampling and/or resampling of soils is recommended in select locations that have high ratios of constituent concentrations to SL-SSLs. The Refinery proposes to submit a future work plan outlining an

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investigation pursuant to the findings in this report. The Refinery proposes to discuss the ability to achieve lower detection limits for SVOCs prior to conducting additional laboratory analysis on future samples. In addition, the Refinery proposes to examine locations at which SPLP would be appropriate and to submit a separate work plan within 120 days of NMED's approval of this investigation report, which will provide details on additional sampling locations and additional analysis, as well as a proposed schedule.

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5.0 References

Marathon Petroleum Company (MPC). 2020a. Assessment Report for AOC 26 – Process Units, Marathon Petroleum Company LP, Gallup Refinery (dba Western Refining Southwest, Inc.), EPA ID #NMD000333211. November 2020.

MPC. 2020b. Area of Concern 27 – Boiler and Cooling Unit Area, January 20, 2017 Order on Consent, Marathon Petroleum Company LP, Gallup Refinery (dba Western Refining Southwest, Inc.), EPA ID #NMD000333211. March 27.

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MPC. 2022. Response to Disapproval, Area of Concern 26 – Process Units and Area of Concern 27 – Boiler and Cooling Unit Area Investigation Work Plan, Western Refining Southwest LLC, Marathon Gallup Refinery, EPA ID #NMD000333211, HWB-WRG-21-022. June 10.

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New Mexico Environment Department (NMED). 2021. Risk Assessment Guidance for Site Investigations and Remediation, Volume I Soil Screening Guidance for Human Health Risk Assessments. November.

NMED. 2022. Disapproval, Area of Concern 26 – Process Units and Area of Concern 27 – Boiler and Cooling Unit Area Investigation Work Plan, Western Refining Southwest LLC, Gallup Refinery, McKinley County, Gallup, New Mexico, EPA ID #NMD000333211, HWB-WRG-21-002. March 18.

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Figures

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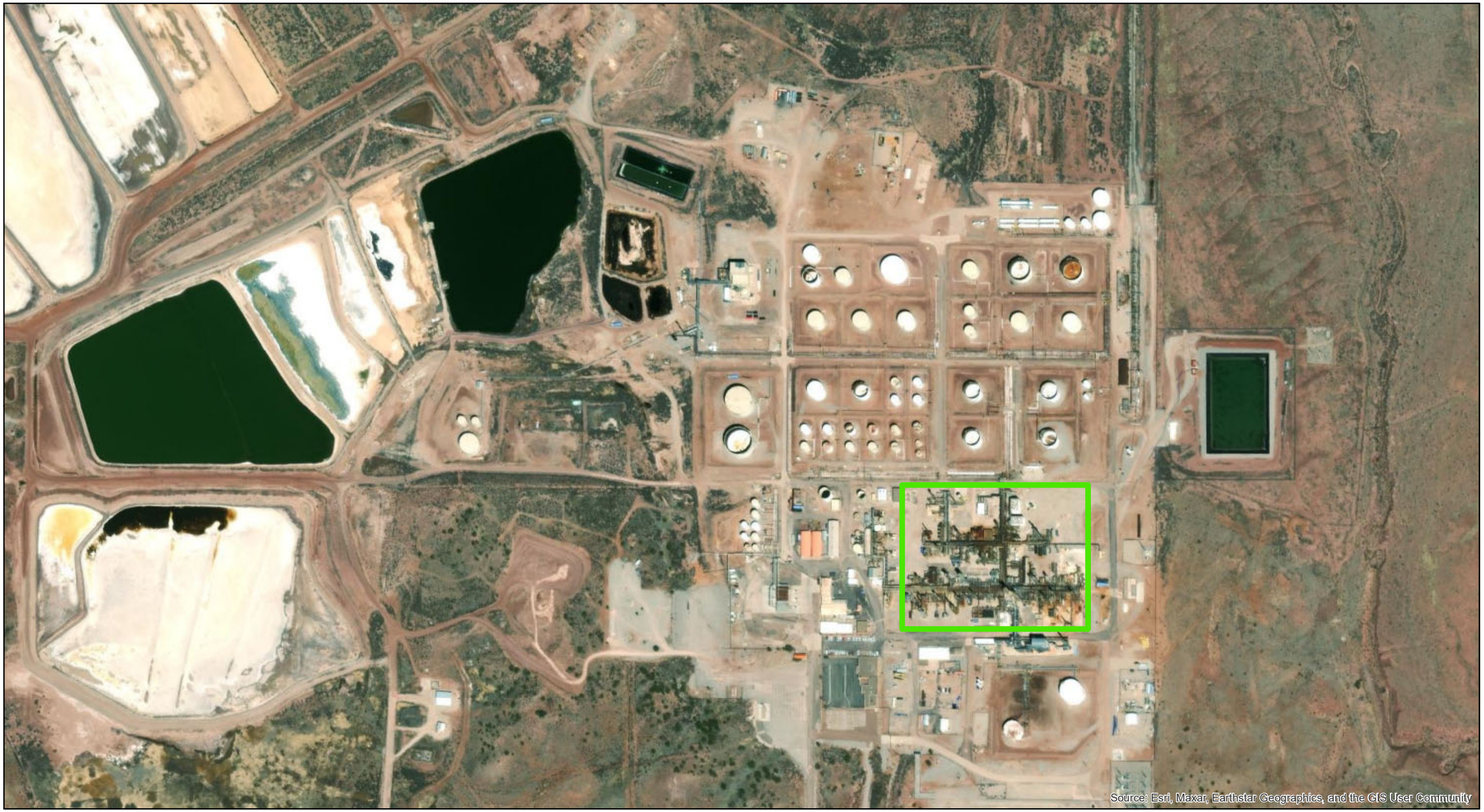

EXPLANATION

AOC 26 - PROCESS UNITS AND AOC 27 - BOILER AND COOLER UNIT AREA

NOTE:

AOC - AREA OF CONCERN

N

0 400'

Trihydro CORPORATION
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Laramie, WY 82070
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FIGURE 1-1

SITE LOCATION
AOC 26 AND AOC 27 INVESTIGATION REPORT

WESTERN REFINING SOUTHWEST LLC
D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Drawn By: KEJ	Checked By: EC	Scale: 1 " = 400 '	Date: 11/3/23	File: 1_SiteLoc_AOC26_WP_Fig1.mxd

M:\TON\MARATHON\GIS\GALLUP\MAPPING\AOC\AOC 26, PROCESSUNITS\REPORTS\2023\1_WORKPLAN\1_SITELOC_AOC26_WP_FIG1.MXD

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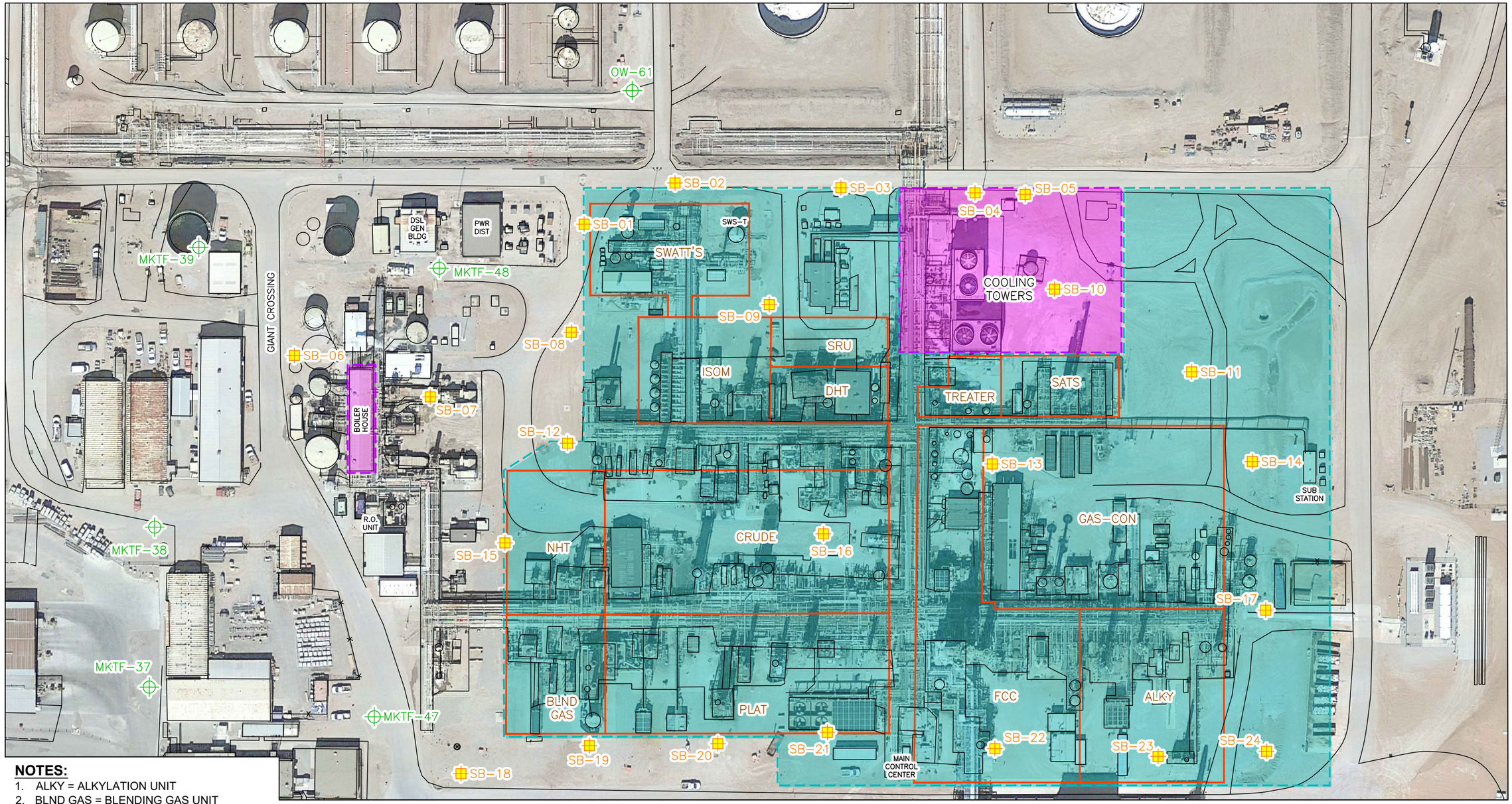

Image Citation: Google Earth Pro Imagery, Publication: March 2016.

NOTES:

1. ALKY = ALKYLATION UNIT
2. BLND GAS = BLENDING GAS UNIT
3. CRUDE = CRUDE DISTILLATION UNIT
4. DHT = DIESEL HYDRO-TREATING UNIT
5. FCC = FLUID CATALYTIC CRACKER UNIT
6. GAS-CON = GAS CONDITIONING UNIT
7. ISOM = ISOMERIZATION UNIT
8. NHT = NAPTHA HYDRO-TREATING UNIT
9. PLAT = REFORMING UNIT
10. SATS = SATURATED GAS UNIT
11. SRU = SULFUR RECOVERY UNIT
12. SWATT'S = AMMONIUM THIOSULFATE UNIT
13. TREATER = TREATER UNIT

EXPLANATION

- MKTF-47 — PROPOSED LNAPL SAMPLE LOCATION AND DESIGNATION
- SB-18 — SOIL BORING LOCATION AND DESIGNATION
- FENCE
- BUILDING OR OTHER STRUCTURE
- AOC 26 - PROCESS UNITS
- AOC 27 - BOILER AND COOLING UNIT AREA
- PROCESS UNIT AREAS
- AOC — AREA OF CONCERN
- LNAPL — LIGHT NON-AQUEOUS PHASE LIQUID

N

0 100'

M:_TON\MARATHON\CADD\GALLUP_REPORTS\AOC\697-AOC-26-202311

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1252 Commerce Drive
Laramie, Wyoming 82070
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FIGURE 2-1

SOIL BORING LOCATIONS
AOC 26 AND AOC 27 INVESTIGATION REPORT

WESTERN REFINING SOUTHWEST LLC
D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Drawn By: JLP	Checked By: AW	Scale: 1" = 100'	Date: 11/3/2023	File: 697-AOC-26-202311

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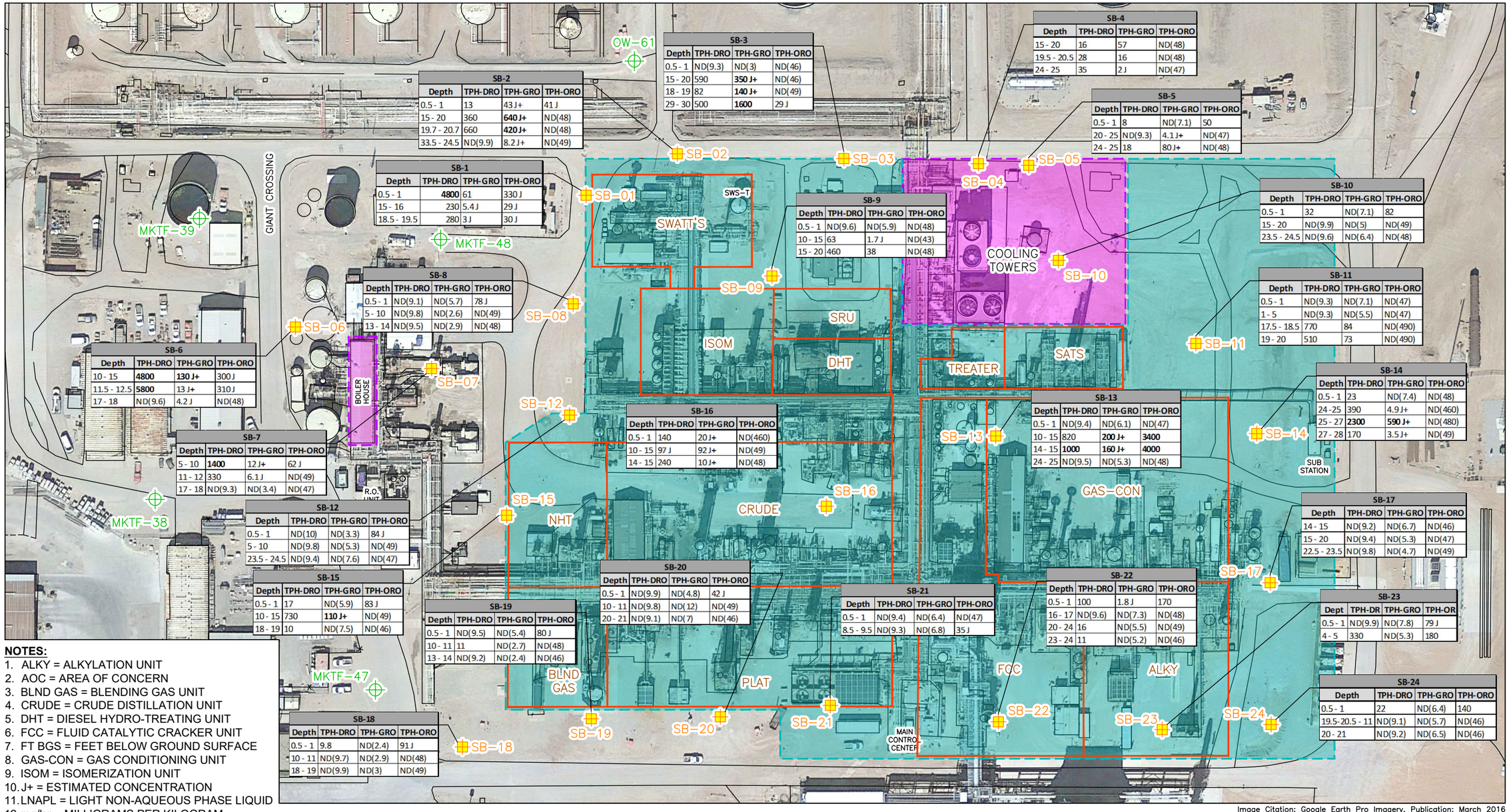

NOTES:

1. ALKY = ALKYLATION UNIT
2. AOC = AREA OF CONCERN
3. BLND GAS = BLENDING GAS UNIT
4. CRUDE = CRUDE DISTILLATION UNIT
5. DHT = DIESEL HYDRO-TREATING UNIT
6. FCC = FLUID CATALYTIC CRACKER UNIT
7. FT BGS = FEET BELOW GROUND SURFACE
8. GAS-CON = GAS CONDITIONING UNIT
9. ISOM = ISOMERIZATION UNIT
10. J+ = ESTIMATED CONCENTRATION
11. LNAPL = LIGHT NON-AQUEOUS PHASE LIQUID
12. mg/kg = MILLIGRAMS PER KILOGRAM
13. ND(X) = NON DETECT (DETECTION LIMIT)
14. NHT = NAPTHA HYDRO-TREATING UNIT
15. PLAT = REFORMING UNIT
16. SATS = SATURATED GAS UNIT
17. SRU = SULFUR RECOVERY UNIT
18. SWATT'S = AMMONIUM THIOSULFATE UNIT
19. TREATER = TREATER UNIT
20. TPH = TOTAL PETROLEUM HYDROCARBONS
21. DRO = DIESEL RANGE ORGANICS
22. GRO = GASOLINE RANGE ORGANICS
23. ORO = OIL RANGE ORGANICS

M:_TON\MARATHON\CADD\GALLUP_REPORTS\AOC\697-AOC-26-202311

EXPLANATION

- MKTF-47 — PROPOSED LNAPL SAMPLE LOCATION AND DESIGNATION
- SB-18 — SOIL BORING LOCATION AND DESIGNATION
- AOC 26 - PROCESS UNITS
- AOC 27 - BOILER AND COOLING UNIT AREA
- PROCESS UNIT AREAS
- BUILDING OR OTHER STRUCTURE
- FENCE

N

0 100'

TABLE EXPLANATION

SAMPLE DESIGNATION

DEPTH IN FT BGS

SB-21

Depth	TPH-DRO	TPH-GRO	TPH-ORO
0.5 - 1	ND(9.4)	ND(6.4)	ND(47)
8.5 - 9.5	ND(9.3)	ND(6.8)	35 J

1. SAMPLE DATA IN mg/kg
2. SAMPLES WERE COLLECTED THE WEEK OF AUGUST 14TH, 2023.
3. **BOLDED** DATA INDICATES AN EXCEEDANCE OF AN APPLICABLE SOIL SCREENING LEVEL.

Image Citation: Google Earth Pro Imagery, Publication: March 2016

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FIGURE 3-1

TPH SAMPLE RESULTS
AOC 26 AND AOC 27 INVESTIGATION REPORT

WESTERN REFINING SOUTHWEST LLC
D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Drawn By: JLP	Checked By: KE	Scale: 1" = 100'	Date: 12/13/2023	File: 697-AOC-26-202311

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Tables

TABLE 2-1. SAMPLING LOCATIONS, DEPTHS, AND PID READINGS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Soil Boring	Sample depth (ft bgs)	PID reading (ppm)	Soil Sample ID	Reason for Sample Collection
AOC2627-SB-1	0.5-1	1.90	SB-01 (0.5-1)	Surface
	1-5	3.10	SB-01 (1-5)	
	5-10	3.15	SB-01 (5-10)	
	10-15	173.2	SB-01(10-15)	
	15-16	192.6	SB-01 (15-16)	PID
	16-18.5		SB-01 (16-18.5)	
	18.5-19.5		SB-01 (18.5-19.5)	Depth
AOC2627-SB-2	0.5-1	314.29	SB-02 (0.5-1)	Surface
	1-5	326.4	SB-02 (1-5)	
	5-10	197.7	SB-02 (5-10)	
	10-15	468.4	SB-02 (10-15)	
	15-19.7	859.1	SB-02 (15-20)	
	19.7-20.7		SB-02 (19.7-20.7)	Water, PID
	20-25	246.7	SB-02 (20-25)	
	25-30	274.1	SB-02 (25-30)	
	30-33.5	139.6	SB-02 (30-33.5)	
	33.5-34.5		SB-02 (33.5-34.5)	Depth
AOC2627-SB-3	0.5-1	76.7	SB-03 (0.5-1)	Surface
	1-5	313.2	SB-03 (1-5)	
	5-10	201.9	SB-03 (5-10)	
	10-15	197.6	SB-03 (10-15)	
	15-18	435.6	SB-03 (15-18)	
	18-19		SB-03 (18-19)	Water, PID
	19-20		SB-03 (19-20)	
	20-25	84.9	SB-03 (20-25)	
	25-29	29.4	SB-03 (25-30)	
	29-30		SB-03 (29-30)	Depth
AOC2627-SB-4	0.5-1	--	SB-04 (0.5-1)	Surface
	1-5	--	SB-04 (1-5)	
	5-10	6.95	SB-04 (5-10)	
	10-15	2.05	SB-04 (10-15)	
	15-19.5	49.65	SB-04 (15-20)	
	19.5-20.5		SB-04 (19.5-20.5)	PID
	20-24	5.20	SB-04 (20-25)	
	24-25		SB-04 (24-25)	Depth

TABLE 2-1. SAMPLING LOCATIONS, DEPTHS, AND PID READINGS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Soil Boring	Sample depth (ft bgs)	PID reading (ppm)	Soil Sample ID	Reason for Sample Collection
AOC2627-SB-5	0.5-1	10.75	SB-05 (0.5-1)	Surface
	1-5	13.50	SB-05 (1-5)	
	5-10	3.75	SB-05 (5-10)	
	10-15	4.75	SB-05 (10-15)	
	15-20	12.45	SB-05 (15-20)	
	20-24	37.15	SB-05 (20-25)	Depth, PID
	24-25		SB-05 (20-25)	Depth, PID
AOC2627-SB-6	0.5-1	0.00	SB-06 (0.5-1)	Surface
	1-5	--	SB-06 (1-5)	
	5-10	267.3	SB-06 (5-10)	
	10-11.5	504.6	SB-06 (10-15)	
	11.5-12.5		SB-06 (11.5-12.5)	Water, PID
	12.5-15		SB-06 (12.5-15)	
	15-17	10.45	SB-06 (15-17)	
	17-18		SB-06 (17-18)	Depth
AOC2627-SB-7	0.5-1	0.75	SB-07 (0.5-1)	Surface
	1-5	--	SB-07 (1-5)	
	5-10	502.6	SB-07 (5-10)	
	10-11	523.1	SB-07 (10-11)	
	11-12		SB-07 (11-12)	PID
	12-15		SB-07 (12-15)	
	15-18	274.3	SB-07 (15-18)	Depth
AOC2627-SB-8	0.5-1	5.20	SB-08 (0.5-1)	Surface, PID
	1-5	--	SB-08 (1-5)	
	5-10	4.50	SB-08 (5-10)	
	10-13	3.20	SB-08 (10-13)	
	13-14		SB-08 (13-14)	Depth
AOC2627-SB-9	0.5-1	3.80	SB-09 (0.5-1)	Surface, PID
	1-5	--	SB-09 (1-5)	
	5-10	1.55	SB-09 (5-10)	
	10-15	0.75	SB-09 (10-15)	
	15-20	0.55	SB-09 (15-20)	
	20-25	--	SB-09 (20-25)	Water
	25-28	--	SB-09 (25-28)	Depth

TABLE 2-1. SAMPLING LOCATIONS, DEPTHS, AND PID READINGS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Soil Boring	Sample depth (ft bgs)	PID reading (ppm)	Soil Sample ID	Reason for Sample Collection
AOC2627-SB-10	0.5-1	2.80	SB-10 (0.5-1)	Surface
	1-5	0.00	SB-10 (1-5)	
	5-10	0.00	SB-10 (5-10)	
	10-15	0.00	SB-10 (10-15)	
	15-20	3.80	SB-10 (15-20)	
	20-23.5	13.66	SB-10 (20-23.5)	
	23.5-24.5		SB-10 (23-24.5)	Depth, PID
AOC2627-SB-11	0.5-1	67.65	SB-11 (0.5-1)	Surface
	1-5	146.6	SB-11 (1-5)	PID
	5-10	85.90	SB-11 (5-10)	
	10-15	16.15	SB-11 (10-15)	
	15-17.5	120.5	SB-11 (15-17.5)	
	17.5-18.5		SB-11 (17.5-18.5)	
	18.5-19		SB-11 (18.5-19)	
	19-20		SB-11 (19-20)	Depth
AOC2627-SB-12	0.5-1	0.55	SB-12 (0.5-1)	Surface
	1-5	--	SB-12 (1-5)	
	5-10	38.65	SB-12 (5-10)	
	10-15	353.8	SB-12 (10-15)	PID
	15-20	4.60	SB-12 (15-20)	
	20-23.5	2.90	SB-12 (20-23.5)	
	23.5-24.5		SB-12 (23.5-24.5)	Depth
AOC2627-SB-13	0.5-1	162.0	SB-13 (0.5-1)	Surface
	1-5	--	SB-13 (1-5)	
	5-10	65.45	SB-13 (5-10)	
	10-14	515.2	SB-13 (10-15)	
	14-15		SB-13 (14-15)	PID
	15-20	251.4	SB-13 (15-20)	
	20-24	19.50	SB-13 (20-24)	
	24-25		SB-13 (24-25)	Depth

TABLE 2-1. SAMPLING LOCATIONS, DEPTHS, AND PID READINGS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Soil Boring	Sample depth (ft bgs)	PID reading (ppm)	Soil Sample ID	Reason for Sample Collection
AOC2627-SB-14	0.5-1	39.75	SB-14 (0.5-1)	Surface
	1-5	--	SB-14 (1-5)	
	5-10	18.55	SB-14 (5-10)	
	10-15	93.45	SB-14 (10-15)	
	15-20	43.40	SB-14 (15-20)	
	20-24	273.4	SB-14 (20-24)	
	24-25		SB-14 (24-25)	
	25-27	491.5	SB-14 (25-27)	PID
	27-28		SB-14 (27-28)	Depth
AOC2627-SB-15	0.5-1	2.45	SB-15 (0.5-1)	Surface
	1-5	4.30	SB-15 (1-5)	
	5-10	29.50	SB-15 (5-10)	
	10-15	176.2	SB-15 (10-15)	PID
	15-18	7.15	SB-15 (15-18)	
	18-19		SB-15 (18-19)	Depth
AOC2627-SB-16	0.5-1	1.15	SB-16 (0.5-1)	Surface
	1-5	71.50	SB-16 (1-5)	
	5-10	5.95	SB-16 (5-10)	
	10-14	87.25	SB-16 (10-15)	PID
	14-15		SB-16 (14-15)	Depth
AOC2627-SB-17	0.5-1	0.00	SB-17 (0.5-1)	Surface
	1-5	--	SB-17 (1-5)	
	5-10	0.00	SB-17 (5-10)	
	10-14	17.50	SB-17 (10-14)	
	14-15		SB-17 (14-15)	
	15-20	29.40	SB-17 (15-20)	PID
	20-22.5	22.80	SB-17 (20-22.5)	
	22.5-23.5		SB-17 (22.5-23.5)	Depth
AOC2627-SB-18	0.5-1	0.00	SB-18 (0.5-1)	Surface
	1-5	--	SB-18 (1-5)	
	5-10	0.00	SB-18 (5-10)	
	10-11	0.00	SB-18 (10-11)	
	11-15		SB-18 (11-15)	
	15-18	0.00	SB-18 (15-18)	
	18-19		SB-18 (18-19)	Depth

TABLE 2-1. SAMPLING LOCATIONS, DEPTHS, AND PID READINGS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Soil Boring	Sample depth (ft bgs)	PID reading (ppm)	Soil Sample ID	Reason for Sample Collection
AOC2627-SB-19	0.5-1	0.00	SB-19 (0.5-1)	Surface
	1-5	0.00	SB-19 (1-5)	
	5-10	0.00	SB-19 (5-10)	
	10-11	0.00	SB-19 (10-11)	
	11-13		SB-19 (11-13)	
	13-14		SB-19 (13-14)	Depth
AOC2627-SB-20	0.5-1	0.00	SB-20 (0.5-1)	Surface
	1-5	0.00	SB-20 (1-5)	
	5-10	0.00	SB-20 (5-10)	
	10-11	0.00	SB-20 (10-11)	
	11-15		SB-20 (11-15)	
	15-20	0.00	SB-20 (15-20)	
	20-21	0.00	SB-20 (20-21)	Depth
AOC2627-SB-21	0.5-1	0.00	SB-21 (0.5-1)	Surface
	1-5	--	SB-21 (1-5)	
	5-6	0.00	SB-21 (5-6)	
	6-9.5		SB-21 (5-9.5)	Depth
AOC2627-SB-22	0.5-1	0.00	SB-22 (0.5-1)	Surface
	1-5	0.00	SB-22 (1-5)	
	5-10	0.00	SB-22 (5-10)	
	10-15	0.00	SB-22 (10-15)	
	15-16	1.00	SB-22 (15-16)	
	16-17		SB-22 (16-17)	
	17-20		SB-22 (17-20)	Water
	20-23	4.70	SB-22 (20-24)	
	23-24		23-24	Depth, PID
AOC2627-SB-23	0.5-1	0.00	SB-23 (0.5-1)	Surface
	1-4	0.00	SB-23 (1-4)	
	4-5		SB-23 (4-5)	
	5-7	--	SB-23 (5-7)	Depth, Water

TABLE 2-1. SAMPLING LOCATIONS, DEPTHS, AND PID READINGS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Soil Boring	Sample depth (ft bgs)	PID reading (ppm)	Soil Sample ID	Reason for Sample Collection
AOC2627-SB-24	0.5-1	0.00	SB-24 (0.5-1)	Surface
	1-5	0.00	SB-24 (1-5)	
	5-10	0.00	SB-24 (5-10)	
	10-15	0.00	SB-24 (10-15)	
	15-19.5	0.00	SB-24 (15-19.5)	
	19.5-20.5		SB-24 (19.5-20.5)	
	20-23	0.00	SB-24 (20-23)	
	23-25	0.00	SB-24 (23-25)	
	25-27	0.00	SB-24 (25-27)	Depth

AOC - Area of Concern

ft bgs - Foot/feet below ground surface

ID - Identification

-- - Not applicable

PID - Photoionization detector

ppm - Parts per million

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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,1,1,2-Tetrachloroethane (mg/kg)	1,1,1-Trichloroethane (mg/kg)	1,1,2,2-Tetrachloroethane (mg/kg)	1,1,2-Trichloroethane (mg/kg)	1,1-Dichloroethane (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(0.52)	ND(0.52)	ND(0.52)	ND(0.52)	ND(0.52)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.058)	ND(0.058)	ND(0.058)	ND(0.058)	ND(0.058)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.13)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(0.69)	ND(0.69)	ND(0.69)	ND(0.69)	ND(0.69)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(0.45)	ND(0.45)	ND(0.45)	ND(0.45)	ND(0.45)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.069)	ND(0.069)	ND(0.069)	0.03 J	ND(0.069)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.076)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.6)	ND(0.6)	ND(0.6)	ND(0.6)	ND(0.6)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.58)	ND(0.58)	ND(0.58)	ND(0.58)	ND(0.58)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.1)	ND(0.1)	0.082 J	ND(0.1)	ND(0.1)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.054)	ND(0.054)	ND(0.054)	0.022 J	ND(0.054)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.046)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.048)	ND(0.048)	0.019 J	0.013 J	ND(0.048)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.58)	ND(0.58)	ND(0.58)	ND(0.58)	ND(0.58)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)
2022 Residential NMED SSL (C c)		28.06	14370	7.984	18.76	78.61
2022 Construction Worker NMED SSL (A a)		658.5	13600	196.5	4301	1817
2022 Industrial NMED SSL (B b)		137.2	72530	39.4	92.06	383.3

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,1-Dichloroethene (mg/kg)	1,1-Dichloropropene (mg/kg)	1,2,3-Trichlorobenzene (mg/kg)	1,2,3-Trichloropropane (mg/kg)	1,2,4-Trichlorobenzene (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(0.52)	ND(1)	ND(1)	**ND(1) c**	ND(0.52)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.058)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.058)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.29)	ND(0.58)	ND(0.58)	ND(0.58)	ND(0.29)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.33)	ND(0.66)	ND(0.66)	ND(0.66)	ND(0.33)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(0.13)	ND(0.25)	ND(0.25)	**ND(0.25) c**	ND(0.13)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(0.69)	ND(1.4)	ND(1.4)	ND(1.4)	ND(0.69)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(0.45)	ND(0.89)	ND(0.89)	ND(0.89)	ND(0.45)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.069)	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.069)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.076)	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.076)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.03)	ND(0.061)	ND(0.061)	**ND(0.061) c**	ND(0.03)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.6)	ND(1.2)	ND(1.2)	ND(1.2)	ND(0.6)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.28)	ND(0.56)	ND(0.56)	ND(0.56)	ND(0.28)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.58)	ND(1.2)	ND(1.2)	ND(1.2)	ND(0.58)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.1)	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.1)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.054)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.054)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.046)	ND(0.092)	ND(0.092)	ND(0.092)	ND(0.046)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(0.071)	ND(0.14)	ND(0.14)	**ND(0.14) c**	ND(0.071)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.048)	ND(0.097)	ND(0.097)	ND(0.097)	ND(0.048)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.1)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.1)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.58)	ND(1.2)	ND(1.2)	ND(1.2)	ND(0.58)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(0.024)	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.024)
2022 Residential NMED SSL (C c)		439.9	NA	NA	0.05105	239.7
2022 Construction Worker NMED SSL (A a)		423.9	NA	NA	8.259	8543
2022 Industrial NMED SSL (B b)		2255	NA	NA	1.211	1253

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,2,4-Trimethylbenzene (mg/kg)	1,2-Dibromo-3-Chloropropane (mg/kg)	1,2-Dibromoethane (mg/kg)	1,2-Dichlorobenzene (mg/kg)	1,2-Dichloroethane (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	2.4	**ND(1) c**	ND(0.52)	ND(0.52)	ND(0.52)
AOC2627-SB-01 (15-16 ft)	8/15/23	0.052 J	ND(0.12)	ND(0.058)	ND(0.058)	ND(0.058)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.29)	ND(0.58)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	0.25 J	ND(0.66)	ND(0.33)	ND(0.33)	ND(0.33)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	0.093 J	**ND(0.25) c**	ND(0.13)	ND(0.13)	ND(0.13)
AOC2627-SB-02 (15-20 ft)	8/16/23	0.95	ND(1.4)	ND(0.69)	ND(0.69)	ND(0.69)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	4.1 J+	ND(0.89)	0.09 J+	ND(0.45)	ND(0.45)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	0.014 U	ND(0.14)	ND(0.069)	ND(0.069)	ND(0.069)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.076)	ND(0.15)	ND(0.076)	ND(0.076)	ND(0.076)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	0.023 U	ND(0.061)	ND(0.03)	ND(0.03)	ND(0.03)
AOC2627-SB-03 (15-20 ft)	8/16/23	3.4	ND(1.2)	ND(0.6)	ND(0.6)	ND(0.6)
AOC2627-SB-03 (18-19 ft)	8/16/23	0.58	ND(0.56)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-03 (29-30 ft)	8/16/23	20	ND(1.2)	0.12 J	ND(0.58)	ND(0.58)
AOC2627-SB-04 (15-20 ft)	8/16/23	0.095 J	ND(0.21)	ND(0.1)	ND(0.1)	ND(0.1)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	0.016 U	ND(0.11)	ND(0.054)	ND(0.054)	ND(0.054)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.046)	ND(0.092)	ND(0.046)	ND(0.046)	ND(0.046)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	0.035 U	**ND(0.14) c**	ND(0.071)	ND(0.071)	ND(0.071)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.048)	ND(0.097)	ND(0.048)	ND(0.048)	ND(0.048)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.1)	ND(0.2)	ND(0.1)	ND(0.1)	ND(0.1)
AOC2627-SB-06 (10-15 ft)	8/15/23	14	ND(1.2)	ND(0.58)	ND(0.58)	ND(0.58)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	0.15	ND(0.048)	ND(0.024)	ND(0.024)	ND(0.024)
2022 Residential NMED SSL (C c)		NA	0.08583	0.6725	2150	8.315
2022 Construction Worker NMED SSL (A a)		NA	5.532	16.32	2496	195.4
2022 Industrial NMED SSL (B b)		NA	1.179	3.309	12970	40.67

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
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ND(X) - Not detected at the reporting limit X
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,2-Dichloropropane (mg/kg)	1,3,5-Trimethylbenzene (mg/kg)	1,3-Dichlorobenzene (mg/kg)	1,3-Dichloropropane (mg/kg)	1,4-Dichlorobenzene (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(0.52)	0.52 J	ND(0.52)	ND(0.52)	ND(0.52)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.058)	ND(0.058)	ND(0.058)	ND(0.058)	ND(0.058)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(0.13)	0.036 J	ND(0.13)	ND(0.13)	ND(0.13)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(0.69)	0.81	ND(0.69)	ND(0.69)	ND(0.69)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(0.45)	1.7 J+	ND(0.45)	ND(0.45)	ND(0.45)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.069)	ND(0.069)	ND(0.069)	ND(0.069)	ND(0.069)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.076)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.03)	0.0071 J	ND(0.03)	ND(0.03)	ND(0.03)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.6)	0.98	ND(0.6)	ND(0.6)	ND(0.6)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.28)	0.12 J	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.58)	5	ND(0.58)	ND(0.58)	ND(0.58)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.046)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.048)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.58)	3.4	ND(0.58)	ND(0.58)	ND(0.58)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)
2022 Residential NMED SSL (C c)		17.77	NA	NA	NA	1287
2022 Construction Worker NMED SSL (A a)		415	NA	NA	NA	45880
2022 Industrial NMED SSL (B b)		86.82	NA	NA	NA	6729

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,4-Dioxane (mg/kg)	1-Methylnaphthalene (mg/kg)	2,2-Dichloropropane (mg/kg)	2-Butanone (mg/kg)	2-Chlorotoluene (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(5.2)	9.3	ND(1)	ND(5.2)	ND(0.52)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.58)	ND(0.23)	ND(0.12)	ND(0.58)	ND(0.058)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(2.9)	ND(1.2)	ND(0.58)	ND(2.9)	ND(0.29)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(3.3)	0.32 J	ND(0.66)	ND(3.3)	ND(0.33)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(1.3)	0.13 U	ND(0.25)	ND(1.3)	ND(0.13)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(6.9)	1.7 U	ND(1.4)	ND(6.9)	ND(0.69)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(4.5)	3.4 J+	ND(0.89)	ND(4.5)	ND(0.45)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.69)	0.2 U	ND(0.14)	ND(0.69)	ND(0.069)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.76)	ND(0.3)	ND(0.15)	ND(0.76)	ND(0.076)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.3)	0.037 U	ND(0.061)	ND(0.3)	ND(0.03)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(6)	3.9	ND(1.2)	ND(6)	ND(0.6)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(2.8)	0.99 U	ND(0.56)	ND(2.8)	ND(0.28)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(5.8)	14	ND(1.2)	ND(5.8)	ND(0.58)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(1)	0.31 U	ND(0.21)	ND(1)	ND(0.1)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.54)	0.037 U	ND(0.11)	ND(0.54)	ND(0.054)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.46)	ND(0.18)	ND(0.092)	ND(0.46)	ND(0.046)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(0.71)	0.037 U	ND(0.14)	ND(0.71)	ND(0.071)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.48)	ND(0.19)	ND(0.097)	ND(0.48)	ND(0.048)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(1)	ND(0.4)	ND(0.2)	ND(1)	ND(0.1)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(5.8)	14	ND(1.2)	ND(5.8)	ND(0.58)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(0.24)	2.8	ND(0.048)	ND(0.24)	ND(0.024)
2022 Residential NMED SSL (C c)		53.26	171.6	NA	37420	1564
2022 Construction Worker NMED SSL (A a)		1881	6059	NA	91660	7079
2022 Industrial NMED SSL (B b)		256.6	813	NA	411000	25960

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	2-Hexanone (mg/kg)	2-Methylnaphthalene (mg/kg)	4-Chlorotoluene (mg/kg)	4-Methyl-2-Pentanone (mg/kg)	Acetone (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(5.2)	12	ND(0.52)	ND(5.2)	ND(7.8)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.58)	ND(0.23)	ND(0.058)	ND(0.58)	ND(0.88)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(2.9)	ND(1.2)	ND(0.29)	ND(2.9)	ND(4.3)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(3.3)	ND(1.3)	ND(0.33)	ND(3.3)	ND(4.9)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	0.58 J	0.2 J	ND(0.13)	0.24 J	ND(1.9)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(6.9)	2.9	ND(0.69)	ND(6.9)	ND(10)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(4.5)	5.8 J+	ND(0.45)	ND(4.5)	ND(6.7)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	0.12 J	0.2 J	ND(0.069)	ND(0.69)	ND(1)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.76)	ND(0.3)	ND(0.076)	ND(0.76)	ND(1.1)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	0.027 J	0.049 J	ND(0.03)	ND(0.3)	ND(0.45)
AOC2627-SB-03 (15-20 ft)	8/16/23	4 J	7.4	ND(0.6)	5.8 J	ND(9)
AOC2627-SB-03 (18-19 ft)	8/16/23	0.45 J	1.8	ND(0.28)	1.4 J	ND(4.2)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(5.8)	28	ND(0.58)	ND(5.8)	ND(8.8)
AOC2627-SB-04 (15-20 ft)	8/16/23	0.35 J	0.18 J	ND(0.1)	0.37 J	ND(1.6)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	0.11 J	ND(0.22)	ND(0.054)	ND(0.54)	ND(0.81)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.46)	ND(0.18)	ND(0.046)	ND(0.46)	ND(0.69)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(0.71)	ND(0.28)	ND(0.071)	ND(0.71)	ND(1.1)
AOC2627-SB-05 (20-25 ft)	8/16/23	0.043 J	ND(0.19)	ND(0.048)	ND(0.48)	ND(0.73)
AOC2627-SB-05 (24-25 ft)	8/16/23	0.35 J	ND(0.4)	ND(0.1)	ND(1)	ND(1.5)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(5.8)	21	ND(0.58)	ND(5.8)	ND(8.7)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(0.24)	4.2	ND(0.024)	ND(0.24)	ND(0.36)
2022 Residential NMED SSL (C c)		NA	231.8	NA	5809	66310
2022 Construction Worker NMED SSL (A a)		NA	1004	NA	20230	241500
2022 Industrial NMED SSL (B b)		NA	3368	NA	81650	960100

Notes:
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b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
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Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzene (mg/kg)	Bromobenzene (mg/kg)	Bromodichloromethane (mg/kg)	Bromoform (mg/kg)	Bromomethane (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(0.21)	ND(0.52)	ND(0.52)	ND(0.52)	ND(2.1)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.029)	ND(0.058)	ND(0.058)	ND(0.058)	ND(0.23)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.14)	ND(0.29)	ND(0.29)	ND(0.29)	ND(1.2)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.16)	ND(0.33)	ND(0.33)	ND(0.33)	ND(1.3)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	0.29	ND(0.13)	0.1 J	ND(0.13)	ND(0.5)
AOC2627-SB-02 (15-20 ft)	8/16/23	0.17 J	ND(0.69)	ND(0.69)	ND(0.69)	ND(2.8)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	0.13 J+	ND(0.45)	ND(0.45)	ND(0.45)	ND(1.8)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.034)	ND(0.069)	0.023 J	ND(0.069)	ND(0.28)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.038)	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.3)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.015)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.12)
AOC2627-SB-03 (15-20 ft)	8/16/23	0.56	ND(0.6)	0.17 J	ND(0.6)	ND(2.4)
AOC2627-SB-03 (18-19 ft)	8/16/23	0.63	ND(0.28)	0.069 J	ND(0.28)	ND(1.1)
AOC2627-SB-03 (29-30 ft)	8/16/23	4.5	ND(0.58)	ND(0.58)	ND(0.58)	ND(2.3)
AOC2627-SB-04 (15-20 ft)	8/16/23	0.29	ND(0.1)	0.03 J	ND(0.1)	ND(0.41)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	0.1	ND(0.054)	0.016 J	ND(0.054)	ND(0.22)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.023)	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.18)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(0.035)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.28)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.024)	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.19)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.05)	ND(0.1)	0.028 J	ND(0.1)	ND(0.4)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.23)	ND(0.58)	ND(0.58)	ND(0.58)	ND(2.3)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	0.032	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.096)
2022 Residential NMED SSL (C c)		17.79	NA	6.193	674.1	17.73
2022 Construction Worker NMED SSL (A a)		423.4	NA	142.6	23750	17.86
2022 Industrial NMED SSL (B b)		87.24	NA	30.18	1760	94.52

Notes:
A - Exceedance of 2022 Construction NMED SSL.
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c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
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J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Carbon Disulfide (mg/kg)	Carbon tetrachloride (mg/kg)	Chlorobenzene (mg/kg)	Chloroethane (mg/kg)	Chloroform (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(5.2)	ND(0.52)	ND(1)	ND(1)	ND(0.52)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.58)	ND(0.058)	ND(0.12)	ND(0.12)	ND(0.058)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(2.9)	ND(0.29)	ND(0.58)	ND(0.58)	ND(0.29)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(3.3)	ND(0.33)	ND(0.66)	ND(0.66)	ND(0.33)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(1.3)	ND(0.13)	ND(0.25)	ND(0.25)	ND(0.13)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(6.9)	ND(0.69)	0.46 J	ND(1.4)	ND(0.69)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(4.5)	ND(0.45)	0.26 J+	ND(0.89)	ND(0.45)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.69)	ND(0.069)	ND(0.14)	ND(0.14)	0.031 J
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.76)	ND(0.076)	ND(0.15)	ND(0.15)	ND(0.076)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.3)	ND(0.03)	ND(0.061)	ND(0.061)	ND(0.03)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(6)	ND(0.6)	ND(1.2)	ND(1.2)	0.16 U
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(2.8)	ND(0.28)	ND(0.56)	ND(0.56)	0.089 U
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(5.8)	ND(0.58)	0.27 J	ND(1.2)	ND(0.58)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(1)	ND(0.1)	ND(0.21)	ND(0.21)	0.029 U
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.54)	ND(0.054)	ND(0.11)	ND(0.11)	0.019 U
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.46)	ND(0.046)	ND(0.092)	ND(0.092)	ND(0.046)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(0.71)	ND(0.071)	ND(0.14)	ND(0.14)	ND(0.071)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.48)	ND(0.048)	ND(0.097)	ND(0.097)	ND(0.048)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(1)	ND(0.1)	ND(0.2)	ND(0.2)	0.062 J
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(5.8)	ND(0.58)	ND(1.2)	ND(1.2)	ND(0.58)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(0.24)	ND(0.024)	ND(0.048)	ND(0.048)	ND(0.024)
2022 Residential NMED SSL (C c)		1554	10.73	378.4	19000	5.899
2022 Construction Worker NMED SSL (A a)		1621	252.3	411.6	16640	133.9
2022 Industrial NMED SSL (B b)		8541	52.5	2157	89540	28.66

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
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b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
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J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Chloromethane (mg/kg)	cis-1,2-Dichloroethene (mg/kg)	cis-1,3-Dichloropropene (mg/kg)	Dibromochloromethane (mg/kg)	Dibromomethane (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(1.6)	ND(0.52)	ND(0.52)	ND(0.52)	ND(0.52)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.18)	ND(0.058)	ND(0.058)	ND(0.058)	ND(0.058)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.87)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.99)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(0.38)	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.13)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(2.1)	ND(0.69)	ND(0.69)	ND(0.69)	ND(0.69)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(1.3)	ND(0.45)	ND(0.45)	ND(0.45)	ND(0.45)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.21)	ND(0.069)	ND(0.069)	ND(0.069)	ND(0.069)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.23)	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.076)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.091)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(1.8)	ND(0.6)	ND(0.6)	ND(0.6)	ND(0.6)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.85)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(1.8)	ND(0.58)	ND(0.58)	ND(0.58)	ND(0.58)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.31)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.16)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.14)	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.046)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(0.21)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.15)	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.048)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.3)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(1.7)	ND(0.58)	ND(0.58)	ND(0.58)	ND(0.58)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(0.072)	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)
2022 Residential NMED SSL (C c)		41.14	156.4	NA	13.9	57.9
2022 Construction Worker NMED SSL (A a)		955.7	707.9	NA	340.5	53.89
2022 Industrial NMED SSL (B b)		200.8	2596	NA	67.37	288.2

Notes:
A - Exceedance of 2022 Construction NMED SSL.
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b - Non-detect exceedance of 2022 Industrial NMED SSL
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c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
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Sample ID	Sample Date	Dichlorodifluoromethane (mg/kg)	Ethylbenzene (mg/kg)	Hexachlorobutadiene (mg/kg)	Isopropylbenzene (mg/kg)	Methylene Chloride (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(0.52)	0.48 J	ND(1)	0.61	ND(1.6)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.058)	ND(0.058)	ND(0.12)	ND(0.058)	ND(0.18)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.58)	ND(0.29)	ND(0.87)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.33)	ND(0.33)	ND(0.66)	ND(0.33)	ND(0.99)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(0.13)	0.21	ND(0.25)	0.081 J	ND(0.38)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(0.69)	3.5	ND(1.4)	1.2	ND(2.1)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(0.45)	1.8 J+	ND(0.89)	0.66 J+	ND(1.3)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.069)	ND(0.069)	ND(0.14)	0.019 J	ND(0.21)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.076)	ND(0.076)	ND(0.15)	ND(0.076)	ND(0.23)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.03)	0.013 J	ND(0.061)	ND(0.03)	ND(0.091)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.6)	1.1	ND(1.2)	0.24 J	ND(1.8)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.28)	0.49	ND(0.56)	0.084 J	ND(0.85)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.58)	7.2	ND(1.2)	1.2	ND(1.8)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.1)	0.18	ND(0.21)	0.032 J	ND(0.31)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.054)	0.051 J	ND(0.11)	0.011 J	ND(0.16)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.046)	ND(0.046)	ND(0.092)	ND(0.046)	ND(0.14)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(0.071)	ND(0.071)	ND(0.14)	ND(0.071)	ND(0.21)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.048)	ND(0.048)	ND(0.097)	ND(0.048)	ND(0.15)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.1)	ND(0.1)	ND(0.2)	ND(0.1)	ND(0.3)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.58)	0.95	ND(1.2)	0.99	ND(1.7)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(0.024)	0.46	ND(0.048)	0.32	ND(0.072)
2022 Residential NMED SSL (C c)		181.9	75.11	68.28	2364	765.7
2022 Construction Worker NMED SSL (A a)		160.9	1772	2395	2738	89550
2022 Industrial NMED SSL (B b)		864.8	367.6	52.08	14220	14400

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	MTBE (mg/kg)	Naphthalene (mg/kg)	n-Butylbenzene (mg/kg)	n-Propylbenzene (mg/kg)	p-Isopropyltoluene (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(0.52)	2.3	2.1	1.2	0.84
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.058)	ND(0.12)	0.082 J	ND(0.058)	0.034 J
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.29)	ND(0.58)	ND(0.87)	ND(0.29)	ND(0.29)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.33)	ND(0.66)	0.24 J	0.16 J	0.11 J
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(0.13)	0.092 J	0.038 J	0.092 J	ND(0.13)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(0.69)	1.1 J	1.8 J	2.8	0.18 J
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(0.45)	1.5 J+	1.8 J+	1.9 J+	0.41 J+
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.069)	0.07 J	0.033 J	0.047 J	ND(0.069)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.076)	ND(0.15)	ND(0.23)	ND(0.076)	ND(0.076)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.03)	0.021 J	ND(0.091)	ND(0.03)	ND(0.03)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.6)	2.2	0.46 J	0.66	0.13 J
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.28)	0.56 J	0.12 J	0.21 J	0.035 J
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.58)	11	1.9	3.4	0.58 J
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.1)	0.14 J	0.034 J	0.083 J	ND(0.1)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.054)	ND(0.11)	ND(0.16)	0.022 J	ND(0.054)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.046)	ND(0.092)	ND(0.14)	ND(0.046)	ND(0.046)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(0.071)	0.042 J	ND(0.21)	ND(0.071)	ND(0.071)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.048)	ND(0.097)	ND(0.15)	ND(0.048)	ND(0.048)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.1)	ND(0.2)	ND(0.3)	ND(0.1)	ND(0.1)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.58)	4.1	3.7	2	2.1
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(0.024)	0.77	0.43	0.51	0.12
2022 Residential NMED SSL (C c)		NA	22.6	NA	NA	NA
2022 Construction Worker NMED SSL (A a)		NA	632.9	NA	NA	NA
2022 Industrial NMED SSL (B b)		NA	108.2	NA	NA	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	sec-Butylbenzene (mg/kg)	Styrene (mg/kg)	tert-Butylbenzene (mg/kg)	Tetrachloroethene (mg/kg)	Toluene (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	1.5	ND(0.52)	ND(0.52)	ND(0.52)	ND(0.52)
AOC2627-SB-01 (15-16 ft)	8/15/23	0.085	ND(0.058)	ND(0.058)	ND(0.058)	ND(0.058)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	0.38	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.13)	0.029 J
AOC2627-SB-02 (15-20 ft)	8/16/23	1.1	ND(0.69)	ND(0.69)	ND(0.69)	0.14 J
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	1 J+	ND(0.45)	ND(0.45)	ND(0.45)	ND(0.45)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.069)	ND(0.069)	ND(0.069)	ND(0.069)	ND(0.069)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.076)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.6)	ND(0.6)	ND(0.6)	ND(0.6)	0.16 J
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	0.071 J
AOC2627-SB-03 (29-30 ft)	8/16/23	0.85	ND(0.58)	ND(0.58)	ND(0.58)	0.69
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.046)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.048)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
AOC2627-SB-06 (10-15 ft)	8/15/23	2	ND(0.58)	ND(0.58)	ND(0.58)	ND(0.58)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	0.49	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)
2022 Residential NMED SSL (C c)		NA	7264	NA	337.4	5228
2022 Construction Worker NMED SSL (A a)		NA	10170	NA	7911	14040
2022 Industrial NMED SSL (B b)		NA	51300	NA	1649	61340

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	trans-1,2-Dichloroethene (mg/kg)	trans-1,3-Dichloropropene (mg/kg)	Trichloroethene (mg/kg)	Trichlorofluoromethane (mg/kg)	Vinyl Chloride (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(0.52)	ND(0.52)	ND(0.52)	ND(0.52)	ND(0.52)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.058)	ND(0.058)	ND(0.058)	ND(0.058)	ND(0.058)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.13)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(0.69)	ND(0.69)	ND(0.69)	ND(0.69)	ND(0.69)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(0.45)	ND(0.45)	ND(0.45)	ND(0.45)	ND(0.45)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.069)	ND(0.069)	ND(0.069)	ND(0.069)	ND(0.069)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.076)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.6)	ND(0.6)	ND(0.6)	ND(0.6)	ND(0.6)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.58)	ND(0.58)	ND(0.58)	ND(0.58)	ND(0.58)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.046)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.048)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.58)	ND(0.58)	ND(0.58)	ND(0.58)	ND(0.58)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)
2022 Residential NMED SSL (C c)		210.2	NA	15.48	1231	0.742
2022 Construction Worker NMED SSL (A a)		206.5	NA	5368	1127	161
2022 Industrial NMED SSL (B b)		1096	NA	112.1	6031	28.41

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Xylenes, Total (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	0.21 J
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.12)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.58)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.66)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	0.096 J
AOC2627-SB-02 (15-20 ft)	8/16/23	0.72 J
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	1.3 J+
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	0.024 J
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.15)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	0.017 J
AOC2627-SB-03 (15-20 ft)	8/16/23	2.1
AOC2627-SB-03 (18-19 ft)	8/16/23	0.44 J
AOC2627-SB-03 (29-30 ft)	8/16/23	13
AOC2627-SB-04 (15-20 ft)	8/16/23	0.077 J
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.11)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.092)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	0.03 J
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.097)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.2)
AOC2627-SB-06 (10-15 ft)	8/15/23	1.6
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	0.015 J
2022 Residential NMED SSL (C c)		870.8
2022 Construction Worker NMED SSL (A a)		798.3
2022 Industrial NMED SSL (B b)		4275

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,1,1,2-Tetrachloroethane (mg/kg)	1,1,1-Trichloroethane (mg/kg)	1,1,2,2-Tetrachloroethane (mg/kg)	1,1,2-Trichloroethane (mg/kg)	1,1-Dichloroethane (mg/kg)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.075)	ND(0.075)	ND(0.075)	ND(0.075)	ND(0.075)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.034)	ND(0.034)	ND(0.034)	ND(0.034)	ND(0.034)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.068)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.026)	ND(0.026)	ND(0.026)	ND(0.026)	ND(0.026)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(0.26)	ND(0.26)	ND(0.26)	ND(0.26)	ND(0.26)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(0.033)	ND(0.033)	ND(0.033)	ND(0.033)	ND(0.033)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.076)
2022 Residential NMED SSL (C c)		28.06	14370	7.984	18.76	78.61
2022 Construction Worker NMED SSL (A a)		658.5	13600	196.5	4301	1817
2022 Industrial NMED SSL (B b)		137.2	72530	39.4	92.06	383.3

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,1-Dichloroethene (mg/kg)	1,1-Dichloropropene (mg/kg)	1,2,3-Trichlorobenzene (mg/kg)	1,2,3-Trichloropropane (mg/kg)	1,2,4-Trichlorobenzene (mg/kg)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.075)	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.075)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.063)	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.063)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.034)	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.034)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.068)	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.068)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(0.035)	ND(0.069)	ND(0.069)	**ND(0.069) c**	ND(0.035)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(0.057)	ND(0.11)	ND(0.11)	**ND(0.11) c**	ND(0.057)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.029)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.029)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.026)	ND(0.052)	ND(0.052)	**ND(0.052) c**	ND(0.026)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.059)	ND(0.12)	ND(0.12)	**ND(0.12) c**	ND(0.059)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.064)	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.064)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.064)	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.064)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(0.071)	ND(0.14)	ND(0.14)	**ND(0.14) c**	ND(0.071)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.05)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.05)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.05)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.05)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.064)	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.064)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(0.071)	ND(0.14)	ND(0.14)	**ND(0.14) c**	ND(0.071)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(0.055)	ND(0.11)	ND(0.11)	**ND(0.11) c**	ND(0.055)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(0.28)	ND(0.57)	ND(0.57)	ND(0.57)	ND(0.28)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(0.26)	ND(0.51)	ND(0.51)	ND(0.51)	ND(0.26)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(0.033)	ND(0.066)	ND(0.066)	**ND(0.066) c**	ND(0.033)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.076)	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.076)
2022 Residential NMED SSL (C c)		439.9	NA	NA	0.05105	239.7
2022 Construction Worker NMED SSL (A a)		423.9	NA	NA	8.259	8543
2022 Industrial NMED SSL (B b)		2255	NA	NA	1.211	1253

Notes:
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c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
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J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,2,4-Trimethylbenzene (mg/kg)	1,2-Dibromo-3-Chloropropane (mg/kg)	1,2-Dibromoethane (mg/kg)	1,2-Dichlorobenzene (mg/kg)	1,2-Dichloroethane (mg/kg)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.075)	ND(0.15)	ND(0.075)	ND(0.075)	ND(0.075)
AOC2627-SB-07 (11-12 ft)	8/15/23	0.024 J	ND(0.13)	ND(0.063)	ND(0.063)	ND(0.063)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.034)	ND(0.068)	ND(0.034)	ND(0.034)	ND(0.034)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.068)	ND(0.14)	ND(0.068)	ND(0.068)	ND(0.068)
AOC2627-SB-07 (5-10 ft)	8/15/23	0.77	ND(0.069)	ND(0.035)	ND(0.035)	ND(0.035)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	0.021 J	**ND(0.11) c**	ND(0.057)	ND(0.057)	ND(0.057)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.029)	ND(0.057)	ND(0.029)	ND(0.029)	ND(0.029)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.026)	ND(0.052)	ND(0.026)	ND(0.026)	ND(0.026)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	0.0086 U	**ND(0.12) c**	ND(0.059)	ND(0.059)	ND(0.059)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.064)	ND(0.13)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.064)	ND(0.13)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	0.013 U	**ND(0.14) c**	ND(0.071)	ND(0.071)	ND(0.071)
AOC2627-SB-10 (15-20 ft)	8/16/23	0.0077 U	ND(0.1)	ND(0.05)	ND(0.05)	ND(0.05)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	0.028 U	ND(0.1)	ND(0.05)	ND(0.05)	ND(0.05)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	0.079 JB	ND(0.13)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	0.045 U	**ND(0.14) c**	ND(0.071)	ND(0.071)	ND(0.071)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(0.055)	**ND(0.11) c**	ND(0.055)	ND(0.055)	ND(0.055)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	0.3	ND(0.57)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-11 (19-20 ft)	8/16/23	0.29	ND(0.51)	ND(0.26)	ND(0.26)	ND(0.26)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(0.033)	ND(0.066)	ND(0.033)	ND(0.033)	ND(0.033)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.076)	ND(0.15)	ND(0.076)	ND(0.076)	ND(0.076)
2022 Residential NMED SSL (C c)		NA	0.08583	0.6725	2150	8.315
2022 Construction Worker NMED SSL (A a)		NA	5.532	16.32	2496	195.4
2022 Industrial NMED SSL (B b)		NA	1.179	3.309	12970	40.67

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,2-Dichloropropane (mg/kg)	1,3,5-Trimethylbenzene (mg/kg)	1,3-Dichlorobenzene (mg/kg)	1,3-Dichloropropane (mg/kg)	1,4-Dichlorobenzene (mg/kg)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.075)	ND(0.075)	ND(0.075)	ND(0.075)	ND(0.075)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.034)	ND(0.034)	ND(0.034)	ND(0.034)	ND(0.034)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.068)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(0.035)	0.17	ND(0.035)	ND(0.035)	ND(0.035)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.026)	ND(0.026)	ND(0.026)	ND(0.026)	ND(0.026)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(0.26)	ND(0.26)	ND(0.26)	ND(0.26)	ND(0.26)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(0.033)	ND(0.033)	ND(0.033)	ND(0.033)	ND(0.033)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.076)
2022 Residential NMED SSL (C c)		17.77	NA	NA	NA	1287
2022 Construction Worker NMED SSL (A a)		415	NA	NA	NA	45880
2022 Industrial NMED SSL (B b)		86.82	NA	NA	NA	6729

Notes:
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b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,4-Dioxane (mg/kg)	1-Methylnaphthalene (mg/kg)	2,2-Dichloropropane (mg/kg)	2-Butanone (mg/kg)	2-Chlorotoluene (mg/kg)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.75)	0.075 J	ND(0.15)	ND(0.75)	ND(0.075)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.63)	0.18 J	ND(0.13)	ND(0.63)	ND(0.063)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.34)	ND(0.14)	ND(0.068)	ND(0.34)	ND(0.034)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.68)	ND(0.27)	ND(0.14)	ND(0.68)	ND(0.068)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(0.35)	2	ND(0.069)	ND(0.35)	ND(0.035)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(0.57)	ND(0.23)	ND(0.11)	ND(0.57)	ND(0.057)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.29)	ND(0.11)	ND(0.057)	ND(0.29)	ND(0.029)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.26)	ND(0.1)	ND(0.052)	ND(0.26)	ND(0.026)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.59)	ND(0.24)	ND(0.12)	ND(0.59)	ND(0.059)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.64)	ND(0.26)	ND(0.13)	ND(0.64)	ND(0.064)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.64)	ND(0.25)	ND(0.13)	ND(0.64)	ND(0.064)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(0.71)	ND(0.28)	ND(0.14)	ND(0.71)	ND(0.071)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.5)	ND(0.2)	ND(0.1)	ND(0.5)	ND(0.05)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.5)	0.048 U	ND(0.1)	ND(0.5)	ND(0.05)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.64)	ND(0.26)	ND(0.13)	ND(0.64)	ND(0.064)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(0.71)	0.067 U	ND(0.14)	ND(0.71)	ND(0.071)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(0.55)	ND(0.22)	ND(0.11)	ND(0.55)	ND(0.055)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(2.8)	2.1	ND(0.57)	ND(2.8)	ND(0.28)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(2.6)	4.2	ND(0.51)	ND(2.6)	ND(0.26)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(0.33)	ND(0.13)	ND(0.066)	ND(0.33)	ND(0.033)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.76)	ND(0.3)	ND(0.15)	ND(0.76)	ND(0.076)
2022 Residential NMED SSL (C c)		53.26	171.6	NA	37420	1564
2022 Construction Worker NMED SSL (A a)		1881	6059	NA	91660	7079
2022 Industrial NMED SSL (B b)		256.6	813	NA	411000	25960

Notes:
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b - Non-detect exceedance of 2022 Industrial NMED SSL
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c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	2-Hexanone (mg/kg)	2-Methylnaphthalene (mg/kg)	4-Chlorotoluene (mg/kg)	4-Methyl-2-Pentanone (mg/kg)	Acetone (mg/kg)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.75)	0.11 J	ND(0.075)	ND(0.75)	ND(1.1)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.63)	0.27	ND(0.063)	ND(0.63)	ND(0.94)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.34)	ND(0.14)	ND(0.034)	ND(0.34)	ND(0.51)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.68)	ND(0.27)	ND(0.068)	ND(0.68)	ND(1)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(0.35)	3.2	ND(0.035)	ND(0.35)	ND(0.52)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(0.57)	ND(0.23)	ND(0.057)	ND(0.57)	ND(0.85)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.29)	ND(0.11)	ND(0.029)	ND(0.29)	ND(0.43)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.26)	ND(0.1)	ND(0.026)	ND(0.26)	ND(0.39)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.59)	ND(0.24)	ND(0.059)	ND(0.59)	ND(0.89)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.64)	ND(0.26)	ND(0.064)	ND(0.64)	ND(0.96)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.64)	ND(0.25)	ND(0.064)	ND(0.64)	ND(0.96)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(0.71)	ND(0.28)	ND(0.071)	ND(0.71)	ND(1.1)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.5)	ND(0.2)	ND(0.05)	ND(0.5)	ND(0.75)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.5)	ND(0.2)	ND(0.05)	ND(0.5)	ND(0.75)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.64)	ND(0.26)	ND(0.064)	ND(0.64)	ND(0.96)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(0.71)	0.12 J	ND(0.071)	ND(0.71)	ND(1.1)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(0.55)	ND(0.22)	ND(0.055)	ND(0.55)	ND(0.82)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(2.8)	ND(1.1)	ND(0.28)	ND(2.8)	ND(4.3)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(2.6)	ND(1)	ND(0.26)	ND(2.6)	ND(3.9)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(0.33)	ND(0.13)	ND(0.033)	ND(0.33)	ND(0.49)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.76)	ND(0.3)	ND(0.076)	ND(0.76)	ND(1.1)
2022 Residential NMED SSL (C c)		NA	231.8	NA	5809	66310
2022 Construction Worker NMED SSL (A a)		NA	1004	NA	20230	241500
2022 Industrial NMED SSL (B b)		NA	3368	NA	81650	960100

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
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C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzene (mg/kg)	Bromobenzene (mg/kg)	Bromodichloromethane (mg/kg)	Bromoform (mg/kg)	Bromomethane (mg/kg)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.038)	ND(0.075)	ND(0.075)	ND(0.075)	ND(0.3)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.031)	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.25)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.017)	ND(0.034)	ND(0.034)	ND(0.034)	ND(0.14)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.034)	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.27)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(0.017)	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.14)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(0.028)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.23)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.014)	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.11)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.013)	ND(0.026)	ND(0.026)	ND(0.026)	ND(0.1)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.03)	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.24)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.032)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.26)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.032)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.25)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(0.035)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.28)
AOC2627-SB-10 (15-20 ft)	8/16/23	0.033	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.2)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.2)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	0.25	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.26)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(0.035)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.28)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(0.027)	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.22)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	0.055 J	ND(0.28)	ND(0.28)	ND(0.28)	ND(1.1)
AOC2627-SB-11 (19-20 ft)	8/16/23	0.047 J	ND(0.26)	ND(0.26)	ND(0.26)	ND(1)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(0.016)	ND(0.033)	ND(0.033)	ND(0.033)	ND(0.13)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.038)	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.3)
2022 Residential NMED SSL (C c)		17.79	NA	6.193	674.1	17.73
2022 Construction Worker NMED SSL (A a)		423.4	NA	142.6	23750	17.86
2022 Industrial NMED SSL (B b)		87.24	NA	30.18	1760	94.52

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JB - Estimated concentration due to blank contamination
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Carbon Disulfide (mg/kg)	Carbon tetrachloride (mg/kg)	Chlorobenzene (mg/kg)	Chloroethane (mg/kg)	Chloroform (mg/kg)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.75)	ND(0.075)	ND(0.15)	ND(0.15)	ND(0.075)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.63)	ND(0.063)	ND(0.13)	ND(0.13)	ND(0.063)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.34)	ND(0.034)	ND(0.068)	ND(0.068)	ND(0.034)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.68)	ND(0.068)	ND(0.14)	ND(0.14)	ND(0.068)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(0.35)	ND(0.035)	ND(0.069)	ND(0.069)	ND(0.035)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(0.57)	ND(0.057)	ND(0.11)	ND(0.11)	ND(0.057)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.29)	ND(0.029)	ND(0.057)	ND(0.057)	ND(0.029)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.26)	ND(0.026)	ND(0.052)	ND(0.052)	ND(0.026)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.59)	ND(0.059)	ND(0.12)	ND(0.12)	0.013 U
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.64)	ND(0.064)	ND(0.13)	ND(0.13)	0.017 U
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.64)	ND(0.064)	ND(0.13)	ND(0.13)	ND(0.064)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(0.71)	ND(0.071)	ND(0.14)	ND(0.14)	0.02 U
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.5)	ND(0.05)	ND(0.1)	ND(0.1)	0.011 U
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.5)	ND(0.05)	ND(0.1)	ND(0.1)	0.01 U
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.64)	ND(0.064)	ND(0.13)	ND(0.13)	0.015 U
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(0.71)	ND(0.071)	ND(0.14)	ND(0.14)	0.016 U
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(0.55)	ND(0.055)	ND(0.11)	ND(0.11)	ND(0.055)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(2.8)	ND(0.28)	ND(0.57)	ND(0.57)	ND(0.28)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(2.6)	ND(0.26)	ND(0.51)	ND(0.51)	0.051 U
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(0.33)	ND(0.033)	ND(0.066)	ND(0.066)	ND(0.033)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.76)	ND(0.076)	ND(0.15)	ND(0.15)	ND(0.076)
2022 Residential NMED SSL (C c)		1554	10.73	378.4	19000	5.899
2022 Construction Worker NMED SSL (A a)		1621	252.3	411.6	16640	133.9
2022 Industrial NMED SSL (B b)		8541	52.5	2157	89540	28.66

Notes:
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b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
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Sample ID	Sample Date	Chloromethane (mg/kg)	cis-1,2-Dichloroethene (mg/kg)	cis-1,3-Dichloropropene (mg/kg)	Dibromochloromethane (mg/kg)	Dibromomethane (mg/kg)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.23)	ND(0.075)	ND(0.075)	ND(0.075)	ND(0.075)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.19)	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.1)	ND(0.034)	ND(0.034)	ND(0.034)	ND(0.034)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.21)	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.068)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(0.1)	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(0.17)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.086)	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.078)	ND(0.026)	ND(0.026)	ND(0.026)	ND(0.026)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.18)	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.19)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.19)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(0.21)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.15)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.15)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.19)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(0.21)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(0.16)	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(0.85)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(0.77)	ND(0.26)	ND(0.26)	ND(0.26)	ND(0.26)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(0.099)	ND(0.033)	ND(0.033)	ND(0.033)	ND(0.033)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.23)	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.076)
2022 Residential NMED SSL (C c)		41.14	156.4	NA	13.9	57.9
2022 Construction Worker NMED SSL (A a)		955.7	707.9	NA	340.5	53.89
2022 Industrial NMED SSL (B b)		200.8	2596	NA	67.37	288.2

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
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Sample ID	Sample Date	Dichlorodifluoromethane (mg/kg)	Ethylbenzene (mg/kg)	Hexachlorobutadiene (mg/kg)	Isopropylbenzene (mg/kg)	Methylene Chloride (mg/kg)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.075)	ND(0.075)	ND(0.15)	ND(0.075)	ND(0.23)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.063)	ND(0.063)	ND(0.13)	ND(0.063)	ND(0.19)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.034)	ND(0.034)	ND(0.068)	ND(0.034)	ND(0.1)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.068)	ND(0.068)	ND(0.14)	ND(0.068)	ND(0.21)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(0.035)	0.022 J	ND(0.069)	0.044	ND(0.1)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(0.057)	ND(0.057)	ND(0.11)	ND(0.057)	ND(0.17)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.029)	ND(0.029)	ND(0.057)	ND(0.029)	ND(0.086)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.026)	ND(0.026)	ND(0.052)	ND(0.026)	ND(0.078)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.059)	ND(0.059)	ND(0.12)	ND(0.059)	ND(0.18)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.064)	ND(0.064)	ND(0.13)	ND(0.064)	ND(0.19)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.064)	ND(0.064)	ND(0.13)	ND(0.064)	ND(0.19)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(0.071)	ND(0.071)	ND(0.14)	ND(0.071)	ND(0.21)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.05)	0.021 J	ND(0.1)	ND(0.05)	ND(0.15)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.05)	0.058	ND(0.1)	0.018 J	ND(0.15)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.064)	0.062 J	ND(0.13)	ND(0.064)	ND(0.19)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(0.071)	0.017 J	ND(0.14)	ND(0.071)	ND(0.21)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(0.055)	ND(0.055)	ND(0.11)	ND(0.055)	ND(0.16)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(0.28)	0.21 J	ND(0.57)	0.3	ND(0.85)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(0.26)	0.21 J	ND(0.51)	0.24 J	ND(0.77)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(0.033)	ND(0.033)	ND(0.066)	ND(0.033)	ND(0.099)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.076)	ND(0.076)	ND(0.15)	ND(0.076)	ND(0.23)
2022 Residential NMED SSL (C c)		181.9	75.11	68.28	2364	765.7
2022 Construction Worker NMED SSL (A a)		160.9	1772	2395	2738	89550
2022 Industrial NMED SSL (B b)		864.8	367.6	52.08	14220	14400

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	MTBE (mg/kg)	Naphthalene (mg/kg)	n-Butylbenzene (mg/kg)	n-Propylbenzene (mg/kg)	p-Isopropyltoluene (mg/kg)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.075)	ND(0.15)	ND(0.23)	ND(0.075)	ND(0.075)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.063)	ND(0.13)	0.021 J	ND(0.063)	ND(0.063)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.034)	ND(0.068)	ND(0.1)	ND(0.034)	ND(0.034)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.068)	ND(0.14)	ND(0.21)	ND(0.068)	ND(0.068)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(0.035)	ND(0.069)	0.36	0.077	0.17
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(0.057)	ND(0.11)	ND(0.17)	ND(0.057)	ND(0.057)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.029)	ND(0.057)	ND(0.086)	ND(0.029)	ND(0.029)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.026)	ND(0.052)	ND(0.078)	ND(0.026)	ND(0.026)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.059)	ND(0.12)	ND(0.18)	ND(0.059)	ND(0.059)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.064)	ND(0.13)	ND(0.19)	ND(0.064)	ND(0.064)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.064)	ND(0.13)	ND(0.19)	0.044 J	ND(0.064)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(0.071)	ND(0.14)	ND(0.21)	ND(0.071)	ND(0.071)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.05)	ND(0.1)	ND(0.15)	0.015 J	ND(0.05)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.05)	ND(0.1)	0.022 J	0.04 J	0.014 J
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.064)	ND(0.13)	ND(0.19)	0.018 J	ND(0.064)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(0.071)	0.048 J	ND(0.21)	0.018 J	ND(0.071)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(0.055)	ND(0.11)	ND(0.16)	ND(0.055)	ND(0.055)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(0.28)	ND(0.57)	0.18 J	0.77	0.21 J
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(0.26)	ND(0.51)	0.13 J	0.69	0.17 J
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(0.033)	ND(0.066)	ND(0.099)	ND(0.033)	ND(0.033)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.076)	ND(0.15)	ND(0.23)	ND(0.076)	ND(0.076)
2022 Residential NMED SSL (C c)		NA	22.6	NA	NA	NA
2022 Construction Worker NMED SSL (A a)		NA	632.9	NA	NA	NA
2022 Industrial NMED SSL (B b)		NA	108.2	NA	NA	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	sec-Butylbenzene (mg/kg)	Styrene (mg/kg)	tert-Butylbenzene (mg/kg)	Tetrachloroethene (mg/kg)	Toluene (mg/kg)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.075)	ND(0.075)	ND(0.075)	ND(0.075)	ND(0.075)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.034)	ND(0.034)	ND(0.034)	ND(0.034)	ND(0.034)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.068)
AOC2627-SB-07 (5-10 ft)	8/15/23	0.16	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.026)	ND(0.026)	ND(0.026)	ND(0.026)	ND(0.026)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-09 (15-20 ft)	8/16/23	0.074	ND(0.064)	ND(0.064)	ND(0.064)	0.015 J
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	0.024 J	ND(0.05)	ND(0.05)	ND(0.05)	0.011 J
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	0.043 J
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	0.27 J	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-11 (19-20 ft)	8/16/23	0.21 J	ND(0.26)	ND(0.26)	ND(0.26)	ND(0.26)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(0.033)	ND(0.033)	ND(0.033)	ND(0.033)	ND(0.033)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.076)
2022 Residential NMED SSL (C c)		NA	7264	NA	337.4	5228
2022 Construction Worker NMED SSL (A a)		NA	10170	NA	7911	14040
2022 Industrial NMED SSL (B b)		NA	51300	NA	1649	61340

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	trans-1,2-Dichloroethene (mg/kg)	trans-1,3-Dichloropropene (mg/kg)	Trichloroethene (mg/kg)	Trichlorofluoromethane (mg/kg)	Vinyl Chloride (mg/kg)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.075)	ND(0.075)	ND(0.075)	ND(0.075)	ND(0.075)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.034)	ND(0.034)	ND(0.034)	ND(0.034)	ND(0.034)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.068)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.026)	ND(0.026)	ND(0.026)	ND(0.026)	ND(0.026)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(0.26)	ND(0.26)	ND(0.26)	ND(0.26)	ND(0.26)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(0.033)	ND(0.033)	ND(0.033)	ND(0.033)	ND(0.033)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.076)
2022 Residential NMED SSL (C c)		210.2	NA	15.48	1231	0.742
2022 Construction Worker NMED SSL (A a)		206.5	NA	5368	1127	161
2022 Industrial NMED SSL (B b)		1096	NA	112.1	6031	28.41

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
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Sample ID	Sample Date	Xylenes, Total (mg/kg)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.15)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.13)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.068)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.14)
AOC2627-SB-07 (5-10 ft)	8/15/23	0.035 J
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(0.11)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.057)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.052)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.12)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.13)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.13)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(0.14)
AOC2627-SB-10 (15-20 ft)	8/16/23	0.02 J
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	0.034 J
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	0.087 J
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(0.14)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(0.11)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(0.57)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(0.51)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(0.066)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.15)
2022 Residential NMED SSL (C c)		870.8
2022 Construction Worker NMED SSL (A a)		798.3
2022 Industrial NMED SSL (B b)		4275

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
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Sample ID	Sample Date	1,1,1,2-Tetrachloroethane (mg/kg)	1,1,1-Trichloroethane (mg/kg)	1,1,2,2-Tetrachloroethane (mg/kg)	1,1,2-Trichloroethane (mg/kg)	1,1-Dichloroethane (mg/kg)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(0.061)	ND(0.061)	ND(0.061)	ND(0.061)	ND(0.061)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(0.27)	ND(0.27)	ND(0.27)	ND(0.27)	ND(0.27)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.045)	ND(0.045)	ND(0.045)	ND(0.045)	ND(0.045)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(0.074)	ND(0.074)	ND(0.074)	ND(0.074)	ND(0.074)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(0.62)	ND(0.62)	ND(0.62)	ND(0.62)	ND(0.62)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.32)	ND(0.32)	ND(0.32)	ND(0.32)	ND(0.32)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.075)	ND(0.075)	ND(0.075)	ND(0.075)	ND(0.075)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(0.078)	ND(0.078)	ND(0.078)	ND(0.078)	ND(0.078)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.073)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.067)	ND(0.067)	ND(0.067)	ND(0.067)	ND(0.067)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.067)	ND(0.067)	ND(0.067)	ND(0.067)	ND(0.067)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.052)	ND(0.052)	ND(0.052)	ND(0.052)	ND(0.052)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.047)	ND(0.047)	ND(0.047)	ND(0.047)	ND(0.047)
2022 Residential NMED SSL (C c)		28.06	14370	7.984	18.76	78.61
2022 Construction Worker NMED SSL (A a)		658.5	13600	196.5	4301	1817
2022 Industrial NMED SSL (B b)		137.2	72530	39.4	92.06	383.3

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,1-Dichloroethene (mg/kg)	1,1-Dichloropropene (mg/kg)	1,2,3-Trichlorobenzene (mg/kg)	1,2,3-Trichloropropane (mg/kg)	1,2,4-Trichlorobenzene (mg/kg)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.053)	ND(0.11)	ND(0.11)	**ND(0.11) c**	ND(0.053)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(0.061)	ND(0.12)	ND(0.12)	**ND(0.12) c**	ND(0.061)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(0.3)	ND(0.6)	ND(0.6)	ND(0.6)	ND(0.3)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(0.27)	ND(0.55)	ND(0.55)	ND(0.55)	ND(0.27)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.053)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.053)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.045)	ND(0.091)	ND(0.091)	ND(0.091)	ND(0.045)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(0.074)	ND(0.15)	ND(0.15)	**ND(0.15) c**	ND(0.074)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(0.29)	ND(0.57)	ND(0.57)	ND(0.57)	ND(0.29)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(0.62)	ND(1.2)	ND(1.2)	ND(1.2)	ND(0.62)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.32)	ND(0.65)	ND(0.65)	ND(0.65)	ND(0.32)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(0.059)	ND(0.12)	ND(0.12)	**ND(0.12) c**	ND(0.059)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.057)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.057)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.075)	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.075)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(0.078)	ND(0.16)	ND(0.16)	**ND(0.16) c**	ND(0.078)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.073)	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.073)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.067)	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.067)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.054)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.054)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.067)	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.067)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.053)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.053)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.052)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.052)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.047)	ND(0.093)	ND(0.093)	ND(0.093)	ND(0.047)
2022 Residential NMED SSL (C c)		439.9	NA	NA	0.05105	239.7
2022 Construction Worker NMED SSL (A a)		423.9	NA	NA	8.259	8543
2022 Industrial NMED SSL (B b)		2255	NA	NA	1.211	1253

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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,2,4-Trimethylbenzene (mg/kg)	1,2-Dibromo-3-Chloropropane (mg/kg)	1,2-Dibromoethane (mg/kg)	1,2-Dichlorobenzene (mg/kg)	1,2-Dichloroethane (mg/kg)
AOC2627-SB-12 (5-10 ft)	8/15/23	0.016 J	**ND(0.11) c**	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(0.061)	**ND(0.12) c**	ND(0.061)	ND(0.061)	ND(0.061)
AOC2627-SB-13 (10-15 ft)	8/16/23	7.7	ND(0.6)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-13 (14-15 ft)	8/16/23	8.5	ND(0.55)	ND(0.27)	ND(0.27)	ND(0.27)
AOC2627-SB-13 (24-25 ft)	8/16/23	0.0093 U	ND(0.11)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.045)	ND(0.091)	ND(0.045)	ND(0.045)	ND(0.045)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	0.048 U	**ND(0.15) c**	ND(0.074)	ND(0.074)	ND(0.074)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(0.29)	ND(0.57)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-14 (25-28 ft)	8/16/23	0.27 J	ND(1.2)	ND(0.62)	ND(0.62)	ND(0.62)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.32)	ND(0.65)	ND(0.32)	ND(0.32)	ND(0.32)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	0.027 J	**ND(0.12) c**	ND(0.059)	ND(0.059)	ND(0.059)
AOC2627-SB-15 (10-15 ft)	8/15/23	0.012 U	ND(0.11)	ND(0.057)	ND(0.057)	ND(0.057)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.075)	ND(0.15)	ND(0.075)	ND(0.075)	ND(0.075)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	1.2	**ND(0.16) c**	ND(0.078)	ND(0.078)	ND(0.078)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.073)	ND(0.15)	ND(0.073)	ND(0.073)	ND(0.073)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.067)	ND(0.13)	ND(0.067)	ND(0.067)	ND(0.067)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.054)	ND(0.11)	ND(0.054)	ND(0.054)	ND(0.054)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.067)	ND(0.13)	ND(0.067)	ND(0.067)	ND(0.067)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.053)	ND(0.11)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.052)	ND(0.1)	ND(0.052)	ND(0.052)	ND(0.052)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.047)	ND(0.093)	ND(0.047)	ND(0.047)	ND(0.047)
2022 Residential NMED SSL (C c)		NA	0.08583	0.6725	2150	8.315
2022 Construction Worker NMED SSL (A a)		NA	5.532	16.32	2496	195.4
2022 Industrial NMED SSL (B b)		NA	1.179	3.309	12970	40.67

Notes:
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Dup - Blind duplicate
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ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,2-Dichloropropane (mg/kg)	1,3,5-Trimethylbenzene (mg/kg)	1,3-Dichlorobenzene (mg/kg)	1,3-Dichloropropane (mg/kg)	1,4-Dichlorobenzene (mg/kg)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(0.061)	ND(0.061)	ND(0.061)	ND(0.061)	ND(0.061)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(0.3)	1.9	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(0.27)	2	ND(0.27)	ND(0.27)	ND(0.27)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.045)	ND(0.045)	ND(0.045)	ND(0.045)	ND(0.045)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(0.074)	ND(0.074)	ND(0.074)	ND(0.074)	ND(0.074)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(0.62)	ND(0.62)	ND(0.62)	ND(0.62)	ND(0.62)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.32)	ND(0.32)	ND(0.32)	ND(0.32)	ND(0.32)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.057)	0.014 J+	ND(0.057)	ND(0.057)	ND(0.057)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.075)	ND(0.075)	ND(0.075)	ND(0.075)	ND(0.075)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(0.078)	0.3	ND(0.078)	ND(0.078)	ND(0.078)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.073)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.067)	ND(0.067)	ND(0.067)	ND(0.067)	ND(0.067)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.067)	ND(0.067)	ND(0.067)	ND(0.067)	ND(0.067)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.052)	ND(0.052)	ND(0.052)	ND(0.052)	ND(0.052)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.047)	ND(0.047)	ND(0.047)	ND(0.047)	ND(0.047)
2022 Residential NMED SSL (C c)		17.77	NA	NA	NA	1287
2022 Construction Worker NMED SSL (A a)		415	NA	NA	NA	45880
2022 Industrial NMED SSL (B b)		86.82	NA	NA	NA	6729

Notes:
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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,4-Dioxane (mg/kg)	1-Methylnaphthalene (mg/kg)	2,2-Dichloropropane (mg/kg)	2-Butanone (mg/kg)	2-Chlorotoluene (mg/kg)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.53)	ND(0.21)	ND(0.11)	ND(0.53)	ND(0.053)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(0.61)	0.043 U	ND(0.12)	ND(0.61)	ND(0.061)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(3)	11	ND(0.6)	ND(3)	ND(0.3)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(2.7)	12	ND(0.55)	ND(2.7)	ND(0.27)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.53)	0.11 U	ND(0.11)	ND(0.53)	ND(0.053)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.45)	ND(0.18)	ND(0.091)	ND(0.45)	ND(0.045)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(0.74)	0.032 U	ND(0.15)	ND(0.74)	ND(0.074)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(2.9)	ND(1.1)	ND(0.57)	ND(2.9)	ND(0.29)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(6.2)	ND(2.5)	ND(1.2)	ND(6.2)	ND(0.62)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(3.2)	ND(1.3)	ND(0.65)	ND(3.2)	ND(0.32)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(0.59)	0.064 J	ND(0.12)	ND(0.59)	ND(0.059)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.57)	1.3 J+	ND(0.11)	ND(0.57)	ND(0.057)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.75)	ND(0.3)	ND(0.15)	ND(0.75)	ND(0.075)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(0.78)	0.15 U	ND(0.16)	ND(0.78)	ND(0.078)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.73)	0.26 U	ND(0.15)	ND(0.73)	ND(0.073)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.67)	0.022 U	ND(0.13)	ND(0.67)	ND(0.067)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.54)	0.032 U	ND(0.11)	ND(0.54)	ND(0.054)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.67)	ND(0.27)	ND(0.13)	ND(0.67)	ND(0.067)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.53)	0.036 U	ND(0.11)	ND(0.53)	ND(0.053)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.52)	ND(0.21)	ND(0.1)	ND(0.52)	ND(0.052)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.47)	ND(0.19)	ND(0.093)	ND(0.47)	ND(0.047)
2022 Residential NMED SSL (C c)		53.26	171.6	NA	37420	1564
2022 Construction Worker NMED SSL (A a)		1881	6059	NA	91660	7079
2022 Industrial NMED SSL (B b)		256.6	813	NA	411000	25960

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Sample ID	Sample Date	2-Hexanone (mg/kg)	2-Methylnaphthalene (mg/kg)	4-Chlorotoluene (mg/kg)	4-Methyl-2-Pentanone (mg/kg)	Acetone (mg/kg)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.53)	0.056 J	ND(0.053)	ND(0.53)	ND(0.79)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(0.61)	ND(0.24)	ND(0.061)	ND(0.61)	ND(0.92)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(3)	20	ND(0.3)	ND(3)	ND(4.5)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(2.7)	21	ND(0.27)	ND(2.7)	ND(4.1)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.53)	0.19 J	ND(0.053)	ND(0.53)	ND(0.8)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.45)	ND(0.18)	ND(0.045)	ND(0.45)	ND(0.68)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(0.74)	ND(0.29)	ND(0.074)	ND(0.74)	ND(1.1)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(2.9)	ND(1.1)	ND(0.29)	ND(2.9)	ND(4.3)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(6.2)	ND(2.5)	ND(0.62)	ND(6.2)	ND(9.3)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(3.2)	ND(1.3)	ND(0.32)	ND(3.2)	ND(4.8)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(0.59)	0.089 J	ND(0.059)	ND(0.59)	ND(0.88)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.57)	2 J+	ND(0.057)	0.22 J+	ND(0.85)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.75)	ND(0.3)	ND(0.075)	ND(0.75)	ND(1.1)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(0.78)	0.31 J	ND(0.078)	ND(0.78)	ND(1.2)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.73)	0.17 J	ND(0.073)	ND(0.73)	ND(1.1)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.67)	ND(0.27)	ND(0.067)	ND(0.67)	ND(1)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.54)	ND(0.22)	ND(0.054)	ND(0.54)	ND(0.82)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.67)	ND(0.27)	ND(0.067)	ND(0.67)	ND(1)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.53)	ND(0.21)	ND(0.053)	ND(0.53)	ND(0.8)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.52)	ND(0.21)	ND(0.052)	ND(0.52)	ND(0.79)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.47)	ND(0.19)	ND(0.047)	ND(0.47)	ND(0.7)
2022 Residential NMED SSL (C c)		NA	231.8	NA	5809	66310
2022 Construction Worker NMED SSL (A a)		NA	1004	NA	20230	241500
2022 Industrial NMED SSL (B b)		NA	3368	NA	81650	960100

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzene (mg/kg)	Bromobenzene (mg/kg)	Bromodichloromethane (mg/kg)	Bromoform (mg/kg)	Bromomethane (mg/kg)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.026)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.21)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(0.031)	ND(0.061)	ND(0.061)	ND(0.061)	ND(0.24)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(0.15)	ND(0.3)	ND(0.3)	ND(0.3)	ND(1.2)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(0.14)	ND(0.27)	ND(0.27)	ND(0.27)	ND(1.1)
AOC2627-SB-13 (24-25 ft)	8/16/23	0.018 J	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.21)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.023)	ND(0.045)	ND(0.045)	ND(0.045)	ND(0.18)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(0.037)	ND(0.074)	ND(0.074)	ND(0.074)	ND(0.29)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(0.14)	ND(0.29)	ND(0.29)	ND(0.29)	ND(1.1)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(0.31)	ND(0.62)	ND(0.62)	ND(0.62)	ND(2.5)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.16)	ND(0.32)	ND(0.32)	ND(0.32)	ND(1.3)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(0.029)	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.24)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.028)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.23)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.037)	ND(0.075)	ND(0.075)	ND(0.075)	ND(0.3)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(0.039)	ND(0.078)	ND(0.078)	ND(0.078)	ND(0.31)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.036)	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.29)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	0.029 J	ND(0.067)	ND(0.067)	ND(0.067)	ND(0.27)
AOC2627-SB-16 (14-15 ft)	8/16/23	0.12	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.22)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.033)	ND(0.067)	ND(0.067)	ND(0.067)	ND(0.27)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.027)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.21)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.026)	ND(0.052)	ND(0.052)	ND(0.052)	ND(0.21)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.023)	ND(0.047)	ND(0.047)	ND(0.047)	ND(0.19)
2022 Residential NMED SSL (C c)		17.79	NA	6.193	674.1	17.73
2022 Construction Worker NMED SSL (A a)		423.4	NA	142.6	23750	17.86
2022 Industrial NMED SSL (B b)		87.24	NA	30.18	1760	94.52

Notes:
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b - Non-detect exceedance of 2022 Industrial NMED SSL
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c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
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JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Carbon Disulfide (mg/kg)	Carbon tetrachloride (mg/kg)	Chlorobenzene (mg/kg)	Chloroethane (mg/kg)	Chloroform (mg/kg)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.53)	ND(0.053)	ND(0.11)	ND(0.11)	ND(0.053)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(0.61)	ND(0.061)	ND(0.12)	ND(0.12)	0.013 U
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(3)	ND(0.3)	ND(0.6)	ND(0.6)	ND(0.3)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(2.7)	ND(0.27)	ND(0.55)	ND(0.55)	ND(0.27)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.53)	ND(0.053)	ND(0.11)	ND(0.11)	ND(0.053)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.45)	ND(0.045)	ND(0.091)	ND(0.091)	ND(0.045)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(0.74)	ND(0.074)	ND(0.15)	ND(0.15)	ND(0.074)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(2.9)	ND(0.29)	ND(0.57)	ND(0.57)	0.075 J
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(6.2)	ND(0.62)	ND(1.2)	ND(1.2)	ND(0.62)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(3.2)	ND(0.32)	ND(0.65)	ND(0.65)	0.089 U
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(0.59)	ND(0.059)	ND(0.12)	ND(0.12)	ND(0.059)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.57)	ND(0.057)	ND(0.11)	ND(0.11)	ND(0.057)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.75)	ND(0.075)	ND(0.15)	ND(0.15)	ND(0.075)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(0.78)	ND(0.078)	ND(0.16)	ND(0.16)	ND(0.078)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.73)	ND(0.073)	ND(0.15)	ND(0.15)	ND(0.073)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.67)	ND(0.067)	ND(0.13)	ND(0.13)	0.013 U
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.54)	ND(0.054)	ND(0.11)	ND(0.11)	0.016 J
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.67)	ND(0.067)	ND(0.13)	ND(0.13)	0.021 U
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.53)	ND(0.053)	ND(0.11)	ND(0.11)	ND(0.053)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.52)	ND(0.052)	ND(0.1)	ND(0.1)	ND(0.052)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.47)	ND(0.047)	ND(0.093)	ND(0.093)	ND(0.047)
2022 Residential NMED SSL (C c)		1554	10.73	378.4	19000	5.899
2022 Construction Worker NMED SSL (A a)		1621	252.3	411.6	16640	133.9
2022 Industrial NMED SSL (B b)		8541	52.5	2157	89540	28.66

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Chloromethane (mg/kg)	cis-1,2-Dichloroethene (mg/kg)	cis-1,3-Dichloropropene (mg/kg)	Dibromochloromethane (mg/kg)	Dibromomethane (mg/kg)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.16)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(0.18)	ND(0.061)	ND(0.061)	ND(0.061)	ND(0.061)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(0.9)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(0.82)	ND(0.27)	ND(0.27)	ND(0.27)	ND(0.27)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.16)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.14)	ND(0.045)	ND(0.045)	ND(0.045)	ND(0.045)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(0.22)	ND(0.074)	ND(0.074)	ND(0.074)	ND(0.074)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(0.86)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(1.9)	ND(0.62)	ND(0.62)	ND(0.62)	ND(0.62)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.97)	ND(0.32)	ND(0.32)	ND(0.32)	ND(0.32)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(0.18)	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.17)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.22)	ND(0.075)	ND(0.075)	ND(0.075)	ND(0.075)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(0.24)	ND(0.078)	ND(0.078)	ND(0.078)	ND(0.078)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.22)	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.073)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.2)	ND(0.067)	ND(0.067)	ND(0.067)	ND(0.067)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.16)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.2)	ND(0.067)	ND(0.067)	ND(0.067)	ND(0.067)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.16)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.16)	ND(0.052)	ND(0.052)	ND(0.052)	ND(0.052)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.14)	ND(0.047)	ND(0.047)	ND(0.047)	ND(0.047)
2022 Residential NMED SSL (C c)		41.14	156.4	NA	13.9	57.9
2022 Construction Worker NMED SSL (A a)		955.7	707.9	NA	340.5	53.89
2022 Industrial NMED SSL (B b)		200.8	2596	NA	67.37	288.2

Notes:
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a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Dichlorodifluoromethane (mg/kg)	Ethylbenzene (mg/kg)	Hexachlorobutadiene (mg/kg)	Isopropylbenzene (mg/kg)	Methylene Chloride (mg/kg)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.053)	ND(0.053)	ND(0.11)	ND(0.053)	ND(0.16)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(0.061)	ND(0.061)	ND(0.12)	ND(0.061)	ND(0.18)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(0.3)	1.8	ND(0.6)	0.62	ND(0.9)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(0.27)	1.8	ND(0.55)	0.63	ND(0.82)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.053)	ND(0.053)	ND(0.11)	ND(0.053)	ND(0.16)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.045)	ND(0.045)	ND(0.091)	ND(0.045)	ND(0.14)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(0.074)	ND(0.074)	ND(0.15)	ND(0.074)	ND(0.22)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.57)	ND(0.29)	ND(0.86)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(0.62)	0.16 J	ND(1.2)	ND(0.62)	ND(1.9)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.32)	ND(0.32)	ND(0.65)	ND(0.32)	ND(0.97)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(0.059)	ND(0.059)	ND(0.12)	ND(0.059)	ND(0.18)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.057)	0.29 J+	ND(0.11)	0.69 J+	ND(0.17)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.075)	ND(0.075)	ND(0.15)	ND(0.075)	ND(0.22)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(0.078)	0.71	ND(0.16)	0.14	ND(0.24)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.073)	ND(0.073)	ND(0.15)	0.15	ND(0.22)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.067)	ND(0.067)	ND(0.13)	ND(0.067)	ND(0.2)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.054)	ND(0.054)	ND(0.11)	0.044 J	ND(0.16)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.067)	ND(0.067)	ND(0.13)	ND(0.067)	ND(0.2)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.053)	ND(0.053)	ND(0.11)	ND(0.053)	ND(0.16)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.052)	ND(0.052)	ND(0.1)	ND(0.052)	ND(0.16)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.047)	ND(0.047)	ND(0.093)	ND(0.047)	ND(0.14)
2022 Residential NMED SSL (C c)		181.9	75.11	68.28	2364	765.7
2022 Construction Worker NMED SSL (A a)		160.9	1772	2395	2738	89550
2022 Industrial NMED SSL (B b)		864.8	367.6	52.08	14220	14400

Notes:
A - Exceedance of 2022 Construction NMED SSL.
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C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
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Sample ID	Sample Date	MTBE (mg/kg)	Naphthalene (mg/kg)	n-Butylbenzene (mg/kg)	n-Propylbenzene (mg/kg)	p-Isopropyltoluene (mg/kg)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.053)	ND(0.11)	ND(0.16)	ND(0.053)	0.017 J
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(0.061)	ND(0.12)	ND(0.18)	ND(0.061)	ND(0.061)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(0.3)	6.5	1.4	1.8	0.52
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(0.27)	6.6	1.4	1.8	0.52
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.053)	ND(0.11)	ND(0.16)	ND(0.053)	ND(0.053)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.045)	ND(0.091)	ND(0.14)	ND(0.045)	ND(0.045)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(0.074)	0.056 J	ND(0.22)	0.018 J	ND(0.074)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(0.29)	ND(0.57)	ND(0.86)	ND(0.29)	ND(0.29)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(0.62)	ND(1.2)	ND(1.9)	ND(0.62)	ND(0.62)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.32)	ND(0.65)	ND(0.97)	ND(0.32)	ND(0.32)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(0.059)	0.026 J	ND(0.18)	ND(0.059)	ND(0.059)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.057)	0.36 J+	0.32 J+	0.84 J+	0.087 J+
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.075)	ND(0.15)	ND(0.22)	ND(0.075)	ND(0.075)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(0.078)	0.26	0.18 J	0.43	0.064 J
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.073)	ND(0.15)	0.12 J	0.34	ND(0.073)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.067)	ND(0.13)	ND(0.2)	0.015 J	ND(0.067)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.054)	ND(0.11)	0.017 J	0.07	ND(0.054)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.067)	ND(0.13)	ND(0.2)	ND(0.067)	ND(0.067)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.053)	ND(0.11)	ND(0.16)	ND(0.053)	ND(0.053)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.052)	ND(0.1)	ND(0.16)	ND(0.052)	ND(0.052)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.047)	ND(0.093)	ND(0.14)	ND(0.047)	ND(0.047)
2022 Residential NMED SSL (C c)		NA	22.6	NA	NA	NA
2022 Construction Worker NMED SSL (A a)		NA	632.9	NA	NA	NA
2022 Industrial NMED SSL (B b)		NA	108.2	NA	NA	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	sec-Butylbenzene (mg/kg)	Styrene (mg/kg)	tert-Butylbenzene (mg/kg)	Tetrachloroethene (mg/kg)	Toluene (mg/kg)
AOC2627-SB-12 (5-10 ft)	8/15/23	0.018 J	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(0.061)	ND(0.061)	ND(0.061)	ND(0.061)	ND(0.061)
AOC2627-SB-13 (10-15 ft)	8/16/23	0.48	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-13 (14-15 ft)	8/16/23	0.52	ND(0.27)	ND(0.27)	ND(0.27)	ND(0.27)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.045)	ND(0.045)	ND(0.045)	ND(0.045)	ND(0.045)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(0.074)	ND(0.074)	ND(0.074)	ND(0.074)	ND(0.074)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(0.62)	ND(0.62)	ND(0.62)	ND(0.62)	ND(0.62)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.32)	ND(0.32)	ND(0.32)	ND(0.32)	ND(0.32)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)
AOC2627-SB-15 (10-15 ft)	8/15/23	0.7 J+	ND(0.057)	0.023 J+	ND(0.057)	ND(0.057)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.075)	ND(0.075)	ND(0.075)	ND(0.075)	ND(0.075)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	0.079	ND(0.078)	ND(0.078)	ND(0.078)	ND(0.078)
AOC2627-SB-16 (10-15 ft)	8/16/23	0.19	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.073)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.067)	ND(0.067)	ND(0.067)	ND(0.067)	ND(0.067)
AOC2627-SB-16 (14-15 ft)	8/16/23	0.03 J	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.067)	ND(0.067)	ND(0.067)	ND(0.067)	ND(0.067)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.052)	ND(0.052)	ND(0.052)	ND(0.052)	ND(0.052)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.047)	ND(0.047)	ND(0.047)	ND(0.047)	ND(0.047)
2022 Residential NMED SSL (C c)		NA	7264	NA	337.4	5228
2022 Construction Worker NMED SSL (A a)		NA	10170	NA	7911	14040
2022 Industrial NMED SSL (B b)		NA	51300	NA	1649	61340

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	trans-1,2-Dichloroethene (mg/kg)	trans-1,3-Dichloropropene (mg/kg)	Trichloroethene (mg/kg)	Trichlorofluoromethane (mg/kg)	Vinyl Chloride (mg/kg)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(0.061)	ND(0.061)	ND(0.061)	ND(0.061)	ND(0.061)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(0.27)	ND(0.27)	ND(0.27)	ND(0.27)	ND(0.27)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.045)	ND(0.045)	ND(0.045)	ND(0.045)	ND(0.045)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(0.074)	ND(0.074)	ND(0.074)	ND(0.074)	ND(0.074)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(0.62)	ND(0.62)	ND(0.62)	ND(0.62)	ND(0.62)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.32)	ND(0.32)	ND(0.32)	ND(0.32)	ND(0.32)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.075)	ND(0.075)	ND(0.075)	ND(0.075)	ND(0.075)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(0.078)	ND(0.078)	ND(0.078)	ND(0.078)	ND(0.078)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.073)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.067)	ND(0.067)	ND(0.067)	ND(0.067)	ND(0.067)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.067)	ND(0.067)	ND(0.067)	ND(0.067)	ND(0.067)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.052)	ND(0.052)	ND(0.052)	ND(0.052)	ND(0.052)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.047)	ND(0.047)	ND(0.047)	ND(0.047)	ND(0.047)
2022 Residential NMED SSL (C c)		210.2	NA	15.48	1231	0.742
2022 Construction Worker NMED SSL (A a)		206.5	NA	5368	1127	161
2022 Industrial NMED SSL (B b)		1096	NA	112.1	6031	28.41

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Xylenes, Total (mg/kg)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.11)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(0.12)
AOC2627-SB-13 (10-15 ft)	8/16/23	1.3
AOC2627-SB-13 (14-15 ft)	8/16/23	1.4
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.11)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.091)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(0.15)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(0.57)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(1.2)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.65)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(0.12)
AOC2627-SB-15 (10-15 ft)	8/15/23	0.056 J+
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.15)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	0.55
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.15)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.13)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.11)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.13)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.11)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.1)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.093)
2022 Residential NMED SSL (C c)		870.8
2022 Construction Worker NMED SSL (A a)		798.3
2022 Industrial NMED SSL (B b)		4275

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,1,1,2-Tetrachloroethane (mg/kg)	1,1,1-Trichloroethane (mg/kg)	1,1,2,2-Tetrachloroethane (mg/kg)	1,1,2-Trichloroethane (mg/kg)	1,1-Dichloroethane (mg/kg)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.032)	ND(0.032)	ND(0.032)	ND(0.032)	ND(0.032)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.027)	ND(0.027)	ND(0.027)	ND(0.027)	ND(0.027)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.048)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.068)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.073)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.052)	ND(0.052)	ND(0.052)	ND(0.052)	ND(0.052)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(0.078)	ND(0.078)	ND(0.078)	ND(0.078)	ND(0.078)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)
2022 Residential NMED SSL (C c)		28.06	14370	7.984	18.76	78.61
2022 Construction Worker NMED SSL (A a)		658.5	13600	196.5	4301	1817
2022 Industrial NMED SSL (B b)		137.2	72530	39.4	92.06	383.3

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,1-Dichloroethene (mg/kg)	1,1-Dichloropropene (mg/kg)	1,2,3-Trichlorobenzene (mg/kg)	1,2,3-Trichloropropane (mg/kg)	1,2,4-Trichlorobenzene (mg/kg)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(0.024)	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.024)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.029)	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.029)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.032)	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.032)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.03)	ND(0.061)	ND(0.061)	ND(0.061)	ND(0.03)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(0.054)	ND(0.11)	ND(0.11)	**ND(0.11) c**	ND(0.054)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.027)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.027)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.024)	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.024)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(0.048)	ND(0.097)	ND(0.097)	**ND(0.097) c**	ND(0.048)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.12)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.12)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.07)	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.07)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.064)	ND(0.13)	ND(0.13)	**ND(0.13) c**	ND(0.064)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(0.068)	ND(0.14)	ND(0.14)	**ND(0.14) c**	ND(0.068)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(0.063)	ND(0.13)	ND(0.13)	**ND(0.13) c**	ND(0.063)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.073)	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.073)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(0.029)	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.029)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.055)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.055)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.052)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.052)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(0.078)	ND(0.16)	ND(0.16)	**ND(0.16) c**	ND(0.078)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(0.053)	ND(0.11)	ND(0.11)	**ND(0.11) c**	ND(0.053)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(0.064)	ND(0.13)	ND(0.13)	**ND(0.13) c**	ND(0.064)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.057)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.057)
2022 Residential NMED SSL (C c)		439.9	NA	NA	0.05105	239.7
2022 Construction Worker NMED SSL (A a)		423.9	NA	NA	8.259	8543
2022 Industrial NMED SSL (B b)		2255	NA	NA	1.211	1253

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,2,4-Trimethylbenzene (mg/kg)	1,2-Dibromo-3-Chloropropane (mg/kg)	1,2-Dibromoethane (mg/kg)	1,2-Dichlorobenzene (mg/kg)	1,2-Dichloroethane (mg/kg)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(0.024)	ND(0.048)	ND(0.024)	ND(0.024)	ND(0.024)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.029)	ND(0.059)	ND(0.029)	ND(0.029)	ND(0.029)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.032)	ND(0.063)	ND(0.032)	ND(0.032)	ND(0.032)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.03)	ND(0.061)	ND(0.03)	ND(0.03)	ND(0.03)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(0.054)	**ND(0.11) c**	ND(0.054)	ND(0.054)	ND(0.054)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.027)	ND(0.054)	ND(0.027)	ND(0.027)	ND(0.027)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.024)	ND(0.048)	ND(0.024)	ND(0.024)	ND(0.024)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	0.04 J	**ND(0.097) c**	ND(0.048)	ND(0.048)	ND(0.048)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.12)	ND(0.25)	ND(0.12)	ND(0.12)	ND(0.12)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.07)	ND(0.14)	ND(0.07)	ND(0.07)	ND(0.07)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.064)	**ND(0.13) c**	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(0.068)	**ND(0.14) c**	ND(0.068)	ND(0.068)	ND(0.068)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	0.24	**ND(0.13) c**	ND(0.063)	ND(0.063)	ND(0.063)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.073)	ND(0.15)	ND(0.073)	ND(0.073)	ND(0.073)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	0.028 J	ND(0.059)	ND(0.029)	ND(0.029)	ND(0.029)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.055)	ND(0.11)	ND(0.055)	ND(0.055)	ND(0.055)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.052)	ND(0.1)	ND(0.052)	ND(0.052)	ND(0.052)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(0.078)	**ND(0.16) c**	ND(0.078)	ND(0.078)	ND(0.078)
AOC2627-SB-23 (4-5 ft)	8/15/23	0.024 J	**ND(0.11) c**	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	0.13	**ND(0.13) c**	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.057)	ND(0.11)	ND(0.057)	ND(0.057)	ND(0.057)
2022 Residential NMED SSL (C c)		NA	0.08583	0.6725	2150	8.315
2022 Construction Worker NMED SSL (A a)		NA	5.532	16.32	2496	195.4
2022 Industrial NMED SSL (B b)		NA	1.179	3.309	12970	40.67

Notes:
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Dup - Blind duplicate
ft - Foot or feet
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J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,2-Dichloropropane (mg/kg)	1,3,5-Trimethylbenzene (mg/kg)	1,3-Dichlorobenzene (mg/kg)	1,3-Dichloropropane (mg/kg)	1,4-Dichlorobenzene (mg/kg)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.032)	ND(0.032)	ND(0.032)	ND(0.032)	ND(0.032)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.027)	ND(0.027)	ND(0.027)	ND(0.027)	ND(0.027)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(0.048)	0.012 J	ND(0.048)	ND(0.048)	ND(0.048)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.068)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(0.063)	0.059 J	ND(0.063)	ND(0.063)	ND(0.063)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.073)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(0.029)	0.0084 J	ND(0.029)	ND(0.029)	ND(0.029)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.052)	ND(0.052)	ND(0.052)	ND(0.052)	ND(0.052)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(0.078)	ND(0.078)	ND(0.078)	ND(0.078)	ND(0.078)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(0.064)	0.032 J	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)
2022 Residential NMED SSL (C c)		17.77	NA	NA	NA	1287
2022 Construction Worker NMED SSL (A a)		415	NA	NA	NA	45880
2022 Industrial NMED SSL (B b)		86.82	NA	NA	NA	6729

Notes:
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c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
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mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,4-Dioxane (mg/kg)	1-Methylnaphthalene (mg/kg)	2,2-Dichloropropane (mg/kg)	2-Butanone (mg/kg)	2-Chlorotoluene (mg/kg)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(0.24)	ND(0.096)	ND(0.048)	ND(0.24)	ND(0.024)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.29)	ND(0.12)	ND(0.059)	ND(0.29)	ND(0.029)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.32)	ND(0.13)	ND(0.063)	ND(0.32)	ND(0.032)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.3)	ND(0.12)	ND(0.061)	ND(0.3)	ND(0.03)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(0.54)	ND(0.21)	ND(0.11)	ND(0.54)	ND(0.054)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.27)	ND(0.11)	ND(0.054)	ND(0.27)	ND(0.027)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.24)	ND(0.097)	ND(0.048)	ND(0.24)	ND(0.024)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(0.48)	ND(0.19)	ND(0.097)	ND(0.48)	ND(0.048)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(1.2)	ND(0.49)	ND(0.25)	ND(1.2)	ND(0.12)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.7)	ND(0.28)	ND(0.14)	ND(0.7)	ND(0.07)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.64)	ND(0.26)	ND(0.13)	ND(0.64)	ND(0.064)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(0.68)	ND(0.27)	ND(0.14)	ND(0.68)	ND(0.068)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(0.63)	0.036 J	ND(0.13)	ND(0.63)	ND(0.063)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.73)	ND(0.29)	ND(0.15)	ND(0.73)	ND(0.073)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(0.29)	0.014 J	ND(0.059)	ND(0.29)	ND(0.029)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.55)	ND(0.22)	ND(0.11)	ND(0.55)	ND(0.055)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.52)	ND(0.21)	ND(0.1)	ND(0.52)	ND(0.052)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(0.78)	ND(0.31)	ND(0.16)	ND(0.78)	ND(0.078)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(0.53)	ND(0.21)	ND(0.11)	ND(0.53)	ND(0.053)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(0.64)	0.11 J	ND(0.13)	ND(0.64)	ND(0.064)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.57)	ND(0.23)	ND(0.11)	ND(0.57)	ND(0.057)
2022 Residential NMED SSL (C c)		53.26	171.6	NA	37420	1564
2022 Construction Worker NMED SSL (A a)		1881	6059	NA	91660	7079
2022 Industrial NMED SSL (B b)		256.6	813	NA	411000	25960

Notes:
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Dup - Blind duplicate
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NA - Not applicable
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	2-Hexanone (mg/kg)	2-Methylnaphthalene (mg/kg)	4-Chlorotoluene (mg/kg)	4-Methyl-2-Pentanone (mg/kg)	Acetone (mg/kg)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(0.24)	ND(0.096)	ND(0.024)	ND(0.24)	ND(0.36)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.29)	ND(0.12)	ND(0.029)	ND(0.29)	ND(0.44)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.32)	ND(0.13)	ND(0.032)	ND(0.32)	ND(0.47)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.3)	ND(0.12)	ND(0.03)	ND(0.3)	ND(0.46)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(0.54)	ND(0.21)	ND(0.054)	ND(0.54)	ND(0.81)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.27)	ND(0.11)	ND(0.027)	ND(0.27)	ND(0.4)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.24)	ND(0.097)	ND(0.024)	ND(0.24)	ND(0.36)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(0.48)	ND(0.19)	ND(0.048)	ND(0.48)	ND(0.73)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(1.2)	ND(0.49)	ND(0.12)	ND(1.2)	ND(1.8)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.7)	ND(0.28)	ND(0.07)	ND(0.7)	ND(1.1)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.64)	ND(0.26)	ND(0.064)	ND(0.64)	ND(0.96)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(0.68)	ND(0.27)	ND(0.068)	ND(0.68)	ND(1)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(0.63)	ND(0.25)	ND(0.063)	ND(0.63)	ND(0.95)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.73)	ND(0.29)	ND(0.073)	ND(0.73)	ND(1.1)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(0.29)	ND(0.12)	ND(0.029)	ND(0.29)	ND(0.44)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.55)	ND(0.22)	ND(0.055)	ND(0.55)	ND(0.82)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.52)	ND(0.21)	ND(0.052)	ND(0.52)	ND(0.78)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(0.78)	ND(0.31)	ND(0.078)	ND(0.78)	ND(1.2)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(0.53)	ND(0.21)	ND(0.053)	ND(0.53)	ND(0.8)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(0.64)	0.15 J	ND(0.064)	ND(0.64)	ND(0.95)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.57)	ND(0.23)	ND(0.057)	ND(0.57)	ND(0.86)
2022 Residential NMED SSL (C c)		NA	231.8	NA	5809	66310
2022 Construction Worker NMED SSL (A a)		NA	1004	NA	20230	241500
2022 Industrial NMED SSL (B b)		NA	3368	NA	81650	960100

Notes:
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b - Non-detect exceedance of 2022 Industrial NMED SSL
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c - Non-detect exceedance of 2022 Residential NMED SSL
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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzene (mg/kg)	Bromobenzene (mg/kg)	Bromodichloromethane (mg/kg)	Bromoform (mg/kg)	Bromomethane (mg/kg)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(0.012)	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.096)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.015)	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.12)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.016)	ND(0.032)	ND(0.032)	ND(0.032)	ND(0.13)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.015)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.12)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(0.027)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.21)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.013)	ND(0.027)	ND(0.027)	ND(0.027)	ND(0.11)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.012)	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.097)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(0.024)	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.19)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.062)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.49)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.035)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.28)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.032)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.26)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(0.034)	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.27)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(0.032)	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.25)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.037)	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.29)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(0.015)	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.12)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.027)	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.22)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.026)	ND(0.052)	ND(0.052)	ND(0.052)	ND(0.21)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(0.039)	ND(0.078)	ND(0.078)	ND(0.078)	ND(0.31)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(0.027)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.21)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(0.032)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.25)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.029)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.23)
2022 Residential NMED SSL (C c)		17.79	NA	6.193	674.1	17.73
2022 Construction Worker NMED SSL (A a)		423.4	NA	142.6	23750	17.86
2022 Industrial NMED SSL (B b)		87.24	NA	30.18	1760	94.52

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Carbon Disulfide (mg/kg)	Carbon tetrachloride (mg/kg)	Chlorobenzene (mg/kg)	Chloroethane (mg/kg)	Chloroform (mg/kg)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(0.24)	ND(0.024)	ND(0.048)	ND(0.048)	ND(0.024)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.29)	ND(0.029)	ND(0.059)	ND(0.059)	ND(0.029)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.32)	ND(0.032)	ND(0.063)	ND(0.063)	ND(0.032)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.3)	ND(0.03)	ND(0.061)	ND(0.061)	ND(0.03)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(0.54)	ND(0.054)	ND(0.11)	ND(0.11)	ND(0.054)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.27)	ND(0.027)	ND(0.054)	ND(0.054)	ND(0.027)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.24)	ND(0.024)	ND(0.048)	ND(0.048)	ND(0.024)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(0.48)	ND(0.048)	ND(0.097)	ND(0.097)	ND(0.048)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(1.2)	ND(0.12)	ND(0.25)	ND(0.25)	ND(0.12)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.7)	ND(0.07)	ND(0.14)	ND(0.14)	ND(0.07)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.64)	ND(0.064)	ND(0.13)	ND(0.13)	ND(0.064)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(0.68)	ND(0.068)	ND(0.14)	ND(0.14)	ND(0.068)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(0.63)	ND(0.063)	ND(0.13)	ND(0.13)	ND(0.063)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.73)	ND(0.073)	ND(0.15)	ND(0.15)	ND(0.073)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(0.29)	ND(0.029)	ND(0.059)	ND(0.059)	ND(0.029)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.55)	ND(0.055)	ND(0.11)	ND(0.11)	ND(0.055)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.52)	ND(0.052)	ND(0.1)	ND(0.1)	ND(0.052)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(0.78)	ND(0.078)	ND(0.16)	ND(0.16)	ND(0.078)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(0.53)	ND(0.053)	ND(0.11)	ND(0.11)	ND(0.053)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(0.64)	ND(0.064)	ND(0.13)	ND(0.13)	ND(0.064)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.57)	ND(0.057)	ND(0.11)	ND(0.11)	ND(0.057)
2022 Residential NMED SSL (C c)		1554	10.73	378.4	19000	5.899
2022 Construction Worker NMED SSL (A a)		1621	252.3	411.6	16640	133.9
2022 Industrial NMED SSL (B b)		8541	52.5	2157	89540	28.66

Notes:
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Dup - Blind duplicate
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J - Estimated concentration
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JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Chloromethane (mg/kg)	cis-1,2-Dichloroethene (mg/kg)	cis-1,3-Dichloropropene (mg/kg)	Dibromochloromethane (mg/kg)	Dibromomethane (mg/kg)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(0.072)	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.088)	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.095)	ND(0.032)	ND(0.032)	ND(0.032)	ND(0.032)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.091)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(0.16)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.08)	ND(0.027)	ND(0.027)	ND(0.027)	ND(0.027)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.073)	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(0.15)	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.048)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.37)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.21)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.19)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(0.2)	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.068)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(0.19)	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.22)	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.073)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(0.088)	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.16)	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.16)	ND(0.052)	ND(0.052)	ND(0.052)	ND(0.052)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(0.23)	ND(0.078)	ND(0.078)	ND(0.078)	ND(0.078)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(0.16)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(0.19)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.17)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)
2022 Residential NMED SSL (C c)		41.14	156.4	NA	13.9	57.9
2022 Construction Worker NMED SSL (A a)		955.7	707.9	NA	340.5	53.89
2022 Industrial NMED SSL (B b)		200.8	2596	NA	67.37	288.2

Notes:
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a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Dichlorodifluoromethane (mg/kg)	Ethylbenzene (mg/kg)	Hexachlorobutadiene (mg/kg)	Isopropylbenzene (mg/kg)	Methylene Chloride (mg/kg)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(0.024)	ND(0.024)	ND(0.048)	ND(0.024)	ND(0.072)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.029)	ND(0.029)	ND(0.059)	ND(0.029)	ND(0.088)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.032)	ND(0.032)	ND(0.063)	ND(0.032)	ND(0.095)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.03)	ND(0.03)	ND(0.061)	ND(0.03)	ND(0.091)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(0.054)	ND(0.054)	ND(0.11)	ND(0.054)	ND(0.16)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.027)	ND(0.027)	ND(0.054)	ND(0.027)	ND(0.08)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.024)	ND(0.024)	ND(0.048)	ND(0.024)	ND(0.073)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(0.048)	0.012 J	ND(0.097)	ND(0.048)	ND(0.15)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.12)	ND(0.12)	ND(0.25)	ND(0.12)	ND(0.37)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.07)	ND(0.07)	ND(0.14)	ND(0.07)	ND(0.21)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.064)	ND(0.064)	ND(0.13)	ND(0.064)	ND(0.19)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(0.068)	ND(0.068)	ND(0.14)	ND(0.068)	ND(0.2)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(0.063)	0.048 J	ND(0.13)	0.028 J	ND(0.19)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.073)	ND(0.073)	ND(0.15)	ND(0.073)	ND(0.22)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(0.029)	ND(0.029)	ND(0.059)	ND(0.029)	ND(0.088)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.055)	ND(0.055)	ND(0.11)	ND(0.055)	ND(0.16)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.052)	ND(0.052)	ND(0.1)	ND(0.052)	ND(0.16)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(0.078)	ND(0.078)	ND(0.16)	ND(0.078)	ND(0.23)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(0.053)	0.011 J	ND(0.11)	ND(0.053)	ND(0.16)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(0.064)	0.032 J	ND(0.13)	0.018 J	ND(0.19)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.057)	ND(0.057)	ND(0.11)	ND(0.057)	ND(0.17)
2022 Residential NMED SSL (C c)		181.9	75.11	68.28	2364	765.7
2022 Construction Worker NMED SSL (A a)		160.9	1772	2395	2738	89550
2022 Industrial NMED SSL (B b)		864.8	367.6	52.08	14220	14400

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	MTBE (mg/kg)	Naphthalene (mg/kg)	n-Butylbenzene (mg/kg)	n-Propylbenzene (mg/kg)	p-Isopropyltoluene (mg/kg)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(0.024)	ND(0.048)	ND(0.072)	ND(0.024)	ND(0.024)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.029)	ND(0.059)	ND(0.088)	ND(0.029)	ND(0.029)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.032)	ND(0.063)	ND(0.095)	ND(0.032)	ND(0.032)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.03)	ND(0.061)	ND(0.091)	ND(0.03)	ND(0.03)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(0.054)	ND(0.11)	ND(0.16)	ND(0.054)	ND(0.054)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.027)	ND(0.054)	ND(0.08)	ND(0.027)	ND(0.027)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.024)	ND(0.048)	ND(0.073)	ND(0.024)	ND(0.024)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(0.048)	ND(0.097)	ND(0.15)	0.014 J	0.0068 J
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.12)	ND(0.25)	ND(0.37)	ND(0.12)	ND(0.12)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.07)	ND(0.14)	ND(0.21)	ND(0.07)	ND(0.07)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.064)	ND(0.13)	ND(0.19)	ND(0.064)	ND(0.064)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(0.068)	ND(0.14)	ND(0.2)	ND(0.068)	ND(0.068)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(0.063)	0.048 J	0.058 J	0.056 J	0.031 J
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.073)	ND(0.15)	ND(0.22)	ND(0.073)	ND(0.073)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(0.029)	ND(0.059)	ND(0.088)	0.0079 J	ND(0.029)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.055)	ND(0.11)	ND(0.16)	ND(0.055)	ND(0.055)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.052)	ND(0.1)	ND(0.16)	ND(0.052)	ND(0.052)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(0.078)	ND(0.16)	ND(0.23)	ND(0.078)	ND(0.078)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(0.053)	ND(0.11)	ND(0.16)	ND(0.053)	ND(0.053)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(0.064)	0.044 J	0.04 J	0.04 J	0.017 J
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.057)	ND(0.11)	ND(0.17)	ND(0.057)	ND(0.057)
2022 Residential NMED SSL (C c)		NA	22.6	NA	NA	NA
2022 Construction Worker NMED SSL (A a)		NA	632.9	NA	NA	NA
2022 Industrial NMED SSL (B b)		NA	108.2	NA	NA	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	sec-Butylbenzene (mg/kg)	Styrene (mg/kg)	tert-Butylbenzene (mg/kg)	Tetrachloroethene (mg/kg)	Toluene (mg/kg)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.032)	ND(0.032)	ND(0.032)	ND(0.032)	ND(0.032)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.027)	ND(0.027)	ND(0.027)	ND(0.027)	ND(0.027)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.048)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.068)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	0.037 J	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.073)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.052)	ND(0.052)	ND(0.052)	ND(0.052)	ND(0.052)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(0.078)	ND(0.078)	ND(0.078)	ND(0.078)	ND(0.078)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	0.024 J	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)
2022 Residential NMED SSL (C c)		NA	7264	NA	337.4	5228
2022 Construction Worker NMED SSL (A a)		NA	10170	NA	7911	14040
2022 Industrial NMED SSL (B b)		NA	51300	NA	1649	61340

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
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mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	trans-1,2-Dichloroethene (mg/kg)	trans-1,3-Dichloropropene (mg/kg)	Trichloroethene (mg/kg)	Trichlorofluoromethane (mg/kg)	Vinyl Chloride (mg/kg)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.032)	ND(0.032)	ND(0.032)	ND(0.032)	ND(0.032)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.027)	ND(0.027)	ND(0.027)	ND(0.027)	ND(0.027)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.048)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.068)	ND(0.068)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.073)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)	ND(0.029)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.052)	ND(0.052)	ND(0.052)	ND(0.052)	ND(0.052)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(0.078)	ND(0.078)	ND(0.078)	ND(0.078)	ND(0.078)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)	ND(0.053)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)
2022 Residential NMED SSL (C c)		210.2	NA	15.48	1231	0.742
2022 Construction Worker NMED SSL (A a)		206.5	NA	5368	1127	161
2022 Industrial NMED SSL (B b)		1096	NA	112.1	6031	28.41

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Xylenes, Total (mg/kg)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(0.048)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.059)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.063)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.061)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(0.11)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.054)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.048)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(0.097)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.25)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.14)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.13)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(0.14)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	0.055 J
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.15)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(0.059)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.11)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.1)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(0.16)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(0.11)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	0.037 J
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.11)
2022 Residential NMED SSL (C c)		870.8
2022 Construction Worker NMED SSL (A a)		798.3
2022 Industrial NMED SSL (B b)		4275

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,1,1,2-Tetrachloroethane (mg/kg)	1,1,1-Trichloroethane (mg/kg)	1,1,2,2-Tetrachloroethane (mg/kg)	1,1,2-Trichloroethane (mg/kg)	1,1-Dichloroethane (mg/kg)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.065)	ND(0.065)	ND(0.065)	ND(0.065)	ND(0.065)
2022 Residential NMED SSL (C c)		28.06	14370	7.984	18.76	78.61
2022 Construction Worker NMED SSL (A a)		658.5	13600	196.5	4301	1817
2022 Industrial NMED SSL (B b)		137.2	72530	39.4	92.06	383.3

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,1-Dichloroethene (mg/kg)	1,1-Dichloropropene (mg/kg)	1,2,3-Trichlorobenzene (mg/kg)	1,2,3-Trichloropropane (mg/kg)	1,2,4-Trichlorobenzene (mg/kg)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.065)	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.065)
2022 Residential NMED SSL (C c)		439.9	NA	NA	0.05105	239.7
2022 Construction Worker NMED SSL (A a)		423.9	NA	NA	8.259	8543
2022 Industrial NMED SSL (B b)		2255	NA	NA	1.211	1253

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
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mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,2,4-Trimethylbenzene (mg/kg)	1,2-Dibromo-3-Chloropropane (mg/kg)	1,2-Dibromoethane (mg/kg)	1,2-Dichlorobenzene (mg/kg)	1,2-Dichloroethane (mg/kg)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.065)	ND(0.13)	ND(0.065)	ND(0.065)	ND(0.065)
2022 Residential NMED SSL (C c)		NA	0.08583	0.6725	2150	8.315
2022 Construction Worker NMED SSL (A a)		NA	5.532	16.32	2496	195.4
2022 Industrial NMED SSL (B b)		NA	1.179	3.309	12970	40.67

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,2-Dichloropropane (mg/kg)	1,3,5-Trimethylbenzene (mg/kg)	1,3-Dichlorobenzene (mg/kg)	1,3-Dichloropropane (mg/kg)	1,4-Dichlorobenzene (mg/kg)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.065)	ND(0.065)	ND(0.065)	ND(0.065)	ND(0.065)
2022 Residential NMED SSL (C c)		17.77	NA	NA	NA	1287
2022 Construction Worker NMED SSL (A a)		415	NA	NA	NA	45880
2022 Industrial NMED SSL (B b)		86.82	NA	NA	NA	6729

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,4-Dioxane (mg/kg)	1-Methylnaphthalene (mg/kg)	2,2-Dichloropropane (mg/kg)	2-Butanone (mg/kg)	2-Chlorotoluene (mg/kg)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.65)	ND(0.26)	ND(0.13)	ND(0.65)	ND(0.065)
2022 Residential NMED SSL (C c)		53.26	171.6	NA	37420	1564
2022 Construction Worker NMED SSL (A a)		1881	6059	NA	91660	7079
2022 Industrial NMED SSL (B b)		256.6	813	NA	411000	25960

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
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SSL - Soil Screening Level
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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	2-Hexanone (mg/kg)	2-Methylnaphthalene (mg/kg)	4-Chlorotoluene (mg/kg)	4-Methyl-2-Pentanone (mg/kg)	Acetone (mg/kg)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.65)	ND(0.26)	ND(0.065)	ND(0.65)	ND(0.97)
2022 Residential NMED SSL (C c)		NA	231.8	NA	5809	66310
2022 Construction Worker NMED SSL (A a)		NA	1004	NA	20230	241500
2022 Industrial NMED SSL (B b)		NA	3368	NA	81650	960100

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzene (mg/kg)	Bromobenzene (mg/kg)	Bromodichloromethane (mg/kg)	Bromoform (mg/kg)	Bromomethane (mg/kg)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.032)	ND(0.065)	ND(0.065)	ND(0.065)	ND(0.26)
2022 Residential NMED SSL (C c)		17.79	NA	6.193	674.1	17.73
2022 Construction Worker NMED SSL (A a)		423.4	NA	142.6	23750	17.86
2022 Industrial NMED SSL (B b)		87.24	NA	30.18	1760	94.52

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Carbon Disulfide (mg/kg)	Carbon tetrachloride (mg/kg)	Chlorobenzene (mg/kg)	Chloroethane (mg/kg)	Chloroform (mg/kg)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.65)	ND(0.065)	ND(0.13)	ND(0.13)	ND(0.065)
2022 Residential NMED SSL (C c)		1554	10.73	378.4	19000	5.899
2022 Construction Worker NMED SSL (A a)		1621	252.3	411.6	16640	133.9
2022 Industrial NMED SSL (B b)		8541	52.5	2157	89540	28.66

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Chloromethane (mg/kg)	cis-1,2-Dichloroethene (mg/kg)	cis-1,3-Dichloropropene (mg/kg)	Dibromochloromethane (mg/kg)	Dibromomethane (mg/kg)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.19)	ND(0.065)	ND(0.065)	ND(0.065)	ND(0.065)
2022 Residential NMED SSL (C c)		41.14	156.4	NA	13.9	57.9
2022 Construction Worker NMED SSL (A a)		955.7	707.9	NA	340.5	53.89
2022 Industrial NMED SSL (B b)		200.8	2596	NA	67.37	288.2

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Dichlorodifluoromethane (mg/kg)	Ethylbenzene (mg/kg)	Hexachlorobutadiene (mg/kg)	Isopropylbenzene (mg/kg)	Methylene Chloride (mg/kg)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.065)	ND(0.065)	ND(0.13)	ND(0.065)	ND(0.19)
2022 Residential NMED SSL (C c)		181.9	75.11	68.28	2364	765.7
2022 Construction Worker NMED SSL (A a)		160.9	1772	2395	2738	89550
2022 Industrial NMED SSL (B b)		864.8	367.6	52.08	14220	14400

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
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NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	MTBE (mg/kg)	Naphthalene (mg/kg)	n-Butylbenzene (mg/kg)	n-Propylbenzene (mg/kg)	p-Isopropyltoluene (mg/kg)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.065)	ND(0.13)	ND(0.19)	ND(0.065)	ND(0.065)
2022 Residential NMED SSL (C c)		NA	22.6	NA	NA	NA
2022 Construction Worker NMED SSL (A a)		NA	632.9	NA	NA	NA
2022 Industrial NMED SSL (B b)		NA	108.2	NA	NA	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
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NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	sec-Butylbenzene (mg/kg)	Styrene (mg/kg)	tert-Butylbenzene (mg/kg)	Tetrachloroethene (mg/kg)	Toluene (mg/kg)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.065)	ND(0.065)	ND(0.065)	ND(0.065)	ND(0.065)
2022 Residential NMED SSL (C c)		NA	7264	NA	337.4	5228
2022 Construction Worker NMED SSL (A a)		NA	10170	NA	7911	14040
2022 Industrial NMED SSL (B b)		NA	51300	NA	1649	61340

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
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TABLE 3-1A. VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	trans-1,2-Dichloroethene (mg/kg)	trans-1,3-Dichloropropene (mg/kg)	Trichloroethene (mg/kg)	Trichlorofluoromethane (mg/kg)	Vinyl Chloride (mg/kg)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.065)	ND(0.065)	ND(0.065)	ND(0.065)	ND(0.065)
2022 Residential NMED SSL (C c)		210.2	NA	15.48	1231	0.742
2022 Construction Worker NMED SSL (A a)		206.5	NA	5368	1127	161
2022 Industrial NMED SSL (B b)		1096	NA	112.1	6031	28.41

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Xylenes, Total (mg/kg)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.13)
2022 Residential NMED SSL (C c)		870.8
2022 Construction Worker NMED SSL (A a)		798.3
2022 Industrial NMED SSL (B b)		4275

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether
SSL - Soil Screening Level
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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Acenaphthene (mg/kg)	Acenaphthylene (mg/kg)	Aniline (mg/kg)	Anthracene (mg/kg)	Azobenzene (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(2.4)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.25)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.25)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(2.4)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(2)	ND(2)	ND(2)	ND(2)	ND(2.4)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(2)	ND(2)	ND(2)	ND(2)	ND(2.5)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.23)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.25)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.25)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.25)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.25)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.25)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(2)	ND(2)	ND(2)	ND(2)	ND(2.4)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.25)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(2)	ND(2)	ND(2)	ND(2)	ND(2.5)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.25)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.23)
2022 Residential NMED SSL (C c)		3477	NA	NA	17380	NA
2022 Construction Worker NMED SSL (A a)		15060	NA	NA	75300	NA
2022 Industrial NMED SSL (B b)		50520	NA	NA	252600	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzo(a)anthracene (mg/kg)	Benzo(a)pyrene (mg/kg)	Benzo(b)fluoranthene (mg/kg)	Benzo(g,h,i)perylene (mg/kg)	Benzo(k)fluoranthene (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	**ND(2.4) c**	**ND(2.4) c**	**ND(1.9) c**	ND(2.4)	ND(2.4)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.2)	ND(0.25)	ND(0.25)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.25)	ND(0.25)	ND(0.2)	ND(0.25)	ND(0.25)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	**ND(2.4) c**	**ND(2.4) c**	**ND(1.9) c**	ND(2.4)	ND(2.4)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(2.4)	ND(2.4)	ND(2)	ND(2.4)	ND(2.4)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(2.5)	ND(2.5)	ND(2)	ND(2.5)	ND(2.5)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.23)	ND(0.23)	ND(0.19)	ND(0.23)	ND(0.23)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.25)	ND(0.25)	ND(0.2)	ND(0.25)	ND(0.25)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.2)	ND(0.25)	ND(0.25)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.2)	ND(0.25)	ND(0.25)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.2)	ND(0.25)	ND(0.25)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.2)	ND(0.25)	ND(0.25)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	**ND(2.4) c**	**ND(2.4) c**	**ND(2) c**	ND(2.4)	ND(2.4)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.2)	ND(0.25)	ND(0.25)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(2.5)	ND(2.5)	ND(2)	ND(2.5)	ND(2.5)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.2)	ND(0.25)	ND(0.25)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.23)	ND(0.23)	ND(0.19)	ND(0.23)	ND(0.23)
2022 Residential NMED SSL (C c)		1.531	1.117	1.531	NA	15.31
2022 Construction Worker NMED SSL (A a)		239.7	172.9	239.7	NA	2313
2022 Industrial NMED SSL (B b)		32.3	23.58	32.3	NA	322.9

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzoic Acid (mg/kg)	Benzyl Alcohol (mg/kg)	Bis(2-chloroethoxy)methane (mg/kg)	Bis(2-chloroethyl)ether (mg/kg)	Bis(2-chloroisopropyl)ether (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(4.8)	ND(2.9)	ND(2.4)	ND(2.9)	ND(2.9)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.5)	ND(0.3)	ND(0.25)	ND(0.3)	ND(0.3)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.49)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.5)	ND(0.3)	ND(0.25)	ND(0.3)	ND(0.3)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(4.8)	ND(2.9)	ND(2.4)	ND(2.9)	ND(2.9)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(4.9)	ND(2.9)	ND(2.4)	ND(2.9)	ND(2.9)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(5)	ND(3)	ND(2.5)	ND(3)	ND(3)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.47)	ND(0.28)	ND(0.23)	ND(0.28)	ND(0.28)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.49)	ND(0.3)	ND(0.25)	ND(0.3)	ND(0.3)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.49)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.5)	ND(0.3)	ND(0.25)	ND(0.3)	ND(0.3)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.49)	ND(0.3)	ND(0.25)	ND(0.3)	ND(0.3)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.49)	ND(0.29)	ND(0.25)	ND(0.29)	ND(0.29)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.49)	ND(0.3)	ND(0.25)	ND(0.3)	ND(0.3)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.49)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.47)	ND(0.28)	ND(0.24)	ND(0.28)	ND(0.28)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(4.9)	ND(2.9)	ND(2.4)	ND(2.9)	ND(2.9)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.48)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.5)	ND(0.3)	ND(0.25)	ND(0.3)	ND(0.3)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.48)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(5)	ND(3)	ND(2.5)	ND(3)	ND(3)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.49)	ND(0.3)	ND(0.25)	ND(0.3)	ND(0.3)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.47)	ND(0.28)	ND(0.23)	ND(0.28)	ND(0.28)
2022 Residential NMED SSL (C c)		NA	NA	NA	3.114	NA
2022 Construction Worker NMED SSL (A a)		NA	NA	NA	1.95	NA
2022 Industrial NMED SSL (B b)		NA	NA	NA	519.1	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Bis(2-ethylhexyl)phthalate (mg/kg)	4-Bromophenyl-phenylether (mg/kg)	Butylbenzylphthalate (mg/kg)	Carbazole (mg/kg)	4-Chloro-3-Methylphenol (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(4.8)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.5)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.49)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.5)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(4.8)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(4.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(3)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.47)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.28)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.49)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.49)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.5)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.49)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.49)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.29)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.49)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.49)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.47)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.28)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(4.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.48)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.5)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.48)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(3)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.49)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.47)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.28)
2022 Residential NMED SSL (C c)		380.4	NA	NA	NA	NA
2022 Construction Worker NMED SSL (A a)		13390	NA	NA	NA	NA
2022 Industrial NMED SSL (B b)		1832	NA	NA	NA	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	4-Chloroaniline (mg/kg)	2-Chloronaphthalene (mg/kg)	2-Chlorophenol (mg/kg)	4-Chlorophenyl-phenylether (mg/kg)	Chrysene (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(3)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.28)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.29)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.28)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(3)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.28)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
2022 Residential NMED SSL (C c)		NA	6257	391.1	NA	153.1
2022 Construction Worker NMED SSL (A a)		NA	28320	1770	NA	23130
2022 Industrial NMED SSL (B b)		NA	103800	6489	NA	3229

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Dibenzo(a,h)anthracene (mg/kg)	Dibenzofuran (mg/kg)	1,2-Dichlorobenzene (mg/kg)	1,3-Dichlorobenzene (mg/kg)	1,4-Dichlorobenzene (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	**ND(2.4) c**	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	**ND(2.4) c**	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	**ND(0.24) c**	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	**ND(2.4) c**	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
2022 Residential NMED SSL (C c)		0.1531	NA	2150	NA	1287
2022 Construction Worker NMED SSL (A a)		23.96	NA	2496	NA	45880
2022 Industrial NMED SSL (B b)		3.23	NA	12970	NA	6729

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	3,3-Dichlorobenzidine (mg/kg)	2,4-Dichlorophenol (mg/kg)	Diethylphthalate (mg/kg)	2,4-Dimethylphenol (mg/kg)	Dimethylphthalate (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.9)	ND(29)	ND(2.9)	ND(3.9)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(3)	ND(0.3)	ND(0.4)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.3)	ND(0.3)	ND(3)	ND(0.3)	ND(0.4)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(29)	ND(2.9)	ND(3.9)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(29)	ND(2.9)	ND(3.9)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(3)	ND(3)	ND(30)	ND(3)	ND(4)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.28)	ND(0.28)	ND(2.8)	ND(0.28)	ND(0.37)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.3)	ND(0.3)	ND(3)	ND(0.3)	ND(0.39)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.3)	ND(0.3)	ND(3)	ND(0.3)	ND(0.4)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.3)	ND(0.3)	ND(3)	ND(0.3)	ND(0.39)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.3)	ND(0.3)	ND(3)	ND(0.3)	ND(0.39)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.28)	ND(0.28)	ND(2.8)	ND(0.28)	ND(0.38)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(29)	ND(2.9)	ND(3.9)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.3)	ND(0.3)	ND(3)	ND(0.3)	ND(0.4)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.38)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(3)	ND(3)	ND(30)	ND(3)	ND(4)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(3)	ND(0.3)	ND(0.39)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.28)	ND(0.28)	ND(2.8)	ND(0.28)	ND(0.38)
2022 Residential NMED SSL (C c)		11.83	184.9	49310	1233	NA
2022 Construction Worker NMED SSL (A a)		409.6	807.2	215200	5381	NA
2022 Industrial NMED SSL (B b)		57.01	2749	733000	18330	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Di-n-butylphthalate (mg/kg)	4,6-Dinitro-2-methylphenol (mg/kg)	2,4-Dinitrophenol (mg/kg)	2,4-Dinitrotoluene (mg/kg)	2,6-Dinitrotoluene (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(9.6)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.99)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.97)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.99)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(9.7)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(9.8)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(10)	ND(3)	ND(3)	ND(3)	ND(3)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.93)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.99)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.97)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.99)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.99)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.98)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.99)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.97)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.95)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(9.8)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.97)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(1)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.96)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(9.9)	ND(3)	ND(3)	ND(3)	ND(3)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.99)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.94)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
2022 Residential NMED SSL (C c)		6163	NA	123.3	17.1	3.559
2022 Construction Worker NMED SSL (A a)		26910	NA	538.1	599.7	165.2
2022 Industrial NMED SSL (B b)		91630	NA	1833	82.27	17.15

Notes:
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b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Di-n-octylphthalate (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Hexachlorobenzene (mg/kg)	Hexachlorobutadiene (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(3)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.28)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.3)	ND(0.25)	0.5	ND(0.25)	ND(0.25)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.29)	ND(0.25)	0.21 J	ND(0.25)	ND(0.25)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.28)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.29)	ND(0.24)	1.3	ND(0.24)	ND(0.24)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(3)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.28)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
2022 Residential NMED SSL (C c)		NA	2318	2318	3.328	68.28
2022 Construction Worker NMED SSL (A a)		NA	10040	10040	116.7	2395
2022 Industrial NMED SSL (B b)		NA	33680	33680	16.03	52.08

Notes:
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b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Hexachlorocyclopentadiene (mg/kg)	Hexachloroethane (mg/kg)	Indeno(1,2,3-cd)pyrene (mg/kg)	Isophorone (mg/kg)	1-Methylnaphthalene (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	**ND(2.4) c**	ND(2.4)	**ND(2.4) c**	ND(2.9)	5.1
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)	ND(0.25)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)	ND(0.25)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	**ND(2.4) c**	ND(2.4)	**ND(2.4) c**	ND(2.9)	ND(2.4)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)	ND(2.4)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(2.5)	ND(2.5)	ND(2.5)	ND(3)	1.9 J
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.28)	ND(0.23)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)	ND(0.25)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)	3.6
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)	0.28 JB
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.29)	1.1
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)	ND(0.25)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.28)	ND(0.24)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	**ND(2.4) c**	ND(2.4)	**ND(2.4) c**	ND(2.9)	ND(2.4)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)	ND(0.25)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	7
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(2.5)	ND(2.5)	ND(2.5)	ND(3)	9
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)	ND(0.25)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.28)	ND(0.23)
2022 Residential NMED SSL (C c)		2.304	133.1	1.531	5606	171.6
2022 Construction Worker NMED SSL (A a)		867	4671	239.7	198300	6059
2022 Industrial NMED SSL (B b)		5492	641.4	32.3	27010	813

Notes:
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C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	2-Methylnaphthalene (mg/kg)	2-Methylphenol (mg/kg)	3,4-Methylphenol (mg/kg)	Naphthalene (mg/kg)	2-Nitroaniline (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	7	ND(2.9)	ND(2.9)	ND(2.4)	ND(2.9)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.25)	ND(0.3)	ND(0.3)	ND(0.25)	ND(0.3)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.25)	ND(0.3)	ND(0.3)	ND(0.25)	ND(0.3)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(2.4)	ND(2.9)	ND(2.9)	ND(2.4)	ND(2.9)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(2.4)	ND(2.9)	ND(2.9)	ND(2.4)	ND(2.9)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	2.8	ND(3)	ND(3)	ND(2.5)	ND(3)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.23)	ND(0.28)	ND(0.28)	ND(0.23)	ND(0.28)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.25)	ND(0.3)	ND(0.3)	ND(0.25)	ND(0.3)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-03 (15-20 ft)	8/16/23	6.9	ND(0.3)	ND(0.3)	2.1	ND(0.3)
AOC2627-SB-03 (18-19 ft)	8/16/23	0.5	ND(0.3)	ND(0.3)	ND(0.25)	ND(0.3)
AOC2627-SB-03 (29-30 ft)	8/16/23	1.9	ND(0.29)	ND(0.29)	0.51	ND(0.29)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.25)	ND(0.3)	ND(0.3)	ND(0.25)	ND(0.3)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.24)	ND(0.28)	ND(0.28)	ND(0.24)	ND(0.28)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(2.4)	ND(2.9)	ND(2.9)	ND(2.4)	ND(2.9)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.25)	ND(0.3)	ND(0.3)	ND(0.25)	ND(0.3)
AOC2627-SB-06 (10-15 ft)	8/15/23	11	ND(0.29)	ND(0.29)	1.8	ND(0.29)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	13	ND(3)	ND(3)	2.3 J	ND(3)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.25)	ND(0.3)	ND(0.3)	ND(0.25)	ND(0.3)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.23)	ND(0.28)	ND(0.28)	ND(0.23)	ND(0.28)
2022 Residential NMED SSL (C c)		231.8	NA	NA	22.6	NA
2022 Construction Worker NMED SSL (A a)		1004	NA	NA	632.9	NA
2022 Industrial NMED SSL (B b)		3368	NA	NA	108.2	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	3-Nitroaniline (mg/kg)	4-Nitroaniline (mg/kg)	Nitrobenzene (mg/kg)	2-Nitrophenol (mg/kg)	4-Nitrophenol (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(3)	ND(3)	ND(3)	ND(3)	ND(3)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(3)	ND(3)	ND(3)	ND(3)	ND(3)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
2022 Residential NMED SSL (C c)		NA	NA	60.43	NA	NA
2022 Construction Worker NMED SSL (A a)		NA	NA	1353	NA	NA
2022 Industrial NMED SSL (B b)		NA	NA	293.3	NA	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	N-Nitrosodimethylamine (mg/kg)	N-Nitrosodi-n-propylamine (mg/kg)	N-Nitrosodiphenylamine (mg/kg)	Pentachlorophenol (mg/kg)	Phenanthrene (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	**ND(2.9) bc**	ND(2.9)	ND(2.9)	ND(2.9)	2 J
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.25)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.25)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	**ND(2.9) bc**	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.4)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.4)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(3)	ND(3)	ND(3)	ND(3)	ND(2.5)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.23)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.25)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	**ND(0.29) c**	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	1.7
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.25)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	0.7
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.25)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.24)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	**ND(2.9) bc**	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.4)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.25)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	2.3
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(3)	ND(3)	ND(3)	ND(3)	3.6
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.25)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.23)
2022 Residential NMED SSL (C c)		0.02337	NA	1087	9.855	1849
2022 Construction Worker NMED SSL (A a)		3.664	NA	37860	346.2	8072
2022 Industrial NMED SSL (B b)		0.503	NA	5236	44.51	27490

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Phenol (mg/kg)	Pyrene (mg/kg)	Pyridine (mg/kg)	1,2,4-Trichlorobenzene (mg/kg)	2,4,5-Trichlorophenol (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.4)	ND(9.6)	ND(2.4)	ND(2.4)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(0.99)	ND(0.25)	ND(0.25)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.97)	ND(0.24)	ND(0.24)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.3)	ND(0.25)	ND(0.99)	ND(0.25)	ND(0.25)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(9.7)	ND(2.4)	ND(2.4)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(9.8)	ND(2.4)	ND(2.4)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(3)	ND(2.5)	ND(10)	ND(2.5)	ND(2.5)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.28)	ND(0.23)	ND(0.93)	ND(0.23)	ND(0.23)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.3)	ND(0.25)	ND(0.99)	ND(0.25)	ND(0.25)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.97)	ND(0.24)	ND(0.24)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.3)	0.23 J	ND(0.99)	ND(0.25)	ND(0.25)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.3)	ND(0.25)	ND(0.99)	ND(0.25)	ND(0.25)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.29)	ND(0.25)	ND(0.98)	ND(0.25)	ND(0.25)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.3)	ND(0.25)	ND(0.99)	ND(0.25)	ND(0.25)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.97)	ND(0.24)	ND(0.24)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.28)	ND(0.24)	ND(0.95)	ND(0.24)	ND(0.24)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(9.8)	ND(2.4)	ND(2.4)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.97)	ND(0.24)	ND(0.24)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.3)	ND(0.25)	ND(1)	ND(0.25)	ND(0.25)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.29)	0.32	ND(0.96)	ND(0.24)	ND(0.24)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(3)	ND(2.5)	ND(9.9)	ND(2.5)	ND(2.5)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(0.99)	ND(0.25)	ND(0.25)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.28)	ND(0.23)	ND(0.94)	ND(0.23)	ND(0.23)
2022 Residential NMED SSL (C c)		18490	1738	NA	239.7	6163
2022 Construction Worker NMED SSL (A a)		77380	7530	NA	8543	26910
2022 Industrial NMED SSL (B b)		274900	25260	NA	1253	91630

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	2,4,6-Trichlorophenol (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(2.4)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.25)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.24)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.25)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(2.4)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(2.4)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(2.5)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.23)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.25)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.24)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.25)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.25)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.25)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.25)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.24)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.24)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(2.4)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.24)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.25)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.24)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(2.5)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.25)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.23)
2022 Residential NMED SSL (C c)		484.1
2022 Construction Worker NMED SSL (A a)		16980
2022 Industrial NMED SSL (B b)		2332

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Acenaphthene (mg/kg)	Acenaphthylene (mg/kg)	Aniline (mg/kg)	Anthracene (mg/kg)	Azobenzene (mg/kg)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(2)	ND(2)	ND(2)	ND(2)	ND(2.5)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(2)	ND(2)	ND(2)	ND(2)	ND(2.5)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.25)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.23)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.24)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.23)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(2.4)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.23)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(2)	ND(2)	ND(2)	ND(2)	ND(2.5)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(2)	ND(2)	ND(2)	ND(2)	ND(2.4)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(2)	ND(2)	ND(2)	ND(2)	ND(2.4)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(2.4)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(2.4)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.25)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(1.8)	ND(1.8)	ND(1.8)	ND(1.8)	ND(2.3)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(2)	ND(2)	ND(2)	ND(2)	ND(2.4)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(2)	ND(2)	ND(2)	ND(2)	ND(2.5)
2022 Residential NMED SSL (C c)		3477	NA	NA	17380	NA
2022 Construction Worker NMED SSL (A a)		15060	NA	NA	75300	NA
2022 Industrial NMED SSL (B b)		50520	NA	NA	252600	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzo(a)anthracene (mg/kg)	Benzo(a)pyrene (mg/kg)	Benzo(b)fluoranthene (mg/kg)	Benzo(g,h,i)perylene (mg/kg)	Benzo(k)fluoranthene (mg/kg)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-07 (5-10 ft)	8/15/23	**ND(2.5) c**	**ND(2.5) c**	**ND(2) c**	ND(2.5)	ND(2.5)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	**ND(2.5) c**	**ND(2.5) c**	**ND(2) c**	ND(2.5)	ND(2.5)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.2)	ND(0.25)	ND(0.25)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.23)	ND(0.23)	ND(0.19)	ND(0.23)	ND(0.23)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.2)	ND(0.24)	ND(0.24)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.23)	ND(0.23)	ND(0.18)	ND(0.23)	ND(0.23)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	**ND(2.4) c**	**ND(2.4) c**	**ND(1.9) c**	ND(2.4)	ND(2.4)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.23)	ND(0.23)	ND(0.19)	ND(0.23)	ND(0.23)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	**ND(2.5) c**	**ND(2.5) c**	**ND(2) c**	ND(2.5)	ND(2.5)
AOC2627-SB-11 (1-5 ft)	8/16/23	**ND(2.4) c**	**ND(2.4) c**	**ND(2) c**	ND(2.4)	ND(2.4)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(2.4)	ND(2.4)	ND(2)	ND(2.4)	ND(2.4)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(2.4)	ND(2.4)	ND(1.9)	ND(2.4)	ND(2.4)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	**ND(2.4) c**	**ND(2.4) c**	**ND(1.9) c**	ND(2.4)	ND(2.4)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.2)	ND(0.25)	ND(0.25)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	**ND(2.3) c**	**ND(2.3) c**	**ND(1.8) c**	ND(2.3)	ND(2.3)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(2.4)	ND(2.4)	ND(2)	ND(2.4)	ND(2.4)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(2.5)	ND(2.5)	ND(2)	ND(2.5)	ND(2.5)
2022 Residential NMED SSL (C c)		1.531	1.117	1.531	NA	15.31
2022 Construction Worker NMED SSL (A a)		239.7	172.9	239.7	NA	2313
2022 Industrial NMED SSL (B b)		32.3	23.58	32.3	NA	322.9

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzoic Acid (mg/kg)	Benzyl Alcohol (mg/kg)	Bis(2-chloroethoxy)methane (mg/kg)	Bis(2-chloroethyl)ether (mg/kg)	Bis(2-chloroisopropyl)ether (mg/kg)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.49)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.49)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(5)	ND(3)	ND(2.5)	**ND(3) a**	ND(3)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(4.9)	ND(3)	ND(2.5)	ND(3)	ND(3)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.48)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.49)	ND(0.3)	ND(0.25)	ND(0.3)	ND(0.3)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.47)	ND(0.28)	ND(0.23)	ND(0.28)	ND(0.28)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.49)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.46)	ND(0.27)	ND(0.23)	ND(0.27)	ND(0.27)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(4.8)	ND(2.9)	ND(2.4)	ND(2.9)	ND(2.9)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.48)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.49)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.46)	ND(0.28)	ND(0.23)	ND(0.28)	ND(0.28)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(5)	ND(3)	ND(2.5)	ND(3)	ND(3)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(4.9)	ND(2.9)	ND(2.4)	**ND(2.9) a**	ND(2.9)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(4.9)	ND(2.9)	ND(2.4)	ND(2.9)	ND(2.9)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(4.9)	ND(2.9)	ND(2.4)	ND(2.9)	ND(2.9)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(4.9)	ND(2.9)	ND(2.4)	ND(2.9)	ND(2.9)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.49)	ND(0.29)	ND(0.25)	ND(0.29)	ND(0.29)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.48)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(4.6)	ND(2.8)	ND(2.3)	ND(2.8)	ND(2.8)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(4.9)	ND(2.9)	ND(2.4)	ND(2.9)	ND(2.9)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(4.9)	ND(2.9)	ND(2.5)	ND(2.9)	ND(2.9)
2022 Residential NMED SSL (C c)		NA	NA	NA	3.114	NA
2022 Construction Worker NMED SSL (A a)		NA	NA	NA	1.95	NA
2022 Industrial NMED SSL (B b)		NA	NA	NA	519.1	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Bis(2-ethylhexyl)phthalate (mg/kg)	4-Bromophenyl-phenylether (mg/kg)	Butylbenzylphthalate (mg/kg)	Carbazole (mg/kg)	4-Chloro-3-Methylphenol (mg/kg)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.49)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.49)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(3)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(4.9)	ND(2.5)	ND(2.5)	ND(2.5)	ND(3)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.48)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.49)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.47)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.28)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.49)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.46)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.27)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(4.8)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.48)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.49)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.46)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.28)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(3)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(4.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(4.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(4.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(4.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.49)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.29)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.48)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(4.6)	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.8)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(4.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(4.9)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.9)
2022 Residential NMED SSL (C c)		380.4	NA	NA	NA	NA
2022 Construction Worker NMED SSL (A a)		13390	NA	NA	NA	NA
2022 Industrial NMED SSL (B b)		1832	NA	NA	NA	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	4-Chloroaniline (mg/kg)	2-Chloronaphthalene (mg/kg)	2-Chlorophenol (mg/kg)	4-Chlorophenyl-phenylether (mg/kg)	Chrysene (mg/kg)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(3)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(3)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.28)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.27)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.28)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(3)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.29)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(2.8)	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(2.9)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
2022 Residential NMED SSL (C c)		NA	6257	391.1	NA	153.1
2022 Construction Worker NMED SSL (A a)		NA	28320	1770	NA	23130
2022 Industrial NMED SSL (B b)		NA	103800	6489	NA	3229

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Dibenzo(a,h)anthracene (mg/kg)	Dibenzofuran (mg/kg)	1,2-Dichlorobenzene (mg/kg)	1,3-Dichlorobenzene (mg/kg)	1,4-Dichlorobenzene (mg/kg)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-07 (5-10 ft)	8/15/23	**ND(2.5) c**	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	**ND(2.5) c**	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-08 (5-10 ft)	8/15/23	**ND(0.25) c**	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	**ND(0.23) c**	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	**ND(2.4) c**	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	**ND(2.5) c**	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-11 (1-5 ft)	8/16/23	**ND(2.4) c**	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	**ND(2.4) c**	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-12 (5-10 ft)	8/15/23	**ND(0.24) c**	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	**ND(2.3) c**	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
2022 Residential NMED SSL (C c)		0.1531	NA	2150	NA	1287
2022 Construction Worker NMED SSL (A a)		23.96	NA	2496	NA	45880
2022 Industrial NMED SSL (B b)		3.23	NA	12970	NA	6729

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	3,3-Dichlorobenzidine (mg/kg)	2,4-Dichlorophenol (mg/kg)	Diethylphthalate (mg/kg)	2,4-Dimethylphenol (mg/kg)	Dimethylphthalate (mg/kg)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(3)	ND(3)	ND(30)	ND(3)	ND(4)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(3)	ND(3)	ND(30)	ND(3)	ND(3.9)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(3)	ND(0.3)	ND(0.39)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.28)	ND(0.28)	ND(2.8)	ND(0.28)	ND(0.37)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.27)	ND(0.27)	ND(2.7)	ND(0.27)	ND(0.37)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(29)	ND(2.9)	ND(3.9)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.28)	ND(0.28)	ND(2.8)	ND(0.28)	ND(0.37)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(3)	ND(3)	ND(30)	ND(3)	ND(4)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(29)	ND(2.9)	ND(3.9)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(29)	ND(2.9)	ND(3.9)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(29)	ND(2.9)	ND(3.9)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.9)	ND(29)	ND(2.9)	ND(3.9)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(2.8)	ND(2.8)	ND(28)	ND(2.8)	ND(3.7)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(29)	ND(2.9)	ND(3.9)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(29)	ND(2.9)	ND(3.9)
2022 Residential NMED SSL (C c)		11.83	184.9	49310	1233	NA
2022 Construction Worker NMED SSL (A a)		409.6	807.2	215200	5381	NA
2022 Industrial NMED SSL (B b)		57.01	2749	733000	18330	NA

Notes:
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b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Di-n-butylphthalate (mg/kg)	4,6-Dinitro-2-methylphenol (mg/kg)	2,4-Dinitrophenol (mg/kg)	2,4-Dinitrotoluene (mg/kg)	2,6-Dinitrotoluene (mg/kg)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.97)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.97)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(10)	ND(3)	ND(3)	ND(3)	ND(3)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(9.8)	ND(3)	ND(3)	ND(3)	ND(3)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.96)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.99)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.93)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.98)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.92)	ND(0.27)	ND(0.27)	ND(0.27)	ND(0.27)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(9.6)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.97)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.97)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.93)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(10)	ND(3)	ND(3)	ND(3)	ND(3)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(9.8)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(9.8)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(9.7)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(9.7)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.98)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.97)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(9.2)	ND(2.8)	ND(2.8)	ND(2.8)	ND(2.8)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(9.8)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(9.8)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
2022 Residential NMED SSL (C c)		6163	NA	123.3	17.1	3.559
2022 Construction Worker NMED SSL (A a)		26910	NA	538.1	599.7	165.2
2022 Industrial NMED SSL (B b)		91630	NA	1833	82.27	17.15

Notes:
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C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Di-n-octylphthalate (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Hexachlorobenzene (mg/kg)	Hexachlorobutadiene (mg/kg)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(3)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(3)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.28)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.27)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.28)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(3)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.29)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(2.8)	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(2.9)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
2022 Residential NMED SSL (C c)		NA	2318	2318	3.328	68.28
2022 Construction Worker NMED SSL (A a)		NA	10040	10040	116.7	2395
2022 Industrial NMED SSL (B b)		NA	33680	33680	16.03	52.08

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Hexachlorocyclopentadiene (mg/kg)	Hexachloroethane (mg/kg)	Indeno(1,2,3-cd)pyrene (mg/kg)	Isophorone (mg/kg)	1-Methylnaphthalene (mg/kg)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
AOC2627-SB-07 (5-10 ft)	8/15/23	**ND(2.5) c**	ND(2.5)	**ND(2.5) c**	ND(3)	ND(2.5)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	**ND(2.5) c**	ND(2.5)	**ND(2.5) c**	ND(3)	ND(2.5)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)	ND(0.25)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.28)	ND(0.23)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.27)	ND(0.23)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	**ND(2.4) c**	ND(2.4)	**ND(2.4) c**	ND(2.9)	ND(2.4)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.28)	ND(0.23)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	**ND(2.5) c**	ND(2.5)	**ND(2.5) c**	ND(3)	ND(2.5)
AOC2627-SB-11 (1-5 ft)	8/16/23	**ND(2.4) c**	ND(2.4)	**ND(2.4) c**	ND(2.9)	ND(2.4)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)	2.3 U
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)	ND(2.4)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	**ND(2.4) c**	ND(2.4)	**ND(2.4) c**	ND(2.9)	ND(2.4)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.29)	ND(0.25)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(2.3)	ND(2.3)	**ND(2.3) c**	ND(2.8)	ND(2.3)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)	5.6
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.9)	5.6
2022 Residential NMED SSL (C c)		2.304	133.1	1.531	5606	171.6
2022 Construction Worker NMED SSL (A a)		867	4671	239.7	198300	6059
2022 Industrial NMED SSL (B b)		5492	641.4	32.3	27010	813

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	2-Methylnaphthalene (mg/kg)	2-Methylphenol (mg/kg)	3,4-Methylphenol (mg/kg)	Naphthalene (mg/kg)	2-Nitroaniline (mg/kg)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-07 (5-10 ft)	8/15/23	1.8 J	ND(3)	ND(3)	ND(2.5)	ND(3)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(2.5)	ND(3)	ND(3)	ND(2.5)	ND(3)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.25)	ND(0.3)	ND(0.3)	ND(0.25)	ND(0.3)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.23)	ND(0.28)	ND(0.28)	ND(0.23)	ND(0.28)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.23)	ND(0.27)	ND(0.27)	ND(0.23)	ND(0.27)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(2.4)	ND(2.9)	ND(2.9)	ND(2.4)	ND(2.9)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.23)	ND(0.28)	ND(0.28)	ND(0.23)	ND(0.28)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(2.5)	ND(3)	ND(3)	ND(2.5)	ND(3)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(2.4)	ND(2.9)	ND(2.9)	ND(2.4)	ND(2.9)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(2.4)	ND(2.9)	ND(2.9)	ND(2.4)	ND(2.9)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(2.4)	ND(2.9)	ND(2.9)	ND(2.4)	ND(2.9)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(2.4)	ND(2.9)	ND(2.9)	ND(2.4)	ND(2.9)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.25)	ND(0.29)	ND(0.29)	ND(0.25)	ND(0.29)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(2.3)	ND(2.8)	ND(2.8)	ND(2.3)	ND(2.8)
AOC2627-SB-13 (10-15 ft)	8/16/23	11	ND(2.9)	ND(2.9)	3.6	ND(2.9)
AOC2627-SB-13 (14-15 ft)	8/16/23	10	ND(2.9)	ND(2.9)	3.2	ND(2.9)
2022 Residential NMED SSL (C c)		231.8	NA	NA	22.6	NA
2022 Construction Worker NMED SSL (A a)		1004	NA	NA	632.9	NA
2022 Industrial NMED SSL (B b)		3368	NA	NA	108.2	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	3-Nitroaniline (mg/kg)	4-Nitroaniline (mg/kg)	Nitrobenzene (mg/kg)	2-Nitrophenol (mg/kg)	4-Nitrophenol (mg/kg)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(3)	ND(3)	ND(3)	ND(3)	ND(3)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(3)	ND(3)	ND(3)	ND(3)	ND(3)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.27)	ND(0.27)	ND(0.27)	ND(0.27)	ND(0.27)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(3)	ND(3)	ND(3)	ND(3)	ND(3)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(2.8)	ND(2.8)	ND(2.8)	ND(2.8)	ND(2.8)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
2022 Residential NMED SSL (C c)		NA	NA	60.43	NA	NA
2022 Construction Worker NMED SSL (A a)		NA	NA	1353	NA	NA
2022 Industrial NMED SSL (B b)		NA	NA	293.3	NA	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	N-Nitrosodimethylamine (mg/kg)	N-Nitrosodi-n-propylamine (mg/kg)	N-Nitrosodiphenylamine (mg/kg)	Pentachlorophenol (mg/kg)	Phenanthrene (mg/kg)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
AOC2627-SB-07 (5-10 ft)	8/15/23	**ND(3) c**	ND(3)	ND(3)	ND(3)	ND(2.5)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	**ND(3) bc**	ND(3)	ND(3)	ND(3)	ND(2.5)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
AOC2627-SB-08 (5-10 ft)	8/15/23	**ND(0.3) c**	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.25)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	**ND(0.28) c**	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.23)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.27)	ND(0.27)	ND(0.27)	ND(0.27)	0.32
AOC2627-SB-10 (0.5-1 ft)	8/16/23	**ND(2.9) bc**	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.4)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.23)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	**ND(3) bc**	ND(3)	ND(3)	ND(3)	ND(2.5)
AOC2627-SB-11 (1-5 ft)	8/16/23	**ND(2.9) c**	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.4)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	2.4 J
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.4)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	**ND(2.9) bc**	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.4)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.25)
AOC2627-SB-12 (5-10 ft)	8/15/23	**ND(0.29) c**	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	**ND(2.8) bc**	ND(2.8)	ND(2.8)	ND(2.8)	ND(2.3)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.4)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	2.3 J
2022 Residential NMED SSL (C c)		0.02337	NA	1087	9.855	1849
2022 Construction Worker NMED SSL (A a)		3.664	NA	37860	346.2	8072
2022 Industrial NMED SSL (B b)		0.503	NA	5236	44.51	27490

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Phenol (mg/kg)	Pyrene (mg/kg)	Pyridine (mg/kg)	1,2,4-Trichlorobenzene (mg/kg)	2,4,5-Trichlorophenol (mg/kg)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.97)	ND(0.24)	ND(0.24)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.29)	ND(0.24)	ND(0.97)	ND(0.24)	ND(0.24)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(3)	ND(2.5)	ND(10)	ND(2.5)	ND(2.5)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(3)	ND(2.5)	ND(9.8)	ND(2.5)	ND(2.5)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.96)	ND(0.24)	ND(0.24)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(0.99)	ND(0.25)	ND(0.25)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.28)	ND(0.23)	ND(0.93)	ND(0.23)	ND(0.23)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.98)	ND(0.24)	ND(0.24)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.27)	ND(0.23)	ND(0.92)	ND(0.23)	ND(0.23)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(9.6)	ND(2.4)	ND(2.4)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.97)	ND(0.24)	ND(0.24)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.29)	ND(0.24)	ND(0.97)	ND(0.24)	ND(0.24)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.28)	ND(0.23)	ND(0.93)	ND(0.23)	ND(0.23)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(3)	ND(2.5)	ND(10)	ND(2.5)	ND(2.5)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(9.8)	ND(2.4)	ND(2.4)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(9.8)	ND(2.4)	ND(2.4)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(9.7)	ND(2.4)	ND(2.4)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.4)	ND(9.7)	ND(2.4)	ND(2.4)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.29)	ND(0.25)	ND(0.98)	ND(0.25)	ND(0.25)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.97)	ND(0.24)	ND(0.24)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(2.8)	ND(2.3)	ND(9.2)	ND(2.3)	ND(2.3)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(9.8)	ND(2.4)	ND(2.4)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(2.9)	ND(2.5)	ND(9.8)	ND(2.5)	ND(2.5)
2022 Residential NMED SSL (C c)		18490	1738	NA	239.7	6163
2022 Construction Worker NMED SSL (A a)		77380	7530	NA	8543	26910
2022 Industrial NMED SSL (B b)		274900	25260	NA	1253	91630

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	2,4,6-Trichlorophenol (mg/kg)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.24)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.24)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(2.5)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(2.5)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.24)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.25)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.23)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.24)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.23)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(2.4)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.24)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.24)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.23)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(2.5)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(2.4)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(2.4)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(2.4)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(2.4)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.25)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.24)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(2.3)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(2.4)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(2.5)
2022 Residential NMED SSL (C c)		484.1
2022 Construction Worker NMED SSL (A a)		16980
2022 Industrial NMED SSL (B b)		2332

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Acenaphthene (mg/kg)	Acenaphthylene (mg/kg)	Aniline (mg/kg)	Anthracene (mg/kg)	Azobenzene (mg/kg)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.25)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(2)	ND(2)	ND(2)	ND(2)	ND(2.5)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(2.4)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(2)	ND(2)	ND(2)	ND(2)	ND(2.5)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.25)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(2.4)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.23)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(1.8)	ND(1.8)	ND(1.8)	ND(1.8)	ND(2.3)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.25)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(2)	ND(2)	ND(2)	ND(2)	ND(2.5)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.25)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(2.4)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
2022 Residential NMED SSL (C c)		3477	NA	NA	17380	NA
2022 Construction Worker NMED SSL (A a)		15060	NA	NA	75300	NA
2022 Industrial NMED SSL (B b)		50520	NA	NA	252600	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzo(a)anthracene (mg/kg)	Benzo(a)pyrene (mg/kg)	Benzo(b)fluoranthene (mg/kg)	Benzo(g,h,i)perylene (mg/kg)	Benzo(k)fluoranthene (mg/kg)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.2)	ND(0.25)	ND(0.25)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	**ND(2.5) c**	**ND(2.5) c**	**ND(2) c**	ND(2.5)	ND(2.5)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(2.4)	ND(2.4)	ND(1.9)	ND(2.4)	ND(2.4)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(2.5)	ND(2.5)	ND(2)	ND(2.5)	ND(2.5)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.2)	ND(0.25)	ND(0.25)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	**ND(2.4) c**	**ND(2.4) c**	**ND(1.9) c**	ND(2.4)	ND(2.4)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.23)	ND(0.23)	ND(0.19)	ND(0.23)	ND(0.23)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	**ND(2.3) c**	**ND(2.3) c**	**ND(1.8) c**	ND(2.3)	ND(2.3)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.25)	ND(0.25)	ND(0.2)	ND(0.25)	ND(0.25)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	**ND(2.5) c**	**ND(2.5) c**	**ND(2) c**	ND(2.5)	ND(2.5)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.2)	ND(0.25)	ND(0.25)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	**ND(2.4) c**	**ND(2.4) c**	**ND(1.9) c**	ND(2.4)	ND(2.4)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
2022 Residential NMED SSL (C c)		1.531	1.117	1.531	NA	15.31
2022 Construction Worker NMED SSL (A a)		239.7	172.9	239.7	NA	2313
2022 Industrial NMED SSL (B b)		32.3	23.58	32.3	NA	322.9

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzoic Acid (mg/kg)	Benzyl Alcohol (mg/kg)	Bis(2-chloroethoxy)methane (mg/kg)	Bis(2-chloroethyl)ether (mg/kg)	Bis(2-chloroisopropyl)ether (mg/kg)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.49)	ND(0.3)	ND(0.25)	ND(0.3)	ND(0.3)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.49)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(5)	ND(3)	ND(2.5)	ND(3)	ND(3)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(4.8)	ND(2.9)	ND(2.4)	ND(2.9)	ND(2.9)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(5)	ND(3)	ND(2.5)	ND(3)	ND(3)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.49)	ND(0.29)	ND(0.25)	ND(0.29)	ND(0.29)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(4.8)	ND(2.9)	ND(2.4)	ND(2.9)	ND(2.9)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.48)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.46)	ND(0.28)	ND(0.23)	ND(0.28)	ND(0.28)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(4.6)	ND(2.7)	ND(2.3)	ND(2.7)	ND(2.7)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.49)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.48)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.49)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.48)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.48)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.49)	ND(0.29)	ND(0.25)	ND(0.29)	ND(0.29)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.47)	ND(0.28)	ND(0.24)	ND(0.28)	ND(0.28)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(5)	ND(3)	ND(2.5)	ND(3)	ND(3)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.5)	ND(0.3)	ND(0.25)	ND(0.3)	ND(0.3)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.48)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.49)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(4.8)	ND(2.9)	ND(2.4)	ND(2.9)	ND(2.9)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.49)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
2022 Residential NMED SSL (C c)		NA	NA	NA	3.114	NA
2022 Construction Worker NMED SSL (A a)		NA	NA	NA	1.95	NA
2022 Industrial NMED SSL (B b)		NA	NA	NA	519.1	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Bis(2-ethylhexyl)phthalate (mg/kg)	4-Bromophenyl-phenylether (mg/kg)	Butylbenzylphthalate (mg/kg)	Carbazole (mg/kg)	4-Chloro-3-Methylphenol (mg/kg)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.49)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.49)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(3)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(4.8)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(3)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.49)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.29)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(4.8)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.48)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.46)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.28)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(4.6)	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.7)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.49)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.48)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.49)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.48)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.48)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.49)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.29)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.47)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.28)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(3)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.5)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.48)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.49)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(4.8)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.49)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
2022 Residential NMED SSL (C c)		380.4	NA	NA	NA	NA
2022 Construction Worker NMED SSL (A a)		13390	NA	NA	NA	NA
2022 Industrial NMED SSL (B b)		1832	NA	NA	NA	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	4-Chloroaniline (mg/kg)	2-Chloronaphthalene (mg/kg)	2-Chlorophenol (mg/kg)	4-Chlorophenyl-phenylether (mg/kg)	Chrysene (mg/kg)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(3)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(3)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.29)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.28)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(2.7)	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.29)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.28)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(3)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
2022 Residential NMED SSL (C c)		NA	6257	391.1	NA	153.1
2022 Construction Worker NMED SSL (A a)		NA	28320	1770	NA	23130
2022 Industrial NMED SSL (B b)		NA	103800	6489	NA	3229

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Dibenzo(a,h)anthracene (mg/kg)	Dibenzofuran (mg/kg)	1,2-Dichlorobenzene (mg/kg)	1,3-Dichlorobenzene (mg/kg)	1,4-Dichlorobenzene (mg/kg)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	**ND(2.5) c**	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	**ND(2.4) c**	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	**ND(2.3) c**	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	**ND(2.5) c**	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	**ND(2.4) c**	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
2022 Residential NMED SSL (C c)		0.1531	NA	2150	NA	1287
2022 Construction Worker NMED SSL (A a)		23.96	NA	2496	NA	45880
2022 Industrial NMED SSL (B b)		3.23	NA	12970	NA	6729

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	3,3-Dichlorobenzidine (mg/kg)	2,4-Dichlorophenol (mg/kg)	Diethylphthalate (mg/kg)	2,4-Dimethylphenol (mg/kg)	Dimethylphthalate (mg/kg)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.3)	ND(0.3)	ND(3)	ND(0.3)	ND(0.39)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(3)	ND(3)	ND(30)	ND(3)	ND(4)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(29)	ND(2.9)	ND(3.8)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(3)	ND(3)	ND(30)	ND(3)	ND(4)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.9)	ND(29)	ND(2.9)	ND(3.8)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.38)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.28)	ND(0.28)	ND(2.8)	ND(0.28)	ND(0.37)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(2.7)	ND(2.7)	ND(27)	ND(2.7)	ND(3.6)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.38)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.38)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.28)	ND(0.28)	ND(2.8)	ND(0.28)	ND(0.38)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(3)	ND(3)	ND(30)	ND(3)	ND(4)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(3)	ND(0.3)	ND(0.4)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.38)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.9)	ND(29)	ND(2.9)	ND(3.9)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
2022 Residential NMED SSL (C c)		11.83	184.9	49310	1233	NA
2022 Construction Worker NMED SSL (A a)		409.6	807.2	215200	5381	NA
2022 Industrial NMED SSL (B b)		57.01	2749	733000	18330	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Di-n-butylphthalate (mg/kg)	4,6-Dinitro-2-methylphenol (mg/kg)	2,4-Dinitrophenol (mg/kg)	2,4-Dinitrotoluene (mg/kg)	2,6-Dinitrotoluene (mg/kg)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.98)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.97)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(10)	ND(3)	ND(3)	ND(3)	ND(3)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(9.5)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(10)	ND(3)	ND(3)	ND(3)	ND(3)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.98)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(9.6)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.96)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.93)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(9.1)	ND(2.7)	ND(2.7)	ND(2.7)	ND(2.7)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.97)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.95)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.97)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.97)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.96)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.98)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.95)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(9.9)	ND(3)	ND(3)	ND(3)	ND(3)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(1)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.96)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.97)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(9.7)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.97)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
2022 Residential NMED SSL (C c)		6163	NA	123.3	17.1	3.559
2022 Construction Worker NMED SSL (A a)		26910	NA	538.1	599.7	165.2
2022 Industrial NMED SSL (B b)		91630	NA	1833	82.27	17.15

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Di-n-octylphthalate (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Hexachlorobenzene (mg/kg)	Hexachlorobutadiene (mg/kg)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(3)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(3)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.29)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.28)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(2.7)	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.29)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.28)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(3)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
2022 Residential NMED SSL (C c)		NA	2318	2318	3.328	68.28
2022 Construction Worker NMED SSL (A a)		NA	10040	10040	116.7	2395
2022 Industrial NMED SSL (B b)		NA	33680	33680	16.03	52.08

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Hexachlorocyclopentadiene (mg/kg)	Hexachloroethane (mg/kg)	Indeno(1,2,3-cd)pyrene (mg/kg)	Isophorone (mg/kg)	1-Methylnaphthalene (mg/kg)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)	ND(0.25)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	**ND(2.5) c**	ND(2.5)	**ND(2.5) c**	ND(3)	ND(2.5)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)	ND(2.4)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(2.5)	ND(2.5)	ND(2.5)	ND(3)	ND(2.5)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.29)	ND(0.25)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	**ND(2.4) c**	ND(2.4)	**ND(2.4) c**	ND(2.9)	ND(2.4)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	0.5 JB
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.28)	ND(0.23)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(2.3)	ND(2.3)	**ND(2.3) c**	ND(2.7)	ND(2.3)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.29)	ND(0.25)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.28)	ND(0.24)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	**ND(2.5) c**	ND(2.5)	**ND(2.5) c**	ND(3)	ND(2.5)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)	ND(0.25)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	**ND(2.4) c**	ND(2.4)	**ND(2.4) c**	ND(2.9)	ND(2.4)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
2022 Residential NMED SSL (C c)		2.304	133.1	1.531	5606	171.6
2022 Construction Worker NMED SSL (A a)		867	4671	239.7	198300	6059
2022 Industrial NMED SSL (B b)		5492	641.4	32.3	27010	813

Notes:
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c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	2-Methylnaphthalene (mg/kg)	2-Methylphenol (mg/kg)	3,4-Methylphenol (mg/kg)	Naphthalene (mg/kg)	2-Nitroaniline (mg/kg)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.25)	ND(0.3)	ND(0.3)	ND(0.25)	ND(0.3)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(2.5)	ND(3)	ND(3)	ND(2.5)	ND(3)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(2.4)	ND(2.9)	ND(2.9)	ND(2.4)	ND(2.9)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(2.5)	ND(3)	ND(3)	ND(2.5)	ND(3)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.25)	ND(0.29)	ND(0.29)	ND(0.25)	ND(0.29)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(2.4)	ND(2.9)	ND(2.9)	ND(2.4)	ND(2.9)
AOC2627-SB-15 (10-15 ft)	8/15/23	0.76	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.23)	ND(0.28)	ND(0.28)	ND(0.23)	ND(0.28)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(2.3)	ND(2.7)	ND(2.7)	ND(2.3)	ND(2.7)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.25)	ND(0.29)	ND(0.29)	ND(0.25)	ND(0.29)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.24)	ND(0.28)	ND(0.28)	ND(0.24)	ND(0.28)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(2.5)	ND(3)	ND(3)	ND(2.5)	ND(3)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.25)	ND(0.3)	ND(0.3)	ND(0.25)	ND(0.3)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(2.4)	ND(2.9)	ND(2.9)	ND(2.4)	ND(2.9)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
2022 Residential NMED SSL (C c)		231.8	NA	NA	22.6	NA
2022 Construction Worker NMED SSL (A a)		1004	NA	NA	632.9	NA
2022 Industrial NMED SSL (B b)		3368	NA	NA	108.2	NA

Notes:
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c - Non-detect exceedance of 2022 Residential NMED SSL
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ft -Foot or feet
J - Estimated concentration
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NA - Not applicable
ND(X) - Not detected at the reporting limit X
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AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	3-Nitroaniline (mg/kg)	4-Nitroaniline (mg/kg)	Nitrobenzene (mg/kg)	2-Nitrophenol (mg/kg)	4-Nitrophenol (mg/kg)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(3)	ND(3)	ND(3)	ND(3)	ND(3)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(3)	ND(3)	ND(3)	ND(3)	ND(3)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(2.7)	ND(2.7)	ND(2.7)	ND(2.7)	ND(2.7)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(3)	ND(3)	ND(3)	ND(3)	ND(3)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
2022 Residential NMED SSL (C c)		NA	NA	60.43	NA	NA
2022 Construction Worker NMED SSL (A a)		NA	NA	1353	NA	NA
2022 Industrial NMED SSL (B b)		NA	NA	293.3	NA	NA

Notes:
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C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
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NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
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Sample ID	Sample Date	N-Nitrosodimethylamine (mg/kg)	N-Nitrosodi-n-propylamine (mg/kg)	N-Nitrosodiphenylamine (mg/kg)	Pentachlorophenol (mg/kg)	Phenanthrene (mg/kg)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.25)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	**ND(3) bc**	ND(3)	ND(3)	ND(3)	ND(2.5)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.4)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(3)	ND(3)	ND(3)	ND(3)	ND(2.5)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.25)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	**ND(2.9) bc**	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.4)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	0.34
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.23)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	**ND(2.7) bc**	ND(2.7)	ND(2.7)	ND(2.7)	ND(2.3)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.25)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.24)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	**ND(3) bc**	ND(3)	ND(3)	ND(3)	ND(2.5)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.25)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	**ND(2.9) bc**	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.4)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
2022 Residential NMED SSL (C c)		0.02337	NA	1087	9.855	1849
2022 Construction Worker NMED SSL (A a)		3.664	NA	37860	346.2	8072
2022 Industrial NMED SSL (B b)		0.503	NA	5236	44.51	27490

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Phenol (mg/kg)	Pyrene (mg/kg)	Pyridine (mg/kg)	1,2,4-Trichlorobenzene (mg/kg)	2,4,5-Trichlorophenol (mg/kg)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.3)	ND(0.25)	ND(0.98)	ND(0.25)	ND(0.25)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.29)	ND(0.24)	ND(0.97)	ND(0.24)	ND(0.24)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(3)	ND(2.5)	ND(10)	ND(2.5)	ND(2.5)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(2.9)	ND(2.4)	ND(9.5)	ND(2.4)	ND(2.4)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(3)	ND(2.5)	ND(10)	ND(2.5)	ND(2.5)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.29)	ND(0.25)	ND(0.98)	ND(0.25)	ND(0.25)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.4)	ND(9.6)	ND(2.4)	ND(2.4)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.96)	ND(0.24)	ND(0.24)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.28)	ND(0.23)	ND(0.93)	ND(0.23)	ND(0.23)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(2.7)	ND(2.3)	ND(9.1)	ND(2.3)	ND(2.3)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.97)	ND(0.24)	ND(0.24)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.29)	ND(0.24)	ND(0.95)	ND(0.24)	ND(0.24)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.97)	ND(0.24)	ND(0.24)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.97)	ND(0.24)	ND(0.24)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.29)	ND(0.24)	ND(0.96)	ND(0.24)	ND(0.24)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.29)	ND(0.25)	ND(0.98)	ND(0.25)	ND(0.25)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.28)	ND(0.24)	ND(0.95)	ND(0.24)	ND(0.24)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(3)	ND(2.5)	ND(9.9)	ND(2.5)	ND(2.5)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(1)	ND(0.25)	ND(0.25)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.29)	ND(0.24)	ND(0.96)	ND(0.24)	ND(0.24)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.97)	ND(0.24)	ND(0.24)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.4)	ND(9.7)	ND(2.4)	ND(2.4)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.97)	ND(0.24)	ND(0.24)
2022 Residential NMED SSL (C c)		18490	1738	NA	239.7	6163
2022 Construction Worker NMED SSL (A a)		77380	7530	NA	8543	26910
2022 Industrial NMED SSL (B b)		274900	25260	NA	1253	91630

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	2,4,6-Trichlorophenol (mg/kg)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.25)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.24)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(2.5)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(2.4)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(2.5)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.25)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(2.4)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.24)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.23)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(2.3)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.24)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.24)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.24)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.24)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.24)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.25)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.24)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(2.5)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.25)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.24)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.24)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(2.4)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.24)
2022 Residential NMED SSL (C c)		484.1
2022 Construction Worker NMED SSL (A a)		16980
2022 Industrial NMED SSL (B b)		2332

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Acenaphthene (mg/kg)	Acenaphthylene (mg/kg)	Aniline (mg/kg)	Anthracene (mg/kg)	Azobenzene (mg/kg)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(3.7)	ND(3.7)	ND(3.7)	ND(3.7)	ND(4.6)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.25)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.23)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.25)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(2.4)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(2.4)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.22)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(2.4)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.24)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.25)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(2.3)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(2)	ND(2)	ND(2)	ND(2)	ND(2.5)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(2)	ND(2)	ND(2)	ND(2)	ND(2.5)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.25)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.25)
2022 Residential NMED SSL (C c)		3477	NA	NA	17380	NA
2022 Construction Worker NMED SSL (A a)		15060	NA	NA	75300	NA
2022 Industrial NMED SSL (B b)		50520	NA	NA	252600	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzo(a)anthracene (mg/kg)	Benzo(a)pyrene (mg/kg)	Benzo(b)fluoranthene (mg/kg)	Benzo(g,h,i)perylene (mg/kg)	Benzo(k)fluoranthene (mg/kg)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	**ND(4.6) c**	**ND(4.6) c**	**ND(3.7) c**	ND(4.6)	ND(4.6)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.2)	ND(0.25)	ND(0.25)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.23)	ND(0.23)	ND(0.18)	ND(0.23)	ND(0.23)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.2)	ND(0.25)	ND(0.25)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	**ND(2.4) c**	**ND(2.4) c**	**ND(1.9) c**	ND(2.4)	ND(2.4)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	**ND(2.4) c**	**ND(2.4) c**	**ND(1.9) c**	ND(2.4)	ND(2.4)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.22)	ND(0.22)	ND(0.18)	ND(0.22)	ND(0.22)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(2.4)	ND(2.4)	ND(1.9)	ND(2.4)	ND(2.4)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.19)	ND(0.24)	ND(0.24)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.2)	ND(0.25)	ND(0.25)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	**ND(2.3) c**	**ND(2.3) c**	**ND(1.9) c**	ND(2.3)	ND(2.3)
AOC2627-SB-23 (4-5 ft)	8/15/23	**ND(2.5) c**	**ND(2.5) c**	**ND(2) c**	ND(2.5)	ND(2.5)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	**ND(2.5) c**	**ND(2.5) c**	**ND(2) c**	ND(2.5)	ND(2.5)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.2)	ND(0.25)	ND(0.25)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.2)	ND(0.25)	ND(0.25)
2022 Residential NMED SSL (C c)		1.531	1.117	1.531	NA	15.31
2022 Construction Worker NMED SSL (A a)		239.7	172.9	239.7	NA	2313
2022 Industrial NMED SSL (B b)		32.3	23.58	32.3	NA	322.9

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzoic Acid (mg/kg)	Benzyl Alcohol (mg/kg)	Bis(2-chloroethoxy)methane (mg/kg)	Bis(2-chloroethyl)ether (mg/kg)	Bis(2-chloroisopropyl)ether (mg/kg)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.48)	ND(0.29)	ND(0.24)	ND(0.29)	ND(0.29)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(9.2)	ND(5.5)	ND(4.6)	**ND(5.5) c**	ND(5.5)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.5)	ND(0.3)	ND(0.25)	ND(0.3)	ND(0.3)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.46)	ND(0.28)	ND(0.23)	ND(0.28)	ND(0.28)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.49)	ND(0.29)	ND(0.25)	ND(0.29)	ND(0.29)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(4.8)	ND(2.9)	ND(2.4)	**ND(2.9) a**	ND(2.9)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(4.9)	ND(2.9)	ND(2.4)	ND(2.9)	ND(2.9)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.45)	ND(0.27)	ND(0.22)	ND(0.27)	ND(0.27)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(4.9)	ND(2.9)	ND(2.4)	ND(2.9)	ND(2.9)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.47)	ND(0.28)	ND(0.24)	ND(0.28)	ND(0.28)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.5)	ND(0.3)	ND(0.25)	ND(0.3)	ND(0.3)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(4.7)	ND(2.8)	ND(2.3)	ND(2.8)	ND(2.8)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(4.9)	ND(3)	ND(2.5)	**ND(3) a**	ND(3)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(4.9)	ND(3)	ND(2.5)	ND(3)	ND(3)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.5)	ND(0.3)	ND(0.25)	ND(0.3)	ND(0.3)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.51)	ND(0.3)	ND(0.25)	ND(0.3)	ND(0.3)
2022 Residential NMED SSL (C c)		NA	NA	NA	3.114	NA
2022 Construction Worker NMED SSL (A a)		NA	NA	NA	1.95	NA
2022 Industrial NMED SSL (B b)		NA	NA	NA	519.1	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Bis(2-ethylhexyl)phthalate (mg/kg)	4-Bromophenyl-phenylether (mg/kg)	Butylbenzylphthalate (mg/kg)	Carbazole (mg/kg)	4-Chloro-3-Methylphenol (mg/kg)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.48)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(9.2)	ND(4.6)	ND(4.6)	ND(4.6)	ND(5.5)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.5)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.46)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.28)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.49)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.29)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(4.8)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(4.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.45)	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.27)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(4.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.47)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.28)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.5)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(4.7)	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.8)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(4.9)	ND(2.5)	ND(2.5)	ND(2.5)	ND(3)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(4.9)	ND(2.5)	ND(2.5)	ND(2.5)	ND(3)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.5)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.51)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)
2022 Residential NMED SSL (C c)		380.4	NA	NA	NA	NA
2022 Construction Worker NMED SSL (A a)		13390	NA	NA	NA	NA
2022 Industrial NMED SSL (B b)		1832	NA	NA	NA	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	4-Chloroaniline (mg/kg)	2-Chloronaphthalene (mg/kg)	2-Chlorophenol (mg/kg)	4-Chlorophenyl-phenylether (mg/kg)	Chrysene (mg/kg)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(5.5)	ND(4.6)	ND(4.6)	ND(4.6)	ND(4.6)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.28)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.29)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.27)	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.28)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(2.8)	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(3)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(3)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
2022 Residential NMED SSL (C c)		NA	6257	391.1	NA	153.1
2022 Construction Worker NMED SSL (A a)		NA	28320	1770	NA	23130
2022 Industrial NMED SSL (B b)		NA	103800	6489	NA	3229

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Dibenzo(a,h)anthracene (mg/kg)	Dibenzofuran (mg/kg)	1,2-Dichlorobenzene (mg/kg)	1,3-Dichlorobenzene (mg/kg)	1,4-Dichlorobenzene (mg/kg)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	**ND(4.6) bc**	ND(4.6)	ND(4.6)	ND(4.6)	ND(4.6)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
AOC2627-SB-21 (5-6 ft)	8/15/23	**ND(0.25) c**	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	**ND(2.4) c**	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	**ND(2.4) c**	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	**ND(2.3) c**	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)
AOC2627-SB-23 (4-5 ft)	8/15/23	**ND(2.5) c**	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	**ND(2.5) c**	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
2022 Residential NMED SSL (C c)		0.1531	NA	2150	NA	1287
2022 Construction Worker NMED SSL (A a)		23.96	NA	2496	NA	45880
2022 Industrial NMED SSL (B b)		3.23	NA	12970	NA	6729

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	3,3-Dichlorobenzidine (mg/kg)	2,4-Dichlorophenol (mg/kg)	Diethylphthalate (mg/kg)	2,4-Dimethylphenol (mg/kg)	Dimethylphthalate (mg/kg)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.38)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(5.5)	ND(5.5)	ND(55)	ND(5.5)	ND(7.4)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(3)	ND(0.3)	ND(0.4)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.28)	ND(0.28)	ND(2.8)	ND(0.28)	ND(0.37)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(2.9)	ND(0.29)	ND(0.39)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(2.9)	ND(2.9)	ND(29)	ND(2.9)	ND(3.8)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.9)	ND(29)	ND(2.9)	ND(3.9)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.27)	ND(0.27)	ND(2.7)	ND(0.27)	ND(0.36)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(2.9)	ND(2.9)	ND(29)	ND(2.9)	ND(3.9)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.28)	ND(0.28)	ND(2.8)	ND(0.28)	ND(0.38)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(3)	ND(0.3)	ND(0.4)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(2.8)	ND(2.8)	ND(28)	ND(2.8)	ND(3.7)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(3)	ND(3)	ND(30)	ND(3)	ND(3.9)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(3)	ND(3)	ND(30)	ND(3)	ND(3.9)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(3)	ND(0.3)	ND(0.4)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(3)	ND(0.3)	ND(0.4)
2022 Residential NMED SSL (C c)		11.83	184.9	49310	1233	NA
2022 Construction Worker NMED SSL (A a)		409.6	807.2	215200	5381	NA
2022 Industrial NMED SSL (B b)		57.01	2749	733000	18330	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Di-n-butylphthalate (mg/kg)	4,6-Dinitro-2-methylphenol (mg/kg)	2,4-Dinitrophenol (mg/kg)	2,4-Dinitrotoluene (mg/kg)	2,6-Dinitrotoluene (mg/kg)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.96)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(18)	ND(5.5)	ND(5.5)	ND(5.5)	**ND(5.5) c**
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(1)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.92)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.98)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(9.6)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(9.7)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.9)	ND(0.27)	ND(0.27)	ND(0.27)	ND(0.27)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(9.7)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.95)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.99)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(9.3)	ND(2.8)	ND(2.8)	ND(2.8)	ND(2.8)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(9.8)	ND(3)	ND(3)	ND(3)	ND(3)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(9.8)	ND(3)	ND(3)	ND(3)	ND(3)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(1)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(1)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
2022 Residential NMED SSL (C c)		6163	NA	123.3	17.1	3.559
2022 Construction Worker NMED SSL (A a)		26910	NA	538.1	599.7	165.2
2022 Industrial NMED SSL (B b)		91630	NA	1833	82.27	17.15

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Di-n-octylphthalate (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Hexachlorobenzene (mg/kg)	Hexachlorobutadiene (mg/kg)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(5.5)	ND(4.6)	ND(4.6)	**ND(4.6) c**	ND(4.6)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.28)	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.23)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.29)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.27)	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(2.9)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.28)	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.24)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(2.8)	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(3)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(3)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
2022 Residential NMED SSL (C c)		NA	2318	2318	3.328	68.28
2022 Construction Worker NMED SSL (A a)		NA	10040	10040	116.7	2395
2022 Industrial NMED SSL (B b)		NA	33680	33680	16.03	52.08

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Hexachlorocyclopentadiene (mg/kg)	Hexachloroethane (mg/kg)	Indeno(1,2,3-cd)pyrene (mg/kg)	Isophorone (mg/kg)	1-Methylnaphthalene (mg/kg)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.29)	ND(0.24)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	**ND(4.6) c**	ND(4.6)	**ND(4.6) c**	ND(5.5)	ND(4.6)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)	ND(0.25)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.28)	ND(0.23)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.29)	ND(0.25)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	**ND(2.4) c**	ND(2.4)	**ND(2.4) c**	ND(2.9)	ND(2.4)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	**ND(2.4) c**	ND(2.4)	**ND(2.4) c**	ND(2.9)	ND(2.4)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.27)	ND(0.22)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.9)	ND(2.4)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.24)	ND(0.24)	ND(0.24)	ND(0.28)	ND(0.24)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)	ND(0.25)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(2.3)	ND(2.3)	**ND(2.3) c**	ND(2.8)	ND(2.3)
AOC2627-SB-23 (4-5 ft)	8/15/23	**ND(2.5) c**	ND(2.5)	**ND(2.5) c**	ND(3)	ND(2.5)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	**ND(2.5) c**	ND(2.5)	**ND(2.5) c**	ND(3)	ND(2.5)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)	ND(0.25)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.3)	ND(0.25)
2022 Residential NMED SSL (C c)		2.304	133.1	1.531	5606	171.6
2022 Construction Worker NMED SSL (A a)		867	4671	239.7	198300	6059
2022 Industrial NMED SSL (B b)		5492	641.4	32.3	27010	813

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	2-Methylnaphthalene (mg/kg)	2-Methylphenol (mg/kg)	3,4-Methylphenol (mg/kg)	Naphthalene (mg/kg)	2-Nitroaniline (mg/kg)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.24)	ND(0.29)	ND(0.29)	ND(0.24)	ND(0.29)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(4.6)	ND(5.5)	ND(5.5)	ND(4.6)	ND(5.5)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.25)	ND(0.3)	ND(0.3)	ND(0.25)	ND(0.3)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.23)	ND(0.28)	ND(0.28)	ND(0.23)	ND(0.28)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.25)	ND(0.29)	ND(0.29)	ND(0.25)	ND(0.29)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(2.4)	ND(2.9)	ND(2.9)	ND(2.4)	ND(2.9)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(2.4)	ND(2.9)	ND(2.9)	ND(2.4)	ND(2.9)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.22)	ND(0.27)	ND(0.27)	ND(0.22)	ND(0.27)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(2.4)	ND(2.9)	ND(2.9)	ND(2.4)	ND(2.9)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.24)	ND(0.28)	ND(0.28)	ND(0.24)	ND(0.28)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.25)	ND(0.3)	ND(0.3)	ND(0.25)	ND(0.3)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(2.3)	ND(2.8)	ND(2.8)	ND(2.3)	ND(2.8)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(2.5)	ND(3)	ND(3)	ND(2.5)	ND(3)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(2.5)	ND(3)	ND(3)	ND(2.5)	ND(3)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.25)	ND(0.3)	ND(0.3)	ND(0.25)	ND(0.3)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.25)	ND(0.3)	ND(0.3)	ND(0.25)	ND(0.3)
2022 Residential NMED SSL (C c)		231.8	NA	NA	22.6	NA
2022 Construction Worker NMED SSL (A a)		1004	NA	NA	632.9	NA
2022 Industrial NMED SSL (B b)		3368	NA	NA	108.2	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	3-Nitroaniline (mg/kg)	4-Nitroaniline (mg/kg)	Nitrobenzene (mg/kg)	2-Nitrophenol (mg/kg)	4-Nitrophenol (mg/kg)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(5.5)	ND(5.5)	ND(5.5)	ND(5.5)	ND(5.5)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.27)	ND(0.27)	ND(0.27)	ND(0.27)	ND(0.27)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(2.8)	ND(2.8)	ND(2.8)	ND(2.8)	ND(2.8)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(3)	ND(3)	ND(3)	ND(3)	ND(3)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(3)	ND(3)	ND(3)	ND(3)	ND(3)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)
2022 Residential NMED SSL (C c)		NA	NA	60.43	NA	NA
2022 Construction Worker NMED SSL (A a)		NA	NA	1353	NA	NA
2022 Industrial NMED SSL (B b)		NA	NA	293.3	NA	NA

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	N-Nitrosodimethylamine (mg/kg)	N-Nitrosodi-n-propylamine (mg/kg)	N-Nitrosodiphenylamine (mg/kg)	Pentachlorophenol (mg/kg)	Phenanthrene (mg/kg)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.24)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	**ND(5.5) bc**	ND(5.5)	ND(5.5)	ND(5.5)	ND(4.6)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.25)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.23)
AOC2627-SB-21 (5-6 ft)	8/15/23	**ND(0.29) c**	ND(0.29)	ND(0.29)	ND(0.29)	ND(0.25)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	**ND(2.9) c**	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.4)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	**ND(2.9) bc**	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.4)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.27)	ND(0.27)	ND(0.27)	ND(0.27)	ND(0.22)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.4)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.24)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.25)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	**ND(2.8) bc**	ND(2.8)	ND(2.8)	ND(2.8)	ND(2.3)
AOC2627-SB-23 (4-5 ft)	8/15/23	**ND(3) c**	ND(3)	ND(3)	ND(3)	ND(2.5)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	**ND(3) bc**	ND(3)	ND(3)	ND(3)	ND(2.5)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.25)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.25)
2022 Residential NMED SSL (C c)		0.02337	NA	1087	9.855	1849
2022 Construction Worker NMED SSL (A a)		3.664	NA	37860	346.2	8072
2022 Industrial NMED SSL (B b)		0.503	NA	5236	44.51	27490

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Phenol (mg/kg)	Pyrene (mg/kg)	Pyridine (mg/kg)	1,2,4-Trichlorobenzene (mg/kg)	2,4,5-Trichlorophenol (mg/kg)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.29)	ND(0.24)	ND(0.96)	ND(0.24)	ND(0.24)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(5.5)	ND(4.6)	ND(18)	ND(4.6)	ND(4.6)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(1)	ND(0.25)	ND(0.25)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.28)	ND(0.23)	ND(0.92)	ND(0.23)	ND(0.23)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.29)	ND(0.25)	ND(0.98)	ND(0.25)	ND(0.25)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(2.9)	ND(2.4)	ND(9.6)	ND(2.4)	ND(2.4)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(2.9)	ND(2.4)	ND(9.7)	ND(2.4)	ND(2.4)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.27)	ND(0.22)	ND(0.9)	ND(0.22)	ND(0.22)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(2.9)	ND(2.4)	ND(9.7)	ND(2.4)	ND(2.4)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.28)	ND(0.24)	ND(0.95)	ND(0.24)	ND(0.24)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(0.99)	ND(0.25)	ND(0.25)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(2.8)	ND(2.3)	ND(9.3)	ND(2.3)	ND(2.3)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(3)	ND(2.5)	ND(9.8)	ND(2.5)	ND(2.5)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(3)	ND(2.5)	ND(9.8)	ND(2.5)	ND(2.5)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(1)	ND(0.25)	ND(0.25)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.3)	ND(0.25)	ND(1)	ND(0.25)	ND(0.25)
2022 Residential NMED SSL (C c)		18490	1738	NA	239.7	6163
2022 Construction Worker NMED SSL (A a)		77380	7530	NA	8543	26910
2022 Industrial NMED SSL (B b)		274900	25260	NA	1253	91630

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1B. SEMI-VOLATILE ORGANIC COMPOUND SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	2,4,6-Trichlorophenol (mg/kg)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.24)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(4.6)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.25)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.23)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.25)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(2.4)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(2.4)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.22)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(2.4)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.24)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.25)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(2.3)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(2.5)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(2.5)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.25)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.25)
2022 Residential NMED SSL (C c)		484.1
2022 Construction Worker NMED SSL (A a)		16980
2022 Industrial NMED SSL (B b)		2332

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
Dup - Blind duplicate
ft -Foot or feet
J - Estimated concentration
JB - Estimated concentration due to blank contamination
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
SSL - Soil Screening Level
U - Evaluated to be undetected at the reporting limit

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TABLE 3-1C. METAL SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Antimony, Total (mg/kg)	Arsenic, Total (mg/kg)	Barium, Total (mg/kg)	Beryllium, Total (mg/kg)	Cadmium, Total (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(0.52) UJ	2.3	780	0.49	ND(0.21)
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.49) UJ	1.7	860	0.57	ND(0.2)
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.51) UJ	2.9	310	1.3	ND(0.2)
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(1)	4.4	340	0.66	ND(0.2)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(0.51) UJ	1.9	530	1.1	ND(0.51)
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(0.49) UJ	4.4	690	ND(7.4)	**ND(12) d**
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(0.48) UJ	2.2	700	0.54	ND(0.48)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.5) UJ	0.43 J	100 J	1.1	ND(0.5)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.98) UJ	0.69 J	210 J	1	ND(0.49)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.51) UJ	1.5	200	0.77	ND(0.51)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.49) UJ	0.99	350	0.8	ND(0.49)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.49) UJ	1.1	350	1.2	ND(0.49)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.48)	1.3	340 J+	0.92	ND(0.48)
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.48)	1.1	160 J+	0.91	ND(0.48)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.51)	1.1	250 J+	1.2	ND(0.51)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.48)	1.1	150 J+	1.2	ND(0.48)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(0.48) UJ	1.6	1000	0.7	ND(0.48)
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.52) UJ	1	240	0.97	ND(0.52)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.49) UJ	0.91	290	1	ND(0.49)
2022 Industrial NMED SSL (B b)		519.1	35.88	254700	312600	416800
2022 Construction Worker NMED SSL (A a)		141.6	215.6	4392	2707	3609
2022 Residential NMED SSL (C c)		31.29	7.075	15560	64410	85880
2022 NMED SL-SSL (D d)		6.56	5.83	2700	196	9.39

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
D - Exceedance of 2022 NMED SL-SSL
d - Non-detect exceedance of 2022 NMED SL-SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
J- - Estimated concentration, possibly biased low
NA - not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
R - Rejected, data not usable
SL - Soil Leachate
SSL - Soil Screening Level
UJ - Estimated reporting limit

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TABLE 3-1C. METAL SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Chromium, Total (mg/kg)	Cobalt, Total (mg/kg)	Iron, Total (mg/kg)	Lead, Total (mg/kg)	Manganese, Total (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	3	2.4	6600 J+	8.9 J+	2600 J+
AOC2627-SB-01 (15-16 ft)	8/15/23	3.7	2.9	6900 J+	8.4 J+	700 J+
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	5.4	**7.5 D**	**12000 J+ D**	14 J+	700 J+
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	6.4	**8.5 D**	**10000 D**	19	1800 J
AOC2627-SB-02 (0.5-1 ft)	8/16/23	11	4.6	**13000 J+ D**	8.9	510
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(15)	**ND(15) d**	**13000 J+ D**	13	2400
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	4.9	2.6	**8600 J+ D**	6.8	860
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	11	3.9	**8800 J+ D**	5.1	210 J
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	12	3.5	**19000 J+ D**	8.2 J-	810 J
AOC2627-SB-03 (0.5-1 ft)	8/16/23	14	**6.2 D**	**15000 J+ D**	12	970
AOC2627-SB-03 (15-20 ft)	8/16/23	5.5	3.6	**9900 J+ D**	8.7	410
AOC2627-SB-03 (18-19 ft)	8/16/23	8	4.4	**12000 J+ D**	11	330
AOC2627-SB-03 (29-30 ft)	8/16/23	6.9	4.1	**11000 J+ D**	8.6	620
AOC2627-SB-04 (15-20 ft)	8/16/23	10	4.1	**11000 J+ D**	10	360
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	11	5.3	**14000 J+ D**	12	250
AOC2627-SB-04 (24-25 ft)	8/16/23	14	**6.2 D**	**14000 J+ D**	11	290
AOC2627-SB-05 (0.5-1 ft)	8/16/23	8.6	3.6	**11000 J+ D**	8.7	530
AOC2627-SB-05 (20-25 ft)	8/16/23	13	4.2	**13000 J+ D**	11	310
AOC2627-SB-05 (24-25 ft)	8/16/23	7.9	3.9	**12000 J+ D**	10	380
2022 Industrial NMED SSL (B b)		504.6	83360	908400	800	160200
2022 Construction Worker NMED SSL (A a)		468.3	721.8	247800	800	463.8
2022 Residential NMED SSL (C c)		96.6	17180	54750	400	10550
2022 NMED SL-SSL (D d)		205000	5.4	6960	270	2630

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
D - Exceedance of 2022 NMED SL-SSL
d - Non-detect exceedance of 2022 NMED SL-SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
J- - Estimated concentration, possibly biased low
NA - not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
R - Rejected, data not usable
SL - Soil Leachate
SSL - Soil Screening Level
UJ - Estimated reporting limit

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TABLE 3-1C. METAL SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Mercury, Total (mg/kg)	Nickel, Total (mg/kg)	Selenium, Total (mg/kg)	Silver, Total (mg/kg)	Vanadium, Total (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(0.074)	5.2 J-	1.9	ND(0.52)	13
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.068)	6 J-	1.7	ND(0.49)	11
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.069)	11 J-	1.6	ND(0.51)	15
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.074)	11 J+	3.5	ND(1)	13
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(0.072)	12	2.1	ND(0.51)	23 J+
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(0.069)	6.4	**19 D**	ND(0.49)	30 J+
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(0.075)	5	1.8	ND(0.96)	14 J+
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.072)	13	2	ND(0.5)	16 J+
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.072)	12	3 J-	ND(0.98)	33
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.07)	11	2	ND(0.51)	21 J+
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.068)	6.4	1.7	ND(0.49)	13 J+
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.073)	8.5	1.7	ND(0.49)	14 J+
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.069)	7.7	1.8	ND(0.48)	15
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.074)	7.6	1.9	ND(0.48)	14
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.073)	10	1.6	ND(0.51)	15
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.071)	13	2.2	ND(0.48)	16
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(0.072)	7.2	1.4	ND(0.48)	20 J+
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.069)	9.2	1.8	ND(0.52)	15 J+
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.07)	7.8	1.8	ND(0.49)	14 J+
2022 Industrial NMED SSL (B b)		NA	2886000	6489	6489	6525
2022 Construction Worker NMED SSL (A a)		NA	24980	1753	1770	614.1
2022 Residential NMED SSL (C c)		22.8	594600	391.1	391.1	393.9
2022 NMED SL-SSL (D d)		NA	485	10.2	13.8	1260

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
D - Exceedance of 2022 NMED SL-SSL
d - Non-detect exceedance of 2022 NMED SL-SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
J- - Estimated concentration, possibly biased low
NA - not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
R - Rejected, data not usable
SL - Soil Leachate
SSL - Soil Screening Level
UJ - Estimated reporting limit

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TABLE 3-1C. METAL SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Zinc, Total (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	7.5 J+
AOC2627-SB-01 (15-16 ft)	8/15/23	9.7 J+
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	26 J+
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	19 J-
AOC2627-SB-02 (0.5-1 ft)	8/16/23	28 J+
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(120)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	8.7 J+
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	12 J+
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	14 J+
AOC2627-SB-03 (0.5-1 ft)	8/16/23	27 J+
AOC2627-SB-03 (15-20 ft)	8/16/23	12 J+
AOC2627-SB-03 (18-19 ft)	8/16/23	14 J+
AOC2627-SB-03 (29-30 ft)	8/16/23	14
AOC2627-SB-04 (15-20 ft)	8/16/23	11
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	14
AOC2627-SB-04 (24-25 ft)	8/16/23	16
AOC2627-SB-05 (0.5-1 ft)	8/16/23	12 J+
AOC2627-SB-05 (20-25 ft)	8/16/23	13 J+
AOC2627-SB-05 (24-25 ft)	8/16/23	14 J+
2022 Industrial NMED SSL (B b)		389300
2022 Construction Worker NMED SSL (A a)		106200
2022 Residential NMED SSL (C c)		23460
2022 NMED SL-SSL (D d)		7410

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
D - Exceedance of 2022 NMED SL-SSL
d - Non-detect exceedance of 2022 NMED SL-SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
J- - Estimated concentration, possibly biased low
NA - not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
R - Rejected, data not usable
SL - Soil Leachate
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TABLE 3-1C. METAL SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Antimony, Total (mg/kg)	Arsenic, Total (mg/kg)	Barium, Total (mg/kg)	Beryllium, Total (mg/kg)	Cadmium, Total (mg/kg)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.51) UJ	1.5	660	0.73	ND(0.2)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(0.5) UJ	1.3	550	0.95	ND(0.2)
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.52) UJ	0.71	110	1	ND(0.21)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.98) UJ	2.9	300	0.51	ND(0.2)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.48) UJ	0.55	140 J	0.86	ND(0.19)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.97)	1.4	680 J	0.88	ND(0.19)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(0.49) UJ	2.2	1100	0.44	ND(0.19)
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(0.52) UJ	2	670	0.65	ND(0.21)
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(1) UJ	2	480	0.52	ND(0.2)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.99) UJ	1.9	990	0.44	ND(0.2)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	0.33 J	1.5	170 J+	0.5	ND(0.48)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.51)	2.8	730 J+	0.66	ND(0.51)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.52)	1.6	460 J+	0.57	ND(0.52)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(0.96)	2.4	380 J+	0.75	ND(0.48)
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.51)	1.2	220 J+	1.2	ND(0.51)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.52) UJ	1.1	230	1.1	ND(0.52)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.49) R	1.2	160	1.1	ND(0.49)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(0.97) UJ	2.1	1100	0.68	ND(0.48)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(1) UJ	1.9	450	0.61	ND(0.52)
2022 Industrial NMED SSL (B b)		519.1	35.88	254700	312600	416800
2022 Construction Worker NMED SSL (A a)		141.6	215.6	4392	2707	3609
2022 Residential NMED SSL (C c)		31.29	7.075	15560	64410	85880
2022 NMED SL-SSL (D d)		6.56	5.83	2700	196	9.39

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
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d - Non-detect exceedance of 2022 NMED SL-SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
J- - Estimated concentration, possibly biased low
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TABLE 3-1C. METAL SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Chromium, Total (mg/kg)	Cobalt, Total (mg/kg)	Iron, Total (mg/kg)	Lead, Total (mg/kg)	Manganese, Total (mg/kg)
AOC2627-SB-06 (10-15 ft)	8/15/23	5.9	3.7	**11000 J+ D**	7.6 J+	470 J+
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	8.2	4.3	**13000 J+ D**	10 J+	400 J+
AOC2627-SB-06 (17-18 ft)	8/15/23	8.3	**6.7 D**	**13000 J+ D**	12 J+	200 J+
AOC2627-SB-07 (11-12 ft)	8/15/23	4	**6.9 D**	6500 J+	11 J+	2300 J+
AOC2627-SB-07 (17-18 ft)	8/15/23	8.1	**6.9 D**	**8600 J+ D**	6 J+	370 J+
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	11	**5.5 D**	**17000 J D**	12 J	1600 J
AOC2627-SB-07 (5-10 ft)	8/15/23	3.2	2.5	6900 J+	6.9 J+	**1100 J+ A**
AOC2627-SB-08 (0.5-1 ft)	8/15/23	11	3.4	**10000 J+ D**	18 J+	500 J+
AOC2627-SB-08 (13-14 ft)	8/15/23	4.4	3	**8300 J+ D**	6.6 J+	1400 J+
AOC2627-SB-08 (5-10 ft)	8/15/23	4.2	2.9	**7200 J+ D**	7 J+	**1500 J+ A**
AOC2627-SB-09 (0.5-1 ft)	8/16/23	6.4	2.8	**7000 J+ D**	5.3	260
AOC2627-SB-09 (10-15 ft)	8/16/23	5.3	3.1	**8800 J+ D**	6.6	1500
AOC2627-SB-09 (15-20 ft)	8/16/23	4.9	2.2	6600 J+	4.9	1400
AOC2627-SB-10 (0.5-1 ft)	8/16/23	30	3.6	**12000 J+ D**	11	760
AOC2627-SB-10 (15-20 ft)	8/16/23	12	4.9	**16000 J+ D**	10	320 J
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	10	4.8	**14000 J+ D**	11 J-	890 J
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	12	**5.5 D**	**13000 J+ D**	11 J-	270
AOC2627-SB-11 (0.5-1 ft)	8/16/23	6.5	2.8	**10000 J+ D**	8.8 J-	910
AOC2627-SB-11 (1-5 ft)	8/16/23	5.1	3	**8300 J+ D**	5.6 J-	**890 A**
2022 Industrial NMED SSL (B b)		504.6	83360	908400	800	160200
2022 Construction Worker NMED SSL (A a)		468.3	721.8	247800	800	463.8
2022 Residential NMED SSL (C c)		96.6	17180	54750	400	10550
2022 NMED SL-SSL (D d)		205000	5.4	6960	270	2630

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
D - Exceedance of 2022 NMED SL-SSL
d - Non-detect exceedance of 2022 NMED SL-SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
J- - Estimated concentration, possibly biased low
NA - not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
R - Rejected, data not usable
SL - Soil Leachate
SSL - Soil Screening Level
UJ - Estimated reporting limit

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TABLE 3-1C. METAL SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Mercury, Total (mg/kg)	Nickel, Total (mg/kg)	Selenium, Total (mg/kg)	Silver, Total (mg/kg)	Vanadium, Total (mg/kg)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.074)	8.6 J-	1.7	ND(0.51)	12
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(0.072)	9.4 J-	1.9	ND(0.5)	16
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.075)	15 J-	2.4	ND(0.52)	13
AOC2627-SB-07 (11-12 ft)	8/15/23	0.15	7.8 J-	2.1	ND(0.98)	10
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.078)	11 J-	1.5	ND(0.48)	8.7 J
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.075)	15 J+	2.6	ND(0.97)	45 J
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(0.07)	5.6 J-	1.6	ND(0.49)	16
AOC2627-SB-08 (0.5-1 ft)	8/15/23	0.49	12 J-	1.3	ND(0.52)	18
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.074)	5.7 J-	1.6	ND(1)	14
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.077)	5.4 J-	2.4	ND(0.99)	22
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.074)	6	1	ND(0.48)	12
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.071)	5.7	1.1	ND(1)	15
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.07)	3.3	1.3	ND(1)	12
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(0.075)	11	1.4	ND(0.96)	16
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.07)	11	1.9	ND(0.51)	15
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.07)	11	2.9 J-	ND(0.52)	15
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.069)	12	1.9 J-	ND(0.49)	13
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(0.069)	6.7	2 J-	ND(0.97)	17
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(0.069)	5.1	1.6 J-	ND(1)	43
2022 Industrial NMED SSL (B b)		NA	2886000	6489	6489	6525
2022 Construction Worker NMED SSL (A a)		NA	24980	1753	1770	614.1
2022 Residential NMED SSL (C c)		22.8	594600	391.1	391.1	393.9
2022 NMED SL-SSL (D d)		NA	485	10.2	13.8	1260

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
D - Exceedance of 2022 NMED SL-SSL
d - Non-detect exceedance of 2022 NMED SL-SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
J- - Estimated concentration, possibly biased low
NA - not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
R - Rejected, data not usable
SL - Soil Leachate
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TABLE 3-1C. METAL SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Zinc, Total (mg/kg)
AOC2627-SB-06 (10-15 ft)	8/15/23	11 J+
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	12 J+
AOC2627-SB-06 (17-18 ft)	8/15/23	25 J+
AOC2627-SB-07 (11-12 ft)	8/15/23	14 J+
AOC2627-SB-07 (17-18 ft)	8/15/23	26 J+
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	16 J-
AOC2627-SB-07 (5-10 ft)	8/15/23	10 J+
AOC2627-SB-08 (0.5-1 ft)	8/15/23	33 J+
AOC2627-SB-08 (13-14 ft)	8/15/23	10 J+
AOC2627-SB-08 (5-10 ft)	8/15/23	8.8 J+
AOC2627-SB-09 (0.5-1 ft)	8/16/23	53
AOC2627-SB-09 (10-15 ft)	8/16/23	9.6
AOC2627-SB-09 (15-20 ft)	8/16/23	8.6
AOC2627-SB-10 (0.5-1 ft)	8/16/23	86
AOC2627-SB-10 (15-20 ft)	8/16/23	16
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	16 J+
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	15 J+
AOC2627-SB-11 (0.5-1 ft)	8/16/23	11 J+
AOC2627-SB-11 (1-5 ft)	8/16/23	14 J+
2022 Industrial NMED SSL (B b)		389300
2022 Construction Worker NMED SSL (A a)		106200
2022 Residential NMED SSL (C c)		23460
2022 NMED SL-SSL (D d)		7410

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
D - Exceedance of 2022 NMED SL-SSL
d - Non-detect exceedance of 2022 NMED SL-SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
J- - Estimated concentration, possibly biased low
NA - not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
R - Rejected, data not usable
SL - Soil Leachate
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TABLE 3-1C. METAL SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Antimony, Total (mg/kg)	Arsenic, Total (mg/kg)	Barium, Total (mg/kg)	Beryllium, Total (mg/kg)	Cadmium, Total (mg/kg)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(0.51) UJ	0.94 J	180	1.2	ND(0.51)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(0.5) UJ	1.1	230	1	ND(0.5)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(1) UJ	1.9	570	0.74	ND(0.2)
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.97)	0.88 J	1400	0.99	ND(0.19)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.5) UJ	1.5	400	0.92	ND(0.2)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(1) UJ	1.7	710	0.7 J	ND(1.3)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(1) UJ	2.3	870	0.51	ND(0.5)
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(0.96) UJ	2.8	810	0.57	ND(0.48)
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(1) UJ	0.93 J	140 J	1	ND(0.5)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.49) UJ	0.96	270 J	1.2	ND(0.49)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(0.52) UJ	2.4	710	0.54	ND(0.52)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(0.51) UJ	1	210	0.85	ND(0.51)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(0.52) UJ	2.6	2100	0.6	ND(0.52)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.48) UJ	0.83	260	1	ND(0.48)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(0.52)	2.1	700	0.83	ND(0.21)
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(1.1) UJ	3.3	1600	0.55	ND(0.53)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.98)	1.4	170	1.2	ND(0.2)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(0.49) UJ	2.8	210	0.68	ND(0.49)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.52) UJ	1.1	410	1.2	ND(0.52)
2022 Industrial NMED SSL (B b)		519.1	35.88	254700	312600	416800
2022 Construction Worker NMED SSL (A a)		141.6	215.6	4392	2707	3609
2022 Residential NMED SSL (C c)		31.29	7.075	15560	64410	85880
2022 NMED SL-SSL (D d)		6.56	5.83	2700	196	9.39

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
D - Exceedance of 2022 NMED SL-SSL
d - Non-detect exceedance of 2022 NMED SL-SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
J- - Estimated concentration, possibly biased low
NA - not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
R - Rejected, data not usable
SL - Soil Leachate
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TABLE 3-1C. METAL SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Chromium, Total (mg/kg)	Cobalt, Total (mg/kg)	Iron, Total (mg/kg)	Lead, Total (mg/kg)	Manganese, Total (mg/kg)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	9.1	5.1	**13000 J+ D**	10 J-	260
AOC2627-SB-11 (19-20 ft)	8/16/23	6.8	4.1	**12000 J+ D**	9.1 J-	280
AOC2627-SB-12 (0.5-1 ft)	8/15/23	22	**5.4 D**	**12000 J+ D**	14 J+	570 J+
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	12	5.3	**17000 D**	12	1700
AOC2627-SB-12 (5-10 ft)	8/15/23	7.2	4	**13000 J+ D**	10 J+	280 J+
AOC2627-SB-13 (0.5-1 ft)	8/16/23	15	3.2	**9000 J+ D**	10 J-	860
AOC2627-SB-13 (10-15 ft)	8/16/23	4.6	2.7	**7500 J+ D**	6.8 J-	1300
AOC2627-SB-13 (14-15 ft)	8/16/23	3.8	3.9	**9300 J+ D**	6.9 J-	1700
AOC2627-SB-13 (24-25 ft)	8/16/23	8.7	4.4	**12000 J+ D**	9.2 J-	260
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	11	5.1	**16000 J+ D**	10 J-	370
AOC2627-SB-14 (0.5-1 ft)	8/16/23	12	2.7	**8200 J+ D**	8.6	700
AOC2627-SB-14 (24-25 ft)	8/16/23	7.1	3.6	**12000 J+ D**	9.4	170
AOC2627-SB-14 (25-28 ft)	8/16/23	5	2.7	**9200 J+ D**	8.5	1900
AOC2627-SB-14 (27-28 ft)	8/16/23	8.9	4.1	**14000 J+ D**	11	380
AOC2627-SB-15 (0.5-1 ft)	8/15/23	25 J-	5	**15000 J+ D**	13 J+	540
AOC2627-SB-15 (10-15 ft)	8/15/23	4.2	3.3	**10000 J+ D**	8.2 J-	2000
AOC2627-SB-15 (18-19 ft)	8/15/23	12 J-	4.6	**20000 J+ D**	12 J+	1700
AOC2627-SB-16 (0.5-1 ft)	8/16/23	30	**6.2 D**	**12000 J+ D**	8.1	250
AOC2627-SB-16 (10-15 ft)	8/16/23	9.7	4.3	**15000 J+ D**	11	180 J
2022 Industrial NMED SSL (B b)		504.6	83360	908400	800	160200
2022 Construction Worker NMED SSL (A a)		468.3	721.8	247800	800	463.8
2022 Residential NMED SSL (C c)		96.6	17180	54750	400	10550
2022 NMED SL-SSL (D d)		205000	5.4	6960	270	2630

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
D - Exceedance of 2022 NMED SL-SSL
d - Non-detect exceedance of 2022 NMED SL-SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
J- - Estimated concentration, possibly biased low
NA - not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
R - Rejected, data not usable
SL - Soil Leachate
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TABLE 3-1C. METAL SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Mercury, Total (mg/kg)	Nickel, Total (mg/kg)	Selenium, Total (mg/kg)	Silver, Total (mg/kg)	Vanadium, Total (mg/kg)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(0.072)	10	1.5 J-	ND(1)	14
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(0.072)	7.7	1.4 J-	ND(0.5)	14
AOC2627-SB-12 (0.5-1 ft)	8/15/23	0.19	28 J-	1.9	ND(1)	21
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.074)	15 J+	2.5	ND(0.97)	49
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.075)	9.2 J-	1.7	ND(0.5)	16
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(0.069)	11	1.7 J-	ND(1)	16
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(0.073)	4.7	1.2 J-	ND(1)	18
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(0.07)	7.9	3.3 J-	ND(0.96)	16
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.072)	10	1.4 J-	ND(1)	13
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.07)	12	3 J-	ND(0.49)	17
AOC2627-SB-14 (0.5-1 ft)	8/16/23	0.19	7	2.4	ND(0.52)	29 J+
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(0.074)	7.6	1.5	ND(0.51)	15 J+
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(0.073)	6.8	2.4	ND(0.52)	25 J+
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.072)	9.9	1.5	ND(0.48)	16 J+
AOC2627-SB-15 (0.5-1 ft)	8/15/23	0.18	11	0.39	ND(0.52)	22
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.07)	6.7	5.1 J-	ND(1.1)	19
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.069)	14	2.4 J-	ND(0.98)	45
AOC2627-SB-16 (0.5-1 ft)	8/16/23	0.15	39	1.8	ND(0.49)	24 J+
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.071)	10	2.2	ND(0.52)	15 J+
2022 Industrial NMED SSL (B b)		NA	2886000	6489	6489	6525
2022 Construction Worker NMED SSL (A a)		NA	24980	1753	1770	614.1
2022 Residential NMED SSL (C c)		22.8	594600	391.1	391.1	393.9
2022 NMED SL-SSL (D d)		NA	485	10.2	13.8	1260

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
D - Exceedance of 2022 NMED SL-SSL
d - Non-detect exceedance of 2022 NMED SL-SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
J- - Estimated concentration, possibly biased low
NA - not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
R - Rejected, data not usable
SL - Soil Leachate
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TABLE 3-1C. METAL SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Zinc, Total (mg/kg)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	14 J+
AOC2627-SB-11 (19-20 ft)	8/16/23	12 J+
AOC2627-SB-12 (0.5-1 ft)	8/15/23	42 J+
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	15 J-
AOC2627-SB-12 (5-10 ft)	8/15/23	12 J+
AOC2627-SB-13 (0.5-1 ft)	8/16/23	30 J+
AOC2627-SB-13 (10-15 ft)	8/16/23	12 J+
AOC2627-SB-13 (14-15 ft)	8/16/23	12 J+
AOC2627-SB-13 (24-25 ft)	8/16/23	14 J+
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	19 J+
AOC2627-SB-14 (0.5-1 ft)	8/16/23	21 J+
AOC2627-SB-14 (24-25 ft)	8/16/23	13 J+
AOC2627-SB-14 (25-28 ft)	8/16/23	10 J+
AOC2627-SB-14 (27-28 ft)	8/16/23	13 J+
AOC2627-SB-15 (0.5-1 ft)	8/15/23	73 J
AOC2627-SB-15 (10-15 ft)	8/15/23	11 J+
AOC2627-SB-15 (18-19 ft)	8/15/23	23 J
AOC2627-SB-16 (0.5-1 ft)	8/16/23	44 J+
AOC2627-SB-16 (10-15 ft)	8/16/23	14 J+
2022 Industrial NMED SSL (B b)		389300
2022 Construction Worker NMED SSL (A a)		106200
2022 Residential NMED SSL (C c)		23460
2022 NMED SL-SSL (D d)		7410

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
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c - Non-detect exceedance of 2022 Residential NMED SSL
D - Exceedance of 2022 NMED SL-SSL
d - Non-detect exceedance of 2022 NMED SL-SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
J- - Estimated concentration, possibly biased low
NA - not applicable
ND(X) - Not detected at the reporting limit X
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TABLE 3-1C. METAL SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Antimony, Total (mg/kg)	Arsenic, Total (mg/kg)	Barium, Total (mg/kg)	Beryllium, Total (mg/kg)	Cadmium, Total (mg/kg)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.97) UJ	1.9	260	1.1	ND(0.49)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.49) UJ	1.2	390	1.1	ND(0.49)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.49) UJ	0.89	170	0.79	ND(0.49)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.51) UJ	1.1	870 J	1	ND(0.51)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(1) UJ	0.9 J	120 J	1	ND(0.5)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.5) UJ	1.2	92	0.68	ND(0.5)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(0.51) UJ	1.7	710	0.49	ND(0.2)
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.48) UJ	0.67	700	0.92	ND(0.19)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.98)	0.86 J	450	1.1	ND(0.2)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.51) UJ	0.9	210	0.9	ND(0.2)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(0.5)	2.3	590	0.73	ND(0.2)
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.5) UJ	0.88	120	0.83	ND(0.2)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.52) UJ	0.94	260	0.84	ND(0.21)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(0.52)	1.8	680	0.6	ND(0.21)
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.49)	0.81	330	0.95	ND(0.2)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.51)	1.3	440	0.89	ND(0.2)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.5)	**6.4 D**	170	0.83	ND(0.2)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(0.48)	2.8	470	0.39	ND(0.19)
AOC2627-SB-22 (0.5-1 ft)	8/15/23	3.3	3.5	430	0.44	ND(0.2)
2022 Industrial NMED SSL (B b)		519.1	35.88	254700	312600	416800
2022 Construction Worker NMED SSL (A a)		141.6	215.6	4392	2707	3609
2022 Residential NMED SSL (C c)		31.29	7.075	15560	64410	85880
2022 NMED SL-SSL (D d)		6.56	5.83	2700	196	9.39

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
D - Exceedance of 2022 NMED SL-SSL
d - Non-detect exceedance of 2022 NMED SL-SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
J- - Estimated concentration, possibly biased low
NA - not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
R - Rejected, data not usable
SL - Soil Leachate
SSL - Soil Screening Level
UJ - Estimated reporting limit

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TABLE 3-1C. METAL SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Chromium, Total (mg/kg)	Cobalt, Total (mg/kg)	Iron, Total (mg/kg)	Lead, Total (mg/kg)	Manganese, Total (mg/kg)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	9.4	4.3	**15000 J+ D**	13 J-	340 J
AOC2627-SB-16 (14-15 ft)	8/16/23	9.4	4.2	**14000 J+ D**	11	210
AOC2627-SB-17 (14-15 ft)	8/16/23	5.8	3.1	**9700 J+ D**	8.3	260
AOC2627-SB-17 (15-20 ft)	8/16/23	7.1	3.8	**12000 J+ D**	11	300
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	8.1	4.2	**13000 J+ D**	8.9 J-	320
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	8	3.7	**11000 J+ D**	8	190
AOC2627-SB-18 (0.5-1 ft)	8/15/23	8.2	2.6	**7600 J+ D**	9.2 J+	440 J+
AOC2627-SB-18 (10-11 ft)	8/15/23	9	4.5	**9900 J+ D**	7.6 J+	1400 J+
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	13	**6.1 D**	**15000 D**	10	940
AOC2627-SB-18 (18-19 ft)	8/15/23	8.2	3	**16000 J+ D**	9.2 J+	670 J+
AOC2627-SB-19 (0.5-1 ft)	8/15/23	16	4	**11000 J+ D**	14 J+	430 J+
AOC2627-SB-19 (10-11 ft)	8/15/23	7.3	4	**11000 J+ D**	9.1 J+	670 J+
AOC2627-SB-19 (13-14 ft)	8/15/23	7.8	4.4	**11000 J+ D**	11 J+	1700 J+
AOC2627-SB-20 (0.5-1 ft)	8/15/23	10	3.2	**9400 D**	13 J+	690 J+
AOC2627-SB-20 (10-11 ft)	8/15/23	9.4	4	**17000 D**	11 J+	660 J+
AOC2627-SB-20 (20-21 ft)	8/15/23	8.2	4	**14000 D**	8.9 J+	830 J+
AOC2627-SB-21 (5-6 ft)	8/15/23	5.4	**9.6 D**	**9900 D**	24 J+	**960 J+ A**
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	2.7	2.6	6400	9.5 J+	**3900 J+ AD**
AOC2627-SB-22 (0.5-1 ft)	8/15/23	9	3.1	**7500 D**	22 J+	310 J+
2022 Industrial NMED SSL (B b)		504.6	83360	908400	800	160200
2022 Construction Worker NMED SSL (A a)		468.3	721.8	247800	800	463.8
2022 Residential NMED SSL (C c)		96.6	17180	54750	400	10550
2022 NMED SL-SSL (D d)		205000	5.4	6960	270	2630

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
D - Exceedance of 2022 NMED SL-SSL
d - Non-detect exceedance of 2022 NMED SL-SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
J- - Estimated concentration, possibly biased low
NA - not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
R - Rejected, data not usable
SL - Soil Leachate
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TABLE 3-1C. METAL SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Mercury, Total (mg/kg)	Nickel, Total (mg/kg)	Selenium, Total (mg/kg)	Silver, Total (mg/kg)	Vanadium, Total (mg/kg)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.073)	9.7	1.2 J-	ND(0.97)	21
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.071)	9.6	2.6	ND(0.49)	14 J+
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.074)	6.9	1.4	ND(0.49)	11 J+
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.069)	8.8	1.8	ND(0.51)	13 J+
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.071)	9	1.4 J-	ND(1)	14
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.072)	8.5	1.7	ND(0.5)	16 J+
AOC2627-SB-18 (0.5-1 ft)	8/15/23	0.087	8.6 J-	1.4	ND(0.51)	15
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.072)	14 J-	2.3	ND(0.48)	11 J
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.071)	15 J+	2.5	ND(0.98)	31 J
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.073)	12 J-	2	ND(0.51)	6.3
AOC2627-SB-19 (0.5-1 ft)	8/15/23	0.083	25 J-	1.6	ND(0.5)	19
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.069)	9.1 J-	2	ND(0.5)	13
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.069)	11 J-	2.3	ND(0.52)	16
AOC2627-SB-20 (0.5-1 ft)	8/15/23	0.097	11 J+	1.8	ND(0.52)	17 J+
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.072)	13 J+	1.4	ND(0.49)	10 J+
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.068)	13 J+	1.8	ND(0.51)	5.4 J+
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.075)	9.7 J+	2.5	ND(0.5)	15 J+
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(0.07)	4.9 J+	7.7	ND(0.48)	8.8 J+
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(0.075)	24 J+	1.1	ND(0.49)	20 J+
2022 Industrial NMED SSL (B b)		NA	2886000	6489	6489	6525
2022 Construction Worker NMED SSL (A a)		NA	24980	1753	1770	614.1
2022 Residential NMED SSL (C c)		22.8	594600	391.1	391.1	393.9
2022 NMED SL-SSL (D d)		NA	485	10.2	13.8	1260

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
D - Exceedance of 2022 NMED SL-SSL
d - Non-detect exceedance of 2022 NMED SL-SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
J- - Estimated concentration, possibly biased low
NA - not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
R - Rejected, data not usable
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TABLE 3-1C. METAL SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Zinc, Total (mg/kg)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	14 J+
AOC2627-SB-16 (14-15 ft)	8/16/23	13 J+
AOC2627-SB-17 (14-15 ft)	8/16/23	11 J+
AOC2627-SB-17 (15-20 ft)	8/16/23	14 J+
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	14 J+
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	16 J+
AOC2627-SB-18 (0.5-1 ft)	8/15/23	20 J+
AOC2627-SB-18 (10-11 ft)	8/15/23	14 J+
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	17 J-
AOC2627-SB-18 (18-19 ft)	8/15/23	11 J+
AOC2627-SB-19 (0.5-1 ft)	8/15/23	66 J+
AOC2627-SB-19 (10-11 ft)	8/15/23	13 J+
AOC2627-SB-19 (13-14 ft)	8/15/23	12 J+
AOC2627-SB-20 (0.5-1 ft)	8/15/23	38 J+
AOC2627-SB-20 (10-11 ft)	8/15/23	12 J+
AOC2627-SB-20 (20-21 ft)	8/15/23	11 J+
AOC2627-SB-21 (5-6 ft)	8/15/23	18 J+
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	5.3 J+
AOC2627-SB-22 (0.5-1 ft)	8/15/23	160 J+
2022 Industrial NMED SSL (B b)		389300
2022 Construction Worker NMED SSL (A a)		106200
2022 Residential NMED SSL (C c)		23460
2022 NMED SL-SSL (D d)		7410

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
D - Exceedance of 2022 NMED SL-SSL
d - Non-detect exceedance of 2022 NMED SL-SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
J- - Estimated concentration, possibly biased low
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TABLE 3-1C. METAL SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS

AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Antimony, Total (mg/kg)	Arsenic, Total (mg/kg)	Barium, Total (mg/kg)	Beryllium, Total (mg/kg)	Cadmium, Total (mg/kg)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.49)	0.6	93 J	1.2	ND(0.2)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(1)	2.1	1100 J	0.65	ND(0.21)
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.5)	1.3	1400	0.58	ND(0.2)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.48)	1.1	140	0.91	ND(0.19)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(0.52)	4	110	0.46	ND(0.21)
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(0.48)	3.3	430	0.89	ND(0.19)
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(0.51)	1.7	420	0.35	ND(0.2)
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.48)	1.5	430	0.74	ND(0.19)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.5)	0.84	210	1.5	ND(0.2)
2022 Industrial NMED SSL (B b)		519.1	35.88	254700	312600	416800
2022 Construction Worker NMED SSL (A a)		141.6	215.6	4392	2707	3609
2022 Residential NMED SSL (C c)		31.29	7.075	15560	64410	85880
2022 NMED SL-SSL (D d)		6.56	5.83	2700	196	9.39

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
D - Exceedance of 2022 NMED SL-SSL
d - Non-detect exceedance of 2022 NMED SL-SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
J- - Estimated concentration, possibly biased low
NA - not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
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TABLE 3-1C. METAL SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Chromium, Total (mg/kg)	Cobalt, Total (mg/kg)	Iron, Total (mg/kg)	Lead, Total (mg/kg)	Manganese, Total (mg/kg)
AOC2627-SB-22 (16-17 ft)	8/15/23	10	**6.8 J D**	**14000 D**	12 J+	240 J+
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	6.5 J-	3.4 J	**11000 J+ D**	9.7 J+	920 J
AOC2627-SB-22 (20-24 ft)	8/15/23	5	2.8	**9800 D**	8.5 J+	270 J+
AOC2627-SB-22 (23-24 ft)	8/15/23	9	4.5	**13000 D**	8.2 J+	670 J+
AOC2627-SB-23 (0.5-1 ft)	8/15/23	8.4	2.2	4900	4.5 J+	430 J+
AOC2627-SB-23 (4-5 ft)	8/15/23	35	**5.4 D**	**15000 D**	48 J+	360 J+
AOC2627-SB-24 (0.5-1 ft)	8/15/23	6.8	2	5400	6.9 J+	340 J+
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	5.9	3.1	**9400 D**	9 J+	1100 J+
AOC2627-SB-24 (25-27 ft)	8/15/23	10	**7.4 D**	**21000 D**	15 J+	200 J+
2022 Industrial NMED SSL (B b)		504.6	83360	908400	800	160200
2022 Construction Worker NMED SSL (A a)		468.3	721.8	247800	800	463.8
2022 Residential NMED SSL (C c)		96.6	17180	54750	400	10550
2022 NMED SL-SSL (D d)		205000	5.4	6960	270	2630

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
D - Exceedance of 2022 NMED SL-SSL
d - Non-detect exceedance of 2022 NMED SL-SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
J- - Estimated concentration, possibly biased low
NA - not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
R - Rejected, data not usable
SL - Soil Leachate
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TABLE 3-1C. METAL SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Mercury, Total (mg/kg)	Nickel, Total (mg/kg)	Selenium, Total (mg/kg)	Silver, Total (mg/kg)	Vanadium, Total (mg/kg)
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.074)	15 J+	2	ND(0.49)	18 J+
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	0.09	8.8 J	1.6 J-	ND(1)	23
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.071)	6 J+	0.84	ND(0.5)	15 J+
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.073)	12 J+	1.6	ND(0.48)	7.5 J+
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(0.072)	7.6 J+	0.53	ND(0.52)	15 J+
AOC2627-SB-23 (4-5 ft)	8/15/23	0.21	25 J+	2.1	ND(0.48)	26 J+
AOC2627-SB-24 (0.5-1 ft)	8/15/23	0.086	7.1 J+	0.93	ND(0.51)	13 J+
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.07)	7.9 J+	2	ND(0.48)	12 J+
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.073)	23 J+	2.1	ND(0.5)	30 J+
2022 Industrial NMED SSL (B b)		NA	2886000	6489	6489	6525
2022 Construction Worker NMED SSL (A a)		NA	24980	1753	1770	614.1
2022 Residential NMED SSL (C c)		22.8	594600	391.1	391.1	393.9
2022 NMED SL-SSL (D d)		NA	485	10.2	13.8	1260

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
D - Exceedance of 2022 NMED SL-SSL
d - Non-detect exceedance of 2022 NMED SL-SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
J- - Estimated concentration, possibly biased low
NA - not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
R - Rejected, data not usable
SL - Soil Leachate
SSL - Soil Screening Level
UJ - Estimated reporting limit

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TABLE 3-1C. METAL SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Zinc, Total (mg/kg)
AOC2627-SB-22 (16-17 ft)	8/15/23	23 J+
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	16 J
AOC2627-SB-22 (20-24 ft)	8/15/23	8.6 J+
AOC2627-SB-22 (23-24 ft)	8/15/23	14 J+
AOC2627-SB-23 (0.5-1 ft)	8/15/23	31 J+
AOC2627-SB-23 (4-5 ft)	8/15/23	88 J+
AOC2627-SB-24 (0.5-1 ft)	8/15/23	25 J+
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	9.4 J+
AOC2627-SB-24 (25-27 ft)	8/15/23	30 J+
2022 Industrial NMED SSL (B b)		389300
2022 Construction Worker NMED SSL (A a)		106200
2022 Residential NMED SSL (C c)		23460
2022 NMED SL-SSL (D d)		7410

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
D - Exceedance of 2022 NMED SL-SSL
d - Non-detect exceedance of 2022 NMED SL-SSL
Dup - Blind duplicate
ft - Foot or feet
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
J- - Estimated concentration, possibly biased low
NA - not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
mg/kg - Milligrams per kilogram
R - Rejected, data not usable
SL - Soil Leachate
SSL - Soil Screening Level
UJ - Estimated reporting limit

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Received by OCD: 2/29/2024 3:49:46 PM

TABLE 3-1D. GENERAL CHEMISTRY SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,2-Dibromoethane (mg/kg)	Chloride (mg/kg)	TPH DRO (mg/kg)	TPH GRO (mg/kg)	TPH ORO (mg/kg)
AOC2627-SB-01 (0.5-1 ft)	8/15/23	ND(0.000085)	ND(60)	**4800 BC**	61	330 J
AOC2627-SB-01 (15-16 ft)	8/15/23	ND(0.00009)	ND(60)	230	5.4 J	29 J
AOC2627-SB-01 (18.5-19.5 ft)	8/15/23	ND(0.000096)	ND(60)	280	3 J	30 J
AOC2627-SB-01 (18.5-19.5 ft) Dup	8/15/23	ND(0.000089)	ND(60)	430	ND(6.6)	ND(48)
AOC2627-SB-02 (0.5-1 ft)	8/16/23	ND(0.000098) UJ	130	13	43 J+	41 J
AOC2627-SB-02 (15-20 ft)	8/16/23	ND(0.000098) UJ	ND(60)	360	640 J+	ND(48)
AOC2627-SB-02 (19.7-20.7 ft)	8/16/23	ND(0.000099) UJ	ND(60)	660	420 J+	ND(48)
AOC2627-SB-02 (33.5-34.5 ft)	8/16/23	ND(0.000093) UJ	ND(60)	ND(9.9)	8.2 J+	ND(49)
AOC2627-SB-02 (33.5-34.5 ft) Dup	8/16/23	ND(0.0001)	ND(60)	ND(9.3)	ND(7.6)	ND(47)
AOC2627-SB-03 (0.5-1 ft)	8/16/23	ND(0.000093) UJ	ND(60)	ND(9.3)	ND(3)	ND(46)
AOC2627-SB-03 (15-20 ft)	8/16/23	ND(0.000099) UJ	ND(60)	590	350 J+	ND(46)
AOC2627-SB-03 (18-19 ft)	8/16/23	ND(0.000094) UJ	ND(60)	82	140 J+	ND(49)
AOC2627-SB-03 (29-30 ft)	8/16/23	ND(0.00009) UJ	ND(60)	500	1600	29 J
AOC2627-SB-04 (15-20 ft)	8/16/23	ND(0.000096) UJ	ND(61)	16	57	ND(48)
AOC2627-SB-04 (19.5-20.5 ft)	8/16/23	ND(0.000097) UJ	ND(60)	28	16	ND(48)
AOC2627-SB-04 (24-25 ft)	8/16/23	ND(0.000089) UJ	ND(60)	35	2 J	ND(47)
AOC2627-SB-05 (0.5-1 ft)	8/16/23	ND(0.000089) UJ	220	8	ND(7.1)	50
AOC2627-SB-05 (20-25 ft)	8/16/23	ND(0.000089) UJ	ND(60)	ND(9.3)	4.1 J+	ND(47)
AOC2627-SB-05 (24-25 ft)	8/16/23	ND(0.00009) UJ	ND(60)	18	80 J+	ND(48)
AOC2627-SB-06 (10-15 ft)	8/15/23	ND(0.000098)	150	4800	130 J+	300 J
2022 Industrial NMED SSL (B b)		3.309	58400000	3000	500	3800
2022 Construction Worker NMED SSL (A a)		16.32	15930000	3000	500	5000
2022 Residential NMED SSL (C c)		0.6725	11990000	1000	100	1000

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
DRO - Diesel Range Organics
Dup - Blind duplicate
ft - Foot or feet
GRO - Gasoline Range Organics
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
mg/kg - Milligrams per kilogram
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
ORO - Oil Range Organics
SSL - Soil Screening Level
TPH - Total Petroleum Hydrocarbons
UJ - Estimated reporting limit

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TABLE 3-1D. GENERAL CHEMISTRY SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,2-Dibromoethane (mg/kg)	Chloride (mg/kg)	TPH DRO (mg/kg)	TPH GRO (mg/kg)	TPH ORO (mg/kg)
AOC2627-SB-06 (11.5-12.5 ft)	8/15/23	ND(0.000094)	ND(61)	5800	13 J+	310 J
AOC2627-SB-06 (17-18 ft)	8/15/23	ND(0.000095)	ND(60)	ND(9.6)	4.2 J	ND(48)
AOC2627-SB-07 (11-12 ft)	8/15/23	ND(0.000099)	ND(59)	330	6.1 J	ND(49)
AOC2627-SB-07 (17-18 ft)	8/15/23	ND(0.000097)	120	ND(9.3)	ND(3.4)	ND(47)
AOC2627-SB-07 (17-18 ft) Dup	8/15/23	ND(0.000088)	ND(60)	ND(9.5)	ND(6.8)	ND(47)
AOC2627-SB-07 (5-10 ft)	8/15/23	ND(0.000093)	210	**1400 C**	12 J+	62 J
AOC2627-SB-08 (0.5-1 ft)	8/15/23	ND(0.000096)	180	ND(9.1)	ND(5.7)	78 J
AOC2627-SB-08 (13-14 ft)	8/15/23	ND(0.000086)	ND(60)	ND(9.5)	ND(2.9)	ND(48)
AOC2627-SB-08 (5-10 ft)	8/15/23	ND(0.000099)	ND(60)	ND(9.8)	ND(2.6)	ND(49)
AOC2627-SB-09 (0.5-1 ft)	8/16/23	ND(0.000091) UJ	ND(60)	ND(9.6)	ND(5.9)	ND(48)
AOC2627-SB-09 (10-15 ft)	8/16/23	ND(0.000097) UJ	ND(60)	63	1.7 J	ND(43)
AOC2627-SB-09 (15-20 ft)	8/16/23	ND(0.000089) UJ	ND(60)	460	38	ND(48)
AOC2627-SB-10 (0.5-1 ft)	8/16/23	ND(0.000088) UJ	110	32	ND(7.1)	82
AOC2627-SB-10 (15-20 ft)	8/16/23	ND(0.000091) UJ	160	ND(9.9)	ND(5)	ND(49)
AOC2627-SB-10 (15-20 ft) Dup	8/16/23	ND(0.000097)	130	ND(9.8)	5.1	ND(49)
AOC2627-SB-10 (23.5-24.5 ft)	8/16/23	ND(0.000094) UJ	140	ND(9.6)	ND(6.4)	ND(48)
AOC2627-SB-11 (0.5-1 ft)	8/16/23	ND(0.000093) UJ	220	ND(9.3)	ND(7.1)	ND(47)
AOC2627-SB-11 (1-5 ft)	8/16/23	ND(0.000089) UJ	170	ND(9.3)	ND(5.5)	ND(47)
AOC2627-SB-11 (17.5-18.5 ft)	8/16/23	ND(0.000088) UJ	ND(60)	770	84	ND(490)
AOC2627-SB-11 (19-20 ft)	8/16/23	ND(0.00009) UJ	ND(60)	510	73	ND(490)
2022 Industrial NMED SSL (B b)		3.309	58400000	3000	500	3800
2022 Construction Worker NMED SSL (A a)		16.32	15930000	3000	500	5000
2022 Residential NMED SSL (C c)		0.6725	11990000	1000	100	1000

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
DRO - Diesel Range Organics
Dup - Blind duplicate
ft - Foot or feet
GRO - Gasoline Range Organics
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
mg/kg - Milligrams per kilogram
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
ORO - Oil Range Organics
SSL - Soil Screening Level
TPH - Total Petroleum Hydrocarbons
UJ - Estimated reporting limit

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TABLE 3-1D. GENERAL CHEMISTRY SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,2-Dibromoethane (mg/kg)	Chloride (mg/kg)	TPH DRO (mg/kg)	TPH GRO (mg/kg)	TPH ORO (mg/kg)
AOC2627-SB-12 (0.5-1 ft)	8/15/23	ND(0.00009)	ND(60)	ND(10)	ND(3.3)	84 J
AOC2627-SB-12 (23.5-24.5 ft)	8/15/23	ND(0.000093) UJ	ND(59)	ND(9.4)	ND(7.6)	ND(47)
AOC2627-SB-12 (5-10 ft)	8/15/23	ND(0.000086)	ND(60)	ND(9.8)	ND(5.3)	ND(49)
AOC2627-SB-13 (0.5-1 ft)	8/16/23	ND(0.000091) UJ	120	ND(9.4)	ND(6.1)	ND(47)
AOC2627-SB-13 (10-15 ft)	8/16/23	ND(0.000099) UJ	ND(60)	820	200 J+	3400
AOC2627-SB-13 (14-15 ft)	8/16/23	ND(0.000099) UJ	ND(60)	1000	160 J+	4000
AOC2627-SB-13 (24-25 ft)	8/16/23	ND(0.000099) UJ	ND(60)	ND(9.5)	ND(5.3)	ND(48)
AOC2627-SB-13 (24-25 ft) Dup	8/16/23	ND(0.00009)	ND(61)	ND(9.2)	ND(4.5)	ND(46)
AOC2627-SB-14 (0.5-1 ft)	8/16/23	ND(0.00009) UJ	ND(60)	23	ND(7.4)	ND(48)
AOC2627-SB-14 (24-25 ft)	8/16/23	ND(0.000093) UJ	ND(60)	390	4.9 J+	ND(460)
AOC2627-SB-14 (25-28 ft)	8/16/23	ND(0.000088) UJ	ND(60)	2300	590 J+	ND(480)
AOC2627-SB-14 (27-28 ft)	8/16/23	ND(0.00009) UJ	ND(60)	170	3.5 J+	ND(49)
AOC2627-SB-15 (0.5-1 ft)	8/15/23	ND(0.000092)	ND(61)	17	ND(5.9)	83 J
AOC2627-SB-15 (10-15 ft)	8/15/23	ND(0.000096)	ND(60)	730	110 J+	ND(49)
AOC2627-SB-15 (18-19 ft)	8/15/23	ND(0.000087)	ND(60)	10	ND(7.5)	ND(46)
AOC2627-SB-16 (0.5-1 ft)	8/16/23	ND(0.000096) UJ	ND(60)	140	20 J+	ND(460)
AOC2627-SB-16 (10-15 ft)	8/16/23	ND(0.000097) UJ	ND(60)	97 J	92 J+	ND(49)
AOC2627-SB-16 (10-15 ft) Dup	8/16/23	ND(0.000094) UJ	ND(60)	25 J	ND(6.7) UJ	ND(48)
AOC2627-SB-16 (14-15 ft)	8/16/23	ND(0.000091) UJ	ND(60)	240	10 J+	ND(48)
AOC2627-SB-17 (14-15 ft)	8/16/23	ND(0.000088) UJ	ND(60)	ND(9.2)	ND(6.7)	ND(46)
2022 Industrial NMED SSL (B b)		3.309	58400000	3000	500	3800
2022 Construction Worker NMED SSL (A a)		16.32	15930000	3000	500	5000
2022 Residential NMED SSL (C c)		0.6725	11990000	1000	100	1000

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
DRO - Diesel Range Organics
Dup - Blind duplicate
ft - Foot or feet
GRO - Gasoline Range Organics
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
mg/kg - Milligrams per kilogram
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
ORO - Oil Range Organics
SSL - Soil Screening Level
TPH - Total Petroleum Hydrocarbons
UJ - Estimated reporting limit

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TABLE 3-1D. GENERAL CHEMISTRY SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,2-Dibromoethane (mg/kg)	Chloride (mg/kg)	TPH DRO (mg/kg)	TPH GRO (mg/kg)	TPH ORO (mg/kg)
AOC2627-SB-17 (15-20 ft)	8/16/23	ND(0.000095) UJ	ND(60)	ND(9.4)	ND(5.3)	ND(47)
AOC2627-SB-17 (15-20 ft) Dup	8/16/23	ND(0.00009)	ND(60)	ND(9.2)	ND(5.2)	ND(46)
AOC2627-SB-17 (22.5-23.5 ft)	8/16/23	ND(0.000096) UJ	ND(60)	ND(9.8)	ND(4.7)	ND(49)
AOC2627-SB-18 (0.5-1 ft)	8/15/23	ND(0.000091)	140	9.8	ND(2.4)	91 J
AOC2627-SB-18 (10-11 ft)	8/15/23	ND(0.000094)	ND(60)	ND(9.7)	ND(2.9)	ND(48)
AOC2627-SB-18 (10-11 ft) Dup	8/15/23	ND(0.000093)	ND(60)	ND(9.1)	ND(3.2)	ND(46)
AOC2627-SB-18 (18-19 ft)	8/15/23	ND(0.000099)	ND(60)	ND(9.9)	ND(3)	ND(49)
AOC2627-SB-19 (0.5-1 ft)	8/15/23	ND(0.000094)	130	ND(9.5)	ND(5.4)	80 J
AOC2627-SB-19 (10-11 ft)	8/15/23	ND(0.000094)	ND(60)	11	ND(2.7)	ND(48)
AOC2627-SB-19 (13-14 ft)	8/15/23	ND(0.000097)	ND(60)	ND(9.2)	ND(2.4)	ND(46)
AOC2627-SB-20 (0.5-1 ft)	8/15/23	ND(0.000098)	180	ND(9.9)	ND(4.8)	42 J
AOC2627-SB-20 (10-11 ft)	8/15/23	ND(0.000092)	ND(60)	ND(9.8)	ND(12)	ND(49)
AOC2627-SB-20 (20-21 ft)	8/15/23	ND(0.000098)	ND(60)	ND(9.1)	ND(7)	ND(46)
AOC2627-SB-21 (5-6 ft)	8/15/23	ND(0.000099)	ND(60)	ND(9.4)	ND(6.4)	ND(47)
AOC2627-SB-21 (8.5-9.5 ft)	8/15/23	ND(0.000097)	ND(60)	ND(9.3)	ND(6.8)	35 J
AOC2627-SB-22 (0.5-1 ft)	8/15/23	ND(0.000099)	1100	100	1.8 J	170
AOC2627-SB-22 (16-17 ft)	8/15/23	ND(0.0001)	ND(60)	ND(9.6)	ND(7.3)	ND(48)
AOC2627-SB-22 (16-17 ft) Dup	8/15/23	ND(0.000094)	65	14	ND(2.9)	59
AOC2627-SB-22 (20-24 ft)	8/15/23	ND(0.000091)	ND(60)	16	ND(5.5)	ND(49)
AOC2627-SB-22 (23-24 ft)	8/15/23	ND(0.000095)	ND(60)	11	ND(5.2)	ND(46)
2022 Industrial NMED SSL (B b)		3.309	58400000	3000	500	3800
2022 Construction Worker NMED SSL (A a)		16.32	15930000	3000	500	5000
2022 Residential NMED SSL (C c)		0.6725	11990000	1000	100	1000

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
DRO - Diesel Range Organics
Dup - Blind duplicate
ft - Foot or feet
GRO - Gasoline Range Organics
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
mg/kg - Milligrams per kilogram
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
ORO - Oil Range Organics
SSL - Soil Screening Level
TPH - Total Petroleum Hydrocarbons
UJ - Estimated reporting limit

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TABLE 3-1D. GENERAL CHEMISTRY SOIL ANALYTICAL RESULTS COMPARED TO NMED SOIL SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	1,2-Dibromoethane (mg/kg)	Chloride (mg/kg)	TPH DRO (mg/kg)	TPH GRO (mg/kg)	TPH ORO (mg/kg)
AOC2627-SB-23 (0.5-1 ft)	8/15/23	ND(0.000096)	190	ND(9.9)	ND(7.8)	79 J
AOC2627-SB-23 (4-5 ft)	8/15/23	ND(0.000098)	100	330	ND(5.3)	180
AOC2627-SB-24 (0.5-1 ft)	8/15/23	ND(0.000092)	ND(60)	22	ND(6.4)	140
AOC2627-SB-24 (19.5-20.5 ft)	8/15/23	ND(0.000098)	ND(60)	ND(9.1)	ND(5.7)	ND(46)
AOC2627-SB-24 (25-27 ft)	8/15/23	ND(0.000095)	ND(59)	ND(9.2)	ND(6.5)	ND(46)
2022 Industrial NMED SSL (B b)		3.309	58400000	3000	500	3800
2022 Construction Worker NMED SSL (A a)		16.32	15930000	3000	500	5000
2022 Residential NMED SSL (C c)		0.6725	11990000	1000	100	1000

Notes:
A - Exceedance of 2022 Construction NMED SSL.
a - Non-detect exceedance of 2022 Construction NMED SSL
B - Exceedance of 2022 Industrial NMED SSL.
b - Non-detect exceedance of 2022 Industrial NMED SSL
C - Exceedance of 2022 Residential NMED SSL.
c - Non-detect exceedance of 2022 Residential NMED SSL
DRO - Diesel Range Organics
Dup - Blind duplicate
ft - Foot or feet
GRO - Gasoline Range Organics
J - Estimated concentration
J+ - Estimated concentration, possibly biased high
mg/kg - Milligrams per kilogram
NA - Not applicable
ND(X) - Not detected at the reporting limit X
NMED - New Mexico Environment Department
ORO - Oil Range Organics
SSL - Soil Screening Level
TPH - Total Petroleum Hydrocarbons
UJ - Estimated reporting limit

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TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-01 (0.5-1 ft)	Naphthalene	**2.3**	0.0583	39.45
AOC2627-SB-01 (0.5-1 ft)	1-Methylnaphthalene	**9.3**	0.893	10.41
AOC2627-SB-01 (0.5-1 ft)	2-Methylnaphthalene	**12**	2.76	4.35
AOC2627-SB-01 (0.5-1 ft)	N-Nitrosodimethylamine	**ND(2.9)**	0.0000204	142156.86
AOC2627-SB-01 (0.5-1 ft)	1,2,3-Trichloropropane	**ND(1)**	0.0000582	17182.13
AOC2627-SB-01 (0.5-1 ft)	Bis(2-chloroethyl)ether	**ND(2.9)**	0.000605	4793.39
AOC2627-SB-01 (0.5-1 ft)	1,2-Dibromo-3-Chloropropane	**ND(1)**	0.00139	719.42
AOC2627-SB-01 (0.5-1 ft)	1,4-Dioxane	**ND(5.2)**	0.0163	319.02
AOC2627-SB-01 (0.5-1 ft)	2,6-Dinitrotoluene	**ND(2.9)**	0.0102	284.31
AOC2627-SB-01 (0.5-1 ft)	Nitrobenzene	**ND(2.9)**	0.0144	201.39
AOC2627-SB-01 (0.5-1 ft)	1,1,2,2-Tetrachloroethane	**ND(0.52)**	0.00481	108.11
AOC2627-SB-01 (0.5-1 ft)	Bromodichloromethane	**ND(0.52)**	0.00621	83.74
AOC2627-SB-01 (0.5-1 ft)	Hexachloroethane	**ND(2.4)**	0.032	75.00
AOC2627-SB-01 (0.5-1 ft)	Dibromochloromethane	**ND(0.52)**	0.00755	68.87
AOC2627-SB-01 (0.5-1 ft)	Bromomethane	**ND(2.1)**	0.0343	61.22
AOC2627-SB-01 (0.5-1 ft)	2,4-Dinitrotoluene	**ND(2.9)**	0.0492	58.94
AOC2627-SB-01 (0.5-1 ft)	Hexachlorobutadiene	**ND(2.4)**	0.0413	58.11
AOC2627-SB-01 (0.5-1 ft)	Chloroform	**ND(0.52)**	0.0109	47.71
AOC2627-SB-01 (0.5-1 ft)	Naphthalene	**ND(2.4)**	0.0583	41.17
AOC2627-SB-01 (0.5-1 ft)	Vinyl Chloride	**ND(0.52)**	0.0134	38.81
AOC2627-SB-01 (0.5-1 ft)	Hexachlorobutadiene	**ND(1)**	0.0413	24.21
AOC2627-SB-01 (0.5-1 ft)	3,3-Dichlorobenzidine	**ND(2.9)**	0.124	23.39
AOC2627-SB-01 (0.5-1 ft)	1,2-Dichloroethane	**ND(0.52)**	0.0238	21.85
AOC2627-SB-01 (0.5-1 ft)	1,1,2-Trichloroethane	**ND(0.52)**	0.0268	19.40
AOC2627-SB-01 (0.5-1 ft)	Pentachlorophenol	**ND(2.9)**	0.152	19.08
AOC2627-SB-01 (0.5-1 ft)	1,2-Dichloropropane	**ND(0.52)**	0.0277	18.77
AOC2627-SB-01 (0.5-1 ft)	Chloromethane	**ND(1.6)**	0.0952	16.81
AOC2627-SB-01 (0.5-1 ft)	Trichloroethene	**ND(0.52)**	0.031	16.77
AOC2627-SB-01 (0.5-1 ft)	Dibromomethane	**ND(0.52)**	0.0335	15.52
AOC2627-SB-01 (0.5-1 ft)	1,1,1,2-Tetrachloroethane	**ND(0.52)**	0.036	14.44
AOC2627-SB-01 (0.5-1 ft)	Carbon tetrachloride	**ND(0.52)**	0.0367	14.17
AOC2627-SB-01 (0.5-1 ft)	Hexachlorobenzene	**ND(2.4)**	0.189	12.70
AOC2627-SB-01 (0.5-1 ft)	Benzene	**ND(0.21)**	0.0418	5.02
AOC2627-SB-01 (0.5-1 ft)	2,4-Dinitrophenol	**ND(2.9)**	0.669	4.33
AOC2627-SB-01 (0.5-1 ft)	1,1-Dichloroethane	**ND(0.52)**	0.136	3.82
AOC2627-SB-01 (0.5-1 ft)	Benzo(a)anthracene	**ND(2.4)**	0.637	3.77
AOC2627-SB-01 (0.5-1 ft)	2,4,6-Trichlorophenol	**ND(2.4)**	0.674	3.56
AOC2627-SB-01 (0.5-1 ft)	Bromoform	**ND(0.52)**	0.147	3.54

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-01 (0.5-1 ft)	2,4-Dichlorophenol	**ND(2.9)**	0.825	3.52
AOC2627-SB-01 (0.5-1 ft)	Methylene Chloride	**ND(1.6)**	0.471	3.40
AOC2627-SB-01 (0.5-1 ft)	1,4-Dichlorobenzene	**ND(2.4)**	1.12	2.14
AOC2627-SB-01 (0.5-1 ft)	2-Chlorophenol	**ND(2.4)**	1.15	2.09
AOC2627-SB-01 (0.5-1 ft)	Tetrachloroethene	**ND(0.52)**	0.321	1.62
AOC2627-SB-01 (0.5-1 ft)	1,2-Dibromoethane	**ND(520)**	0.352	1.48
AOC2627-SB-01 (0.5-1 ft)	cis-1,2-Dichloroethene	**ND(0.52)**	0.352	1.48
AOC2627-SB-01 (0.5-1 ft)	Carbon Disulfide	**ND(5.2)**	4.42	1.18
AOC2627-SB-01 (0.5-1 ft)	4-Methyl-2-Pentanone	**ND(5.2)**	4.8	1.08
AOC2627-SB-01 (0.5-1 ft)	trans-1,2-Dichloroethene	**ND(0.52)**	0.503	1.03
AOC2627-SB-01 (0.5-1 ft)	TPH DRO	**4800**	13.2	363.64
AOC2627-SB-01 (0.5-1 ft)	TPH ORO	**330**	13.2	25.00
AOC2627-SB-01 (0.5-1 ft)	TPH GRO	**61**	4.94	12.35
AOC2627-SB-02 (0.5-1 ft)	Bromodichloromethane	**0.1**	0.00621	16.10
AOC2627-SB-02 (0.5-1 ft)	Benzene	**0.29**	0.0418	6.94
AOC2627-SB-02 (0.5-1 ft)	Iron, Total	**13000**	6960	1.87
AOC2627-SB-02 (0.5-1 ft)	Naphthalene	**0.092**	0.0583	1.58
AOC2627-SB-02 (0.5-1 ft)	N-Nitrosodimethylamine	**ND(2.9)**	0.0000204	142156.86
AOC2627-SB-02 (0.5-1 ft)	Bis(2-chloroethyl)ether	**ND(2.9)**	0.000605	4793.39
AOC2627-SB-02 (0.5-1 ft)	1,2,3-Trichloropropane	**ND(0.25)**	0.0000582	4295.53
AOC2627-SB-02 (0.5-1 ft)	2,6-Dinitrotoluene	**ND(2.9)**	0.0102	284.31
AOC2627-SB-02 (0.5-1 ft)	Nitrobenzene	**ND(2.9)**	0.0144	201.39
AOC2627-SB-02 (0.5-1 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.25)**	0.00139	179.86
AOC2627-SB-02 (0.5-1 ft)	1,4-Dioxane	**ND(1.3)**	0.0163	79.75
AOC2627-SB-02 (0.5-1 ft)	Hexachloroethane	**ND(2.4)**	0.032	75.00
AOC2627-SB-02 (0.5-1 ft)	2,4-Dinitrotoluene	**ND(2.9)**	0.0492	58.94
AOC2627-SB-02 (0.5-1 ft)	Hexachlorobutadiene	**ND(2.4)**	0.0413	58.11
AOC2627-SB-02 (0.5-1 ft)	Naphthalene	**ND(2.4)**	0.0583	41.17
AOC2627-SB-02 (0.5-1 ft)	1,1,2,2-Tetrachloroethane	**ND(0.13)**	0.00481	27.03
AOC2627-SB-02 (0.5-1 ft)	3,3-Dichlorobenzidine	**ND(2.9)**	0.124	23.39
AOC2627-SB-02 (0.5-1 ft)	Pentachlorophenol	**ND(2.9)**	0.152	19.08
AOC2627-SB-02 (0.5-1 ft)	Dibromochloromethane	**ND(0.13)**	0.00755	17.22
AOC2627-SB-02 (0.5-1 ft)	Bromomethane	**ND(0.5)**	0.0343	14.58
AOC2627-SB-02 (0.5-1 ft)	Hexachlorobenzene	**ND(2.4)**	0.189	12.70
AOC2627-SB-02 (0.5-1 ft)	Chloroform	**ND(0.13)**	0.0109	11.93
AOC2627-SB-02 (0.5-1 ft)	Vinyl Chloride	**ND(0.13)**	0.0134	9.70
AOC2627-SB-02 (0.5-1 ft)	Hexachlorobutadiene	**ND(0.25)**	0.0413	6.05
AOC2627-SB-02 (0.5-1 ft)	1,2-Dichloroethane	**ND(0.13)**	0.0238	5.46

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-02 (0.5-1 ft)	1,1,2-Trichloroethane	**ND(0.13)**	0.0268	4.85
AOC2627-SB-02 (0.5-1 ft)	1,2-Dichloropropane	**ND(0.13)**	0.0277	4.69
AOC2627-SB-02 (0.5-1 ft)	2,4-Dinitrophenol	**ND(2.9)**	0.669	4.33
AOC2627-SB-02 (0.5-1 ft)	Trichloroethene	**ND(0.13)**	0.031	4.19
AOC2627-SB-02 (0.5-1 ft)	Chloromethane	**ND(0.38)**	0.0952	3.99
AOC2627-SB-02 (0.5-1 ft)	Dibromomethane	**ND(0.13)**	0.0335	3.88
AOC2627-SB-02 (0.5-1 ft)	Benzo(a)anthracene	**ND(2.4)**	0.637	3.77
AOC2627-SB-02 (0.5-1 ft)	1,1,1,2-Tetrachloroethane	**ND(0.13)**	0.036	3.61
AOC2627-SB-02 (0.5-1 ft)	2,4,6-Trichlorophenol	**ND(2.4)**	0.674	3.56
AOC2627-SB-02 (0.5-1 ft)	Carbon tetrachloride	**ND(0.13)**	0.0367	3.54
AOC2627-SB-02 (0.5-1 ft)	2,4-Dichlorophenol	**ND(2.9)**	0.825	3.52
AOC2627-SB-02 (0.5-1 ft)	1-Methylnaphthalene	**ND(2.4)**	0.893	2.69
AOC2627-SB-02 (0.5-1 ft)	1,4-Dichlorobenzene	**ND(2.4)**	1.12	2.14
AOC2627-SB-02 (0.5-1 ft)	2-Chlorophenol	**ND(2.4)**	1.15	2.09
AOC2627-SB-02 (0.5-1 ft)	TPH GRO	**43**	4.94	8.70
AOC2627-SB-02 (0.5-1 ft)	TPH ORO	**41**	13.2	3.11
AOC2627-SB-02 (0.5-1 ft)	TPH DRO	**13**	13.2	0.98
AOC2627-SB-03 (0.5-1 ft)	Iron, Total	**15000**	6960	2.16
AOC2627-SB-03 (0.5-1 ft)	Cobalt, Total	**6.2**	5.4	1.15
AOC2627-SB-03 (0.5-1 ft)	N-Nitrosodimethylamine	**ND(0.29)**	0.0000204	14215.69
AOC2627-SB-03 (0.5-1 ft)	1,2,3-Trichloropropane	**ND(0.061)**	0.0000582	1048.11
AOC2627-SB-03 (0.5-1 ft)	Bis(2-chloroethyl)ether	**ND(0.29)**	0.000605	479.34
AOC2627-SB-03 (0.5-1 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.061)**	0.00139	43.88
AOC2627-SB-03 (0.5-1 ft)	2,6-Dinitrotoluene	**ND(0.29)**	0.0102	28.43
AOC2627-SB-03 (0.5-1 ft)	Nitrobenzene	**ND(0.29)**	0.0144	20.14
AOC2627-SB-03 (0.5-1 ft)	1,4-Dioxane	**ND(0.3)**	0.0163	18.40
AOC2627-SB-03 (0.5-1 ft)	Hexachloroethane	**ND(0.24)**	0.032	7.50
AOC2627-SB-03 (0.5-1 ft)	1,1,2,2-Tetrachloroethane	**ND(0.03)**	0.00481	6.24
AOC2627-SB-03 (0.5-1 ft)	2,4-Dinitrotoluene	**ND(0.29)**	0.0492	5.89
AOC2627-SB-03 (0.5-1 ft)	Hexachlorobutadiene	**ND(0.24)**	0.0413	5.81
AOC2627-SB-03 (0.5-1 ft)	Bromodichloromethane	**ND(0.03)**	0.00621	4.83
AOC2627-SB-03 (0.5-1 ft)	Naphthalene	**ND(0.24)**	0.0583	4.12
AOC2627-SB-03 (0.5-1 ft)	Dibromochloromethane	**ND(0.03)**	0.00755	3.97
AOC2627-SB-03 (0.5-1 ft)	Bromomethane	**ND(0.12)**	0.0343	3.50
AOC2627-SB-03 (0.5-1 ft)	Chloroform	**ND(0.03)**	0.0109	2.75
AOC2627-SB-03 (0.5-1 ft)	3,3-Dichlorobenzidine	**ND(0.29)**	0.124	2.34
AOC2627-SB-03 (0.5-1 ft)	Vinyl Chloride	**ND(0.03)**	0.0134	2.24
AOC2627-SB-03 (0.5-1 ft)	Pentachlorophenol	**ND(0.29)**	0.152	1.91

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-03 (0.5-1 ft)	Hexachlorobutadiene	**ND(0.061)**	0.0413	1.48
AOC2627-SB-03 (0.5-1 ft)	Hexachlorobenzene	**ND(0.24)**	0.189	1.27
AOC2627-SB-03 (0.5-1 ft)	1,2-Dichloroethane	**ND(0.03)**	0.0238	1.26
AOC2627-SB-03 (0.5-1 ft)	1,1,2-Trichloroethane	**ND(0.03)**	0.0268	1.12
AOC2627-SB-03 (0.5-1 ft)	1,2-Dichloropropane	**ND(0.03)**	0.0277	1.08
AOC2627-SB-03 (0.5-1 ft)	TPH ORO	**ND(46)**	13.2	3.48
AOC2627-SB-03 (0.5-1 ft)	TPH DRO	**ND(9.3)**	13.2	0.70
AOC2627-SB-03 (0.5-1 ft)	TPH GRO	**ND(3)**	4.94	0.61
AOC2627-SB-05 (0.5-1 ft)	Iron, Total	**11000**	6960	1.58
AOC2627-SB-05 (0.5-1 ft)	N-Nitrosodimethylamine	**ND(2.9)**	0.0000204	142156.86
AOC2627-SB-05 (0.5-1 ft)	Bis(2-chloroethyl)ether	**ND(2.9)**	0.000605	4793.39
AOC2627-SB-05 (0.5-1 ft)	1,2,3-Trichloropropane	**ND(0.14)**	0.0000582	2405.50
AOC2627-SB-05 (0.5-1 ft)	2,6-Dinitrotoluene	**ND(2.9)**	0.0102	284.31
AOC2627-SB-05 (0.5-1 ft)	Nitrobenzene	**ND(2.9)**	0.0144	201.39
AOC2627-SB-05 (0.5-1 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.14)**	0.00139	100.72
AOC2627-SB-05 (0.5-1 ft)	Hexachloroethane	**ND(2.4)**	0.032	75.00
AOC2627-SB-05 (0.5-1 ft)	2,4-Dinitrotoluene	**ND(2.9)**	0.0492	58.94
AOC2627-SB-05 (0.5-1 ft)	Hexachlorobutadiene	**ND(2.4)**	0.0413	58.11
AOC2627-SB-05 (0.5-1 ft)	1,4-Dioxane	**ND(0.71)**	0.0163	43.56
AOC2627-SB-05 (0.5-1 ft)	Naphthalene	**ND(2.4)**	0.0583	41.17
AOC2627-SB-05 (0.5-1 ft)	3,3-Dichlorobenzidine	**ND(2.9)**	0.124	23.39
AOC2627-SB-05 (0.5-1 ft)	Pentachlorophenol	**ND(2.9)**	0.152	19.08
AOC2627-SB-05 (0.5-1 ft)	1,1,2,2-Tetrachloroethane	**ND(0.071)**	0.00481	14.76
AOC2627-SB-05 (0.5-1 ft)	Hexachlorobenzene	**ND(2.4)**	0.189	12.70
AOC2627-SB-05 (0.5-1 ft)	Bromodichloromethane	**ND(0.071)**	0.00621	11.43
AOC2627-SB-05 (0.5-1 ft)	Dibromochloromethane	**ND(0.071)**	0.00755	9.40
AOC2627-SB-05 (0.5-1 ft)	Bromomethane	**ND(0.28)**	0.0343	8.16
AOC2627-SB-05 (0.5-1 ft)	Chloroform	**ND(0.071)**	0.0109	6.51
AOC2627-SB-05 (0.5-1 ft)	Vinyl Chloride	**ND(0.071)**	0.0134	5.30
AOC2627-SB-05 (0.5-1 ft)	2,4-Dinitrophenol	**ND(2.9)**	0.669	4.33
AOC2627-SB-05 (0.5-1 ft)	Benzo(a)anthracene	**ND(2.4)**	0.637	3.77
AOC2627-SB-05 (0.5-1 ft)	2,4,6-Trichlorophenol	**ND(2.4)**	0.674	3.56
AOC2627-SB-05 (0.5-1 ft)	2,4-Dichlorophenol	**ND(2.9)**	0.825	3.52
AOC2627-SB-05 (0.5-1 ft)	Hexachlorobutadiene	**ND(0.14)**	0.0413	3.39
AOC2627-SB-05 (0.5-1 ft)	1,2-Dichloroethane	**ND(0.071)**	0.0238	2.98
AOC2627-SB-05 (0.5-1 ft)	1-Methylnaphthalene	**ND(2.4)**	0.893	2.69
AOC2627-SB-05 (0.5-1 ft)	1,1,2-Trichloroethane	**ND(0.071)**	0.0268	2.65
AOC2627-SB-05 (0.5-1 ft)	1,2-Dichloropropane	**ND(0.071)**	0.0277	2.56

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-05 (0.5-1 ft)	Trichloroethene	**ND(0.071)**	0.031	2.29
AOC2627-SB-05 (0.5-1 ft)	Chloromethane	**ND(0.21)**	0.0952	2.21
AOC2627-SB-05 (0.5-1 ft)	1,4-Dichlorobenzene	**ND(2.4)**	1.12	2.14
AOC2627-SB-05 (0.5-1 ft)	Dibromomethane	**ND(0.071)**	0.0335	2.12
AOC2627-SB-05 (0.5-1 ft)	2-Chlorophenol	**ND(2.4)**	1.15	2.09
AOC2627-SB-05 (0.5-1 ft)	1,1,1,2-Tetrachloroethane	**ND(0.071)**	0.036	1.97
AOC2627-SB-05 (0.5-1 ft)	Carbon tetrachloride	**ND(0.071)**	0.0367	1.93
AOC2627-SB-05 (0.5-1 ft)	TPH ORO	**50**	13.2	3.79
AOC2627-SB-05 (0.5-1 ft)	TPH GRO	**ND(7.1)**	4.94	1.44
AOC2627-SB-05 (0.5-1 ft)	TPH DRO	**8**	13.2	0.61
AOC2627-SB-07 (11-12 ft)	TPH DRO	**330**	13.2	25.00
AOC2627-SB-07 (11-12 ft)	Cobalt, Total	**6.9**	5.4	1.28
AOC2627-SB-07 (11-12 ft)	N-Nitrosodimethylamine	**ND(0.28)**	0.0000204	13725.49
AOC2627-SB-07 (11-12 ft)	1,2,3-Trichloropropane	**ND(0.13)**	0.0000582	2233.68
AOC2627-SB-07 (11-12 ft)	Bis(2-chloroethyl)ether	**ND(0.28)**	0.000605	462.81
AOC2627-SB-07 (11-12 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.13)**	0.00139	93.53
AOC2627-SB-07 (11-12 ft)	1,4-Dioxane	**ND(0.63)**	0.0163	38.65
AOC2627-SB-07 (11-12 ft)	2,6-Dinitrotoluene	**ND(0.28)**	0.0102	27.45
AOC2627-SB-07 (11-12 ft)	Nitrobenzene	**ND(0.28)**	0.0144	19.44
AOC2627-SB-07 (11-12 ft)	1,1,2,2-Tetrachloroethane	**ND(0.063)**	0.00481	13.10
AOC2627-SB-07 (11-12 ft)	Bromodichloromethane	**ND(0.063)**	0.00621	10.14
AOC2627-SB-07 (11-12 ft)	Dibromochloromethane	**ND(0.063)**	0.00755	8.34
AOC2627-SB-07 (11-12 ft)	Bromomethane	**ND(0.25)**	0.0343	7.29
AOC2627-SB-07 (11-12 ft)	Hexachloroethane	**ND(0.23)**	0.032	7.19
AOC2627-SB-07 (11-12 ft)	Chloroform	**ND(0.063)**	0.0109	5.78
AOC2627-SB-07 (11-12 ft)	2,4-Dinitrotoluene	**ND(0.28)**	0.0492	5.69
AOC2627-SB-07 (11-12 ft)	Hexachlorobutadiene	**ND(0.23)**	0.0413	5.57
AOC2627-SB-07 (11-12 ft)	Vinyl Chloride	**ND(0.063)**	0.0134	4.70
AOC2627-SB-07 (11-12 ft)	Naphthalene	**ND(0.23)**	0.0583	3.95
AOC2627-SB-07 (11-12 ft)	Hexachlorobutadiene	**ND(0.13)**	0.0413	3.15
AOC2627-SB-07 (11-12 ft)	1,2-Dichloroethane	**ND(0.063)**	0.0238	2.65
AOC2627-SB-07 (11-12 ft)	1,1,2-Trichloroethane	**ND(0.063)**	0.0268	2.35
AOC2627-SB-07 (11-12 ft)	1,2-Dichloropropane	**ND(0.063)**	0.0277	2.27
AOC2627-SB-07 (11-12 ft)	3,3-Dichlorobenzidine	**ND(0.28)**	0.124	2.26
AOC2627-SB-07 (11-12 ft)	Naphthalene	**ND(0.13)**	0.0583	2.23
AOC2627-SB-07 (11-12 ft)	Trichloroethene	**ND(0.063)**	0.031	2.03
AOC2627-SB-07 (11-12 ft)	Chloromethane	**ND(0.19)**	0.0952	2.00
AOC2627-SB-07 (11-12 ft)	Dibromomethane	**ND(0.063)**	0.0335	1.88

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-07 (11-12 ft)	Pentachlorophenol	**ND(0.28)**	0.152	1.84
AOC2627-SB-07 (11-12 ft)	1,1,1,2-Tetrachloroethane	**ND(0.063)**	0.036	1.75
AOC2627-SB-07 (11-12 ft)	Carbon tetrachloride	**ND(0.063)**	0.0367	1.72
AOC2627-SB-07 (11-12 ft)	Hexachlorobenzene	**ND(0.23)**	0.189	1.22
AOC2627-SB-07 (11-12 ft)	TPH ORO	**ND(49)**	13.2	3.71
AOC2627-SB-07 (11-12 ft)	TPH GRO	**6.1**	4.94	1.23
AOC2627-SB-07 (5-10 ft)	TPH DRO	**1400**	13.2	106.06
AOC2627-SB-07 (5-10 ft)	1-Methylnaphthalene	**2**	0.893	2.24
AOC2627-SB-07 (5-10 ft)	2-Methylnaphthalene	**3.2**	2.76	1.16
AOC2627-SB-07 (5-10 ft)	N-Nitrosodimethylamine	**ND(3)**	0.0000204	147058.82
AOC2627-SB-07 (5-10 ft)	Bis(2-chloroethyl)ether	**ND(3)**	0.000605	4958.68
AOC2627-SB-07 (5-10 ft)	1,2,3-Trichloropropane	**ND(0.069)**	0.0000582	1185.57
AOC2627-SB-07 (5-10 ft)	2,6-Dinitrotoluene	**ND(3)**	0.0102	294.12
AOC2627-SB-07 (5-10 ft)	Nitrobenzene	**ND(3)**	0.0144	208.33
AOC2627-SB-07 (5-10 ft)	Hexachloroethane	**ND(2.5)**	0.032	78.13
AOC2627-SB-07 (5-10 ft)	2,4-Dinitrotoluene	**ND(3)**	0.0492	60.98
AOC2627-SB-07 (5-10 ft)	Hexachlorobutadiene	**ND(2.5)**	0.0413	60.53
AOC2627-SB-07 (5-10 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.069)**	0.00139	49.64
AOC2627-SB-07 (5-10 ft)	Naphthalene	**ND(2.5)**	0.0583	42.88
AOC2627-SB-07 (5-10 ft)	3,3-Dichlorobenzidine	**ND(3)**	0.124	24.19
AOC2627-SB-07 (5-10 ft)	1,4-Dioxane	**ND(0.35)**	0.0163	21.47
AOC2627-SB-07 (5-10 ft)	Pentachlorophenol	**ND(3)**	0.152	19.74
AOC2627-SB-07 (5-10 ft)	Hexachlorobenzene	**ND(2.5)**	0.189	13.23
AOC2627-SB-07 (5-10 ft)	1,1,2,2-Tetrachloroethane	**ND(0.035)**	0.00481	7.28
AOC2627-SB-07 (5-10 ft)	Bromodichloromethane	**ND(0.035)**	0.00621	5.64
AOC2627-SB-07 (5-10 ft)	Dibromochloromethane	**ND(0.035)**	0.00755	4.64
AOC2627-SB-07 (5-10 ft)	2,4-Dinitrophenol	**ND(3)**	0.669	4.48
AOC2627-SB-07 (5-10 ft)	Bromomethane	**ND(0.14)**	0.0343	4.08
AOC2627-SB-07 (5-10 ft)	Benzo(a)anthracene	**ND(2.5)**	0.637	3.92
AOC2627-SB-07 (5-10 ft)	2,4,6-Trichlorophenol	**ND(2.5)**	0.674	3.71
AOC2627-SB-07 (5-10 ft)	2,4-Dichlorophenol	**ND(3)**	0.825	3.64
AOC2627-SB-07 (5-10 ft)	Chloroform	**ND(0.035)**	0.0109	3.21
AOC2627-SB-07 (5-10 ft)	1-Methylnaphthalene	**ND(2.5)**	0.893	2.80
AOC2627-SB-07 (5-10 ft)	Vinyl Chloride	**ND(0.035)**	0.0134	2.61
AOC2627-SB-07 (5-10 ft)	1,4-Dichlorobenzene	**ND(2.5)**	1.12	2.23
AOC2627-SB-07 (5-10 ft)	2-Chlorophenol	**ND(2.5)**	1.15	2.17
AOC2627-SB-07 (5-10 ft)	Hexachlorobutadiene	**ND(0.069)**	0.0413	1.67
AOC2627-SB-07 (5-10 ft)	1,2-Dichloroethane	**ND(0.035)**	0.0238	1.47

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-07 (5-10 ft)	1,1,2-Trichloroethane	**ND(0.035)**	0.0268	1.31
AOC2627-SB-07 (5-10 ft)	1,2-Dichloropropane	**ND(0.035)**	0.0277	1.26
AOC2627-SB-07 (5-10 ft)	Naphthalene	**ND(0.069)**	0.0583	1.18
AOC2627-SB-07 (5-10 ft)	Trichloroethene	**ND(0.035)**	0.031	1.13
AOC2627-SB-07 (5-10 ft)	Chloromethane	**ND(0.1)**	0.0952	1.05
AOC2627-SB-07 (5-10 ft)	Dibromomethane	**ND(0.035)**	0.0335	1.04
AOC2627-SB-07 (5-10 ft)	TPH ORO	**62**	13.2	4.70
AOC2627-SB-07 (5-10 ft)	TPH GRO	**12**	4.94	2.43
AOC2627-SB-08 (0.5-1 ft)	Iron, Total	**10000**	6960	1.44
AOC2627-SB-08 (0.5-1 ft)	N-Nitrosodimethylamine	**ND(3)**	0.0000204	147058.82
AOC2627-SB-08 (0.5-1 ft)	Bis(2-chloroethyl)ether	**ND(3)**	0.000605	4958.68
AOC2627-SB-08 (0.5-1 ft)	1,2,3-Trichloropropane	**ND(0.11)**	0.0000582	1890.03
AOC2627-SB-08 (0.5-1 ft)	2,6-Dinitrotoluene	**ND(3)**	0.0102	294.12
AOC2627-SB-08 (0.5-1 ft)	Nitrobenzene	**ND(3)**	0.0144	208.33
AOC2627-SB-08 (0.5-1 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.11)**	0.00139	79.14
AOC2627-SB-08 (0.5-1 ft)	Hexachloroethane	**ND(2.5)**	0.032	78.13
AOC2627-SB-08 (0.5-1 ft)	2,4-Dinitrotoluene	**ND(3)**	0.0492	60.98
AOC2627-SB-08 (0.5-1 ft)	Hexachlorobutadiene	**ND(2.5)**	0.0413	60.53
AOC2627-SB-08 (0.5-1 ft)	Naphthalene	**ND(2.5)**	0.0583	42.88
AOC2627-SB-08 (0.5-1 ft)	1,4-Dioxane	**ND(0.57)**	0.0163	34.97
AOC2627-SB-08 (0.5-1 ft)	3,3-Dichlorobenzidine	**ND(3)**	0.124	24.19
AOC2627-SB-08 (0.5-1 ft)	Pentachlorophenol	**ND(3)**	0.152	19.74
AOC2627-SB-08 (0.5-1 ft)	Hexachlorobenzene	**ND(2.5)**	0.189	13.23
AOC2627-SB-08 (0.5-1 ft)	1,1,2,2-Tetrachloroethane	**ND(0.057)**	0.00481	11.85
AOC2627-SB-08 (0.5-1 ft)	Bromodichloromethane	**ND(0.057)**	0.00621	9.18
AOC2627-SB-08 (0.5-1 ft)	Dibromochloromethane	**ND(0.057)**	0.00755	7.55
AOC2627-SB-08 (0.5-1 ft)	Bromomethane	**ND(0.23)**	0.0343	6.71
AOC2627-SB-08 (0.5-1 ft)	Chloroform	**ND(0.057)**	0.0109	5.23
AOC2627-SB-08 (0.5-1 ft)	2,4-Dinitrophenol	**ND(3)**	0.669	4.48
AOC2627-SB-08 (0.5-1 ft)	Vinyl Chloride	**ND(0.057)**	0.0134	4.25
AOC2627-SB-08 (0.5-1 ft)	Benzo(a)anthracene	**ND(2.5)**	0.637	3.92
AOC2627-SB-08 (0.5-1 ft)	2,4,6-Trichlorophenol	**ND(2.5)**	0.674	3.71
AOC2627-SB-08 (0.5-1 ft)	2,4-Dichlorophenol	**ND(3)**	0.825	3.64
AOC2627-SB-08 (0.5-1 ft)	1-Methylnaphthalene	**ND(2.5)**	0.893	2.80
AOC2627-SB-08 (0.5-1 ft)	Hexachlorobutadiene	**ND(0.11)**	0.0413	2.66
AOC2627-SB-08 (0.5-1 ft)	1,2-Dichloroethane	**ND(0.057)**	0.0238	2.39
AOC2627-SB-08 (0.5-1 ft)	1,4-Dichlorobenzene	**ND(2.5)**	1.12	2.23
AOC2627-SB-08 (0.5-1 ft)	2-Chlorophenol	**ND(2.5)**	1.15	2.17

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-08 (0.5-1 ft)	1,1,2-Trichloroethane	**ND(0.057)**	0.0268	2.13
AOC2627-SB-08 (0.5-1 ft)	1,2-Dichloropropane	**ND(0.057)**	0.0277	2.06
AOC2627-SB-08 (0.5-1 ft)	Naphthalene	**ND(0.11)**	0.0583	1.89
AOC2627-SB-08 (0.5-1 ft)	Trichloroethene	**ND(0.057)**	0.031	1.84
AOC2627-SB-08 (0.5-1 ft)	Chloromethane	**ND(0.17)**	0.0952	1.79
AOC2627-SB-08 (0.5-1 ft)	Dibromomethane	**ND(0.057)**	0.0335	1.70
AOC2627-SB-08 (0.5-1 ft)	1,1,1,2-Tetrachloroethane	**ND(0.057)**	0.036	1.58
AOC2627-SB-08 (0.5-1 ft)	Carbon tetrachloride	**ND(0.057)**	0.0367	1.55
AOC2627-SB-08 (0.5-1 ft)	TPH ORO	**78**	13.2	5.91
AOC2627-SB-08 (0.5-1 ft)	TPH GRO	**ND(5.7)**	4.94	1.15
AOC2627-SB-08 (0.5-1 ft)	TPH DRO	**ND(9.1)**	13.2	0.69
AOC2627-SB-08 (5-10 ft)	Iron, Total	**7200**	6960	1.03
AOC2627-SB-08 (5-10 ft)	N-Nitrosodimethylamine	**ND(0.3)**	0.0000204	14705.88
AOC2627-SB-08 (5-10 ft)	1,2,3-Trichloropropane	**ND(0.052)**	0.0000582	893.47
AOC2627-SB-08 (5-10 ft)	Bis(2-chloroethyl)ether	**ND(0.3)**	0.000605	495.87
AOC2627-SB-08 (5-10 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.052)**	0.00139	37.41
AOC2627-SB-08 (5-10 ft)	2,6-Dinitrotoluene	**ND(0.3)**	0.0102	29.41
AOC2627-SB-08 (5-10 ft)	Nitrobenzene	**ND(0.3)**	0.0144	20.83
AOC2627-SB-08 (5-10 ft)	1,4-Dioxane	**ND(0.26)**	0.0163	15.95
AOC2627-SB-08 (5-10 ft)	Hexachloroethane	**ND(0.25)**	0.032	7.81
AOC2627-SB-08 (5-10 ft)	2,4-Dinitrotoluene	**ND(0.3)**	0.0492	6.10
AOC2627-SB-08 (5-10 ft)	Hexachlorobutadiene	**ND(0.25)**	0.0413	6.05
AOC2627-SB-08 (5-10 ft)	1,1,2,2-Tetrachloroethane	**ND(0.026)**	0.00481	5.41
AOC2627-SB-08 (5-10 ft)	Naphthalene	**ND(0.25)**	0.0583	4.29
AOC2627-SB-08 (5-10 ft)	Bromodichloromethane	**ND(0.026)**	0.00621	4.19
AOC2627-SB-08 (5-10 ft)	Dibromochloromethane	**ND(0.026)**	0.00755	3.44
AOC2627-SB-08 (5-10 ft)	Bromomethane	**ND(0.1)**	0.0343	2.92
AOC2627-SB-08 (5-10 ft)	3,3-Dichlorobenzidine	**ND(0.3)**	0.124	2.42
AOC2627-SB-08 (5-10 ft)	Chloroform	**ND(0.026)**	0.0109	2.39
AOC2627-SB-08 (5-10 ft)	Pentachlorophenol	**ND(0.3)**	0.152	1.97
AOC2627-SB-08 (5-10 ft)	Vinyl Chloride	**ND(0.026)**	0.0134	1.94
AOC2627-SB-08 (5-10 ft)	Hexachlorobenzene	**ND(0.25)**	0.189	1.32
AOC2627-SB-08 (5-10 ft)	Hexachlorobutadiene	**ND(0.052)**	0.0413	1.26
AOC2627-SB-08 (5-10 ft)	1,2-Dichloroethane	**ND(0.026)**	0.0238	1.09
AOC2627-SB-08 (5-10 ft)	TPH ORO	**ND(49)**	13.2	3.71
AOC2627-SB-08 (5-10 ft)	TPH DRO	**ND(9.8)**	13.2	0.74
AOC2627-SB-08 (5-10 ft)	TPH GRO	**ND(2.6)**	4.94	0.53
AOC2627-SB-09 (0.5-1 ft)	Chloroform	**0.013**	0.0109	1.19

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-09 (0.5-1 ft)	Iron, Total	**7000**	6960	1.01
AOC2627-SB-09 (0.5-1 ft)	N-Nitrosodimethylamine	**ND(0.28)**	0.0000204	13725.49
AOC2627-SB-09 (0.5-1 ft)	1,2,3-Trichloropropane	**ND(0.12)**	0.0000582	2061.86
AOC2627-SB-09 (0.5-1 ft)	Bis(2-chloroethyl)ether	**ND(0.28)**	0.000605	462.81
AOC2627-SB-09 (0.5-1 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.12)**	0.00139	86.33
AOC2627-SB-09 (0.5-1 ft)	1,4-Dioxane	**ND(0.59)**	0.0163	36.20
AOC2627-SB-09 (0.5-1 ft)	2,6-Dinitrotoluene	**ND(0.28)**	0.0102	27.45
AOC2627-SB-09 (0.5-1 ft)	Nitrobenzene	**ND(0.28)**	0.0144	19.44
AOC2627-SB-09 (0.5-1 ft)	1,1,2,2-Tetrachloroethane	**ND(0.059)**	0.00481	12.27
AOC2627-SB-09 (0.5-1 ft)	Bromodichloromethane	**ND(0.059)**	0.00621	9.50
AOC2627-SB-09 (0.5-1 ft)	Dibromochloromethane	**ND(0.059)**	0.00755	7.81
AOC2627-SB-09 (0.5-1 ft)	Hexachloroethane	**ND(0.23)**	0.032	7.19
AOC2627-SB-09 (0.5-1 ft)	Bromomethane	**ND(0.24)**	0.0343	7.00
AOC2627-SB-09 (0.5-1 ft)	2,4-Dinitrotoluene	**ND(0.28)**	0.0492	5.69
AOC2627-SB-09 (0.5-1 ft)	Hexachlorobutadiene	**ND(0.23)**	0.0413	5.57
AOC2627-SB-09 (0.5-1 ft)	Vinyl Chloride	**ND(0.059)**	0.0134	4.40
AOC2627-SB-09 (0.5-1 ft)	Naphthalene	**ND(0.23)**	0.0583	3.95
AOC2627-SB-09 (0.5-1 ft)	Hexachlorobutadiene	**ND(0.12)**	0.0413	2.91
AOC2627-SB-09 (0.5-1 ft)	1,2-Dichloroethane	**ND(0.059)**	0.0238	2.48
AOC2627-SB-09 (0.5-1 ft)	3,3-Dichlorobenzidine	**ND(0.28)**	0.124	2.26
AOC2627-SB-09 (0.5-1 ft)	1,1,2-Trichloroethane	**ND(0.059)**	0.0268	2.20
AOC2627-SB-09 (0.5-1 ft)	1,2-Dichloropropane	**ND(0.059)**	0.0277	2.13
AOC2627-SB-09 (0.5-1 ft)	Naphthalene	**ND(0.12)**	0.0583	2.06
AOC2627-SB-09 (0.5-1 ft)	Trichloroethene	**ND(0.059)**	0.031	1.90
AOC2627-SB-09 (0.5-1 ft)	Chloromethane	**ND(0.18)**	0.0952	1.89
AOC2627-SB-09 (0.5-1 ft)	Pentachlorophenol	**ND(0.28)**	0.152	1.84
AOC2627-SB-09 (0.5-1 ft)	Dibromomethane	**ND(0.059)**	0.0335	1.76
AOC2627-SB-09 (0.5-1 ft)	1,1,1,2-Tetrachloroethane	**ND(0.059)**	0.036	1.64
AOC2627-SB-09 (0.5-1 ft)	Carbon tetrachloride	**ND(0.059)**	0.0367	1.61
AOC2627-SB-09 (0.5-1 ft)	Hexachlorobenzene	**ND(0.23)**	0.189	1.22
AOC2627-SB-09 (0.5-1 ft)	TPH ORO	**ND(48)**	13.2	3.64
AOC2627-SB-09 (0.5-1 ft)	TPH GRO	**ND(5.9)**	4.94	1.19
AOC2627-SB-09 (0.5-1 ft)	TPH DRO	**ND(9.6)**	13.2	0.73
AOC2627-SB-10 (0.5-1 ft)	TPH ORO	**82**	13.2	6.21
AOC2627-SB-10 (0.5-1 ft)	Chloroform	**0.02**	0.0109	1.83
AOC2627-SB-10 (0.5-1 ft)	Iron, Total	**12000**	6960	1.72
AOC2627-SB-10 (0.5-1 ft)	N-Nitrosodimethylamine	**ND(2.9)**	0.0000204	142156.86
AOC2627-SB-10 (0.5-1 ft)	Bis(2-chloroethyl)ether	**ND(2.9)**	0.000605	4793.39

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-10 (0.5-1 ft)	1,2,3-Trichloropropane	**ND(0.14)**	0.0000582	2405.50
AOC2627-SB-10 (0.5-1 ft)	2,6-Dinitrotoluene	**ND(2.9)**	0.0102	284.31
AOC2627-SB-10 (0.5-1 ft)	Nitrobenzene	**ND(2.9)**	0.0144	201.39
AOC2627-SB-10 (0.5-1 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.14)**	0.00139	100.72
AOC2627-SB-10 (0.5-1 ft)	Hexachloroethane	**ND(2.4)**	0.032	75.00
AOC2627-SB-10 (0.5-1 ft)	2,4-Dinitrotoluene	**ND(2.9)**	0.0492	58.94
AOC2627-SB-10 (0.5-1 ft)	Hexachlorobutadiene	**ND(2.4)**	0.0413	58.11
AOC2627-SB-10 (0.5-1 ft)	1,4-Dioxane	**ND(0.71)**	0.0163	43.56
AOC2627-SB-10 (0.5-1 ft)	Naphthalene	**ND(2.4)**	0.0583	41.17
AOC2627-SB-10 (0.5-1 ft)	3,3-Dichlorobenzidine	**ND(2.9)**	0.124	23.39
AOC2627-SB-10 (0.5-1 ft)	Pentachlorophenol	**ND(2.9)**	0.152	19.08
AOC2627-SB-10 (0.5-1 ft)	1,1,2,2-Tetrachloroethane	**ND(0.071)**	0.00481	14.76
AOC2627-SB-10 (0.5-1 ft)	Hexachlorobenzene	**ND(2.4)**	0.189	12.70
AOC2627-SB-10 (0.5-1 ft)	Bromodichloromethane	**ND(0.071)**	0.00621	11.43
AOC2627-SB-10 (0.5-1 ft)	Dibromochloromethane	**ND(0.071)**	0.00755	9.40
AOC2627-SB-10 (0.5-1 ft)	Bromomethane	**ND(0.28)**	0.0343	8.16
AOC2627-SB-10 (0.5-1 ft)	Vinyl Chloride	**ND(0.071)**	0.0134	5.30
AOC2627-SB-10 (0.5-1 ft)	2,4-Dinitrophenol	**ND(2.9)**	0.669	4.33
AOC2627-SB-10 (0.5-1 ft)	Benzo(a)anthracene	**ND(2.4)**	0.637	3.77
AOC2627-SB-10 (0.5-1 ft)	2,4,6-Trichlorophenol	**ND(2.4)**	0.674	3.56
AOC2627-SB-10 (0.5-1 ft)	2,4-Dichlorophenol	**ND(2.9)**	0.825	3.52
AOC2627-SB-10 (0.5-1 ft)	Hexachlorobutadiene	**ND(0.14)**	0.0413	3.39
AOC2627-SB-10 (0.5-1 ft)	1,2-Dichloroethane	**ND(0.071)**	0.0238	2.98
AOC2627-SB-10 (0.5-1 ft)	1-Methylnaphthalene	**ND(2.4)**	0.893	2.69
AOC2627-SB-10 (0.5-1 ft)	1,1,2-Trichloroethane	**ND(0.071)**	0.0268	2.65
AOC2627-SB-10 (0.5-1 ft)	1,2-Dichloropropane	**ND(0.071)**	0.0277	2.56
AOC2627-SB-10 (0.5-1 ft)	Naphthalene	**ND(0.14)**	0.0583	2.40
AOC2627-SB-10 (0.5-1 ft)	Trichloroethene	**ND(0.071)**	0.031	2.29
AOC2627-SB-10 (0.5-1 ft)	Chloromethane	**ND(0.21)**	0.0952	2.21
AOC2627-SB-10 (0.5-1 ft)	1,4-Dichlorobenzene	**ND(2.4)**	1.12	2.14
AOC2627-SB-10 (0.5-1 ft)	Dibromomethane	**ND(0.071)**	0.0335	2.12
AOC2627-SB-10 (0.5-1 ft)	2-Chlorophenol	**ND(2.4)**	1.15	2.09
AOC2627-SB-10 (0.5-1 ft)	1,1,1,2-Tetrachloroethane	**ND(0.071)**	0.036	1.97
AOC2627-SB-10 (0.5-1 ft)	Carbon tetrachloride	**ND(0.071)**	0.0367	1.93
AOC2627-SB-10 (0.5-1 ft)	TPH DRO	**32**	13.2	2.42
AOC2627-SB-10 (0.5-1 ft)	TPH GRO	**ND(7.1)**	4.94	1.44
AOC2627-SB-11 (0.5-1 ft)	Chloroform	**0.016**	0.0109	1.47
AOC2627-SB-11 (0.5-1 ft)	Iron, Total	**10000**	6960	1.44

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-11 (0.5-1 ft)	N-Nitrosodimethylamine	**ND(3)**	0.0000204	147058.82
AOC2627-SB-11 (0.5-1 ft)	Bis(2-chloroethyl)ether	**ND(3)**	0.000605	4958.68
AOC2627-SB-11 (0.5-1 ft)	1,2,3-Trichloropropane	**ND(0.14)**	0.0000582	2405.50
AOC2627-SB-11 (0.5-1 ft)	2,6-Dinitrotoluene	**ND(3)**	0.0102	294.12
AOC2627-SB-11 (0.5-1 ft)	Nitrobenzene	**ND(3)**	0.0144	208.33
AOC2627-SB-11 (0.5-1 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.14)**	0.00139	100.72
AOC2627-SB-11 (0.5-1 ft)	Hexachloroethane	**ND(2.5)**	0.032	78.13
AOC2627-SB-11 (0.5-1 ft)	2,4-Dinitrotoluene	**ND(3)**	0.0492	60.98
AOC2627-SB-11 (0.5-1 ft)	Hexachlorobutadiene	**ND(2.5)**	0.0413	60.53
AOC2627-SB-11 (0.5-1 ft)	1,4-Dioxane	**ND(0.71)**	0.0163	43.56
AOC2627-SB-11 (0.5-1 ft)	Naphthalene	**ND(2.5)**	0.0583	42.88
AOC2627-SB-11 (0.5-1 ft)	3,3-Dichlorobenzidine	**ND(3)**	0.124	24.19
AOC2627-SB-11 (0.5-1 ft)	Pentachlorophenol	**ND(3)**	0.152	19.74
AOC2627-SB-11 (0.5-1 ft)	1,1,2,2-Tetrachloroethane	**ND(0.071)**	0.00481	14.76
AOC2627-SB-11 (0.5-1 ft)	Hexachlorobenzene	**ND(2.5)**	0.189	13.23
AOC2627-SB-11 (0.5-1 ft)	Bromodichloromethane	**ND(0.071)**	0.00621	11.43
AOC2627-SB-11 (0.5-1 ft)	Dibromochloromethane	**ND(0.071)**	0.00755	9.40
AOC2627-SB-11 (0.5-1 ft)	Bromomethane	**ND(0.28)**	0.0343	8.16
AOC2627-SB-11 (0.5-1 ft)	Vinyl Chloride	**ND(0.071)**	0.0134	5.30
AOC2627-SB-11 (0.5-1 ft)	2,4-Dinitrophenol	**ND(3)**	0.669	4.48
AOC2627-SB-11 (0.5-1 ft)	Benzo(a)anthracene	**ND(2.5)**	0.637	3.92
AOC2627-SB-11 (0.5-1 ft)	2,4,6-Trichlorophenol	**ND(2.5)**	0.674	3.71
AOC2627-SB-11 (0.5-1 ft)	2,4-Dichlorophenol	**ND(3)**	0.825	3.64
AOC2627-SB-11 (0.5-1 ft)	Hexachlorobutadiene	**ND(0.14)**	0.0413	3.39
AOC2627-SB-11 (0.5-1 ft)	1,2-Dichloroethane	**ND(0.071)**	0.0238	2.98
AOC2627-SB-11 (0.5-1 ft)	1-Methylnaphthalene	**ND(2.5)**	0.893	2.80
AOC2627-SB-11 (0.5-1 ft)	1,1,2-Trichloroethane	**ND(0.071)**	0.0268	2.65
AOC2627-SB-11 (0.5-1 ft)	1,2-Dichloropropane	**ND(0.071)**	0.0277	2.56
AOC2627-SB-11 (0.5-1 ft)	Trichloroethene	**ND(0.071)**	0.031	2.29
AOC2627-SB-11 (0.5-1 ft)	1,4-Dichlorobenzene	**ND(2.5)**	1.12	2.23
AOC2627-SB-11 (0.5-1 ft)	Chloromethane	**ND(0.21)**	0.0952	2.21
AOC2627-SB-11 (0.5-1 ft)	2-Chlorophenol	**ND(2.5)**	1.15	2.17
AOC2627-SB-11 (0.5-1 ft)	Dibromomethane	**ND(0.071)**	0.0335	2.12
AOC2627-SB-11 (0.5-1 ft)	1,1,1,2-Tetrachloroethane	**ND(0.071)**	0.036	1.97
AOC2627-SB-11 (0.5-1 ft)	Carbon tetrachloride	**ND(0.071)**	0.0367	1.93
AOC2627-SB-11 (0.5-1 ft)	TPH ORO	**ND(47)**	13.2	3.56
AOC2627-SB-11 (0.5-1 ft)	TPH GRO	**ND(7.1)**	4.94	1.44
AOC2627-SB-11 (0.5-1 ft)	TPH DRO	**ND(9.3)**	13.2	0.70

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-11 (1-5 ft)	TPH ORO	**ND(47)**	13.2	3.56
AOC2627-SB-11 (1-5 ft)	Iron, Total	**8300**	6960	1.19
AOC2627-SB-11 (1-5 ft)	N-Nitrosodimethylamine	**ND(2.9)**	0.0000204	142156.86
AOC2627-SB-11 (1-5 ft)	Bis(2-chloroethyl)ether	**ND(2.9)**	0.000605	4793.39
AOC2627-SB-11 (1-5 ft)	1,2,3-Trichloropropane	**ND(0.11)**	0.0000582	1890.03
AOC2627-SB-11 (1-5 ft)	2,6-Dinitrotoluene	**ND(2.9)**	0.0102	284.31
AOC2627-SB-11 (1-5 ft)	Nitrobenzene	**ND(2.9)**	0.0144	201.39
AOC2627-SB-11 (1-5 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.11)**	0.00139	79.14
AOC2627-SB-11 (1-5 ft)	Hexachloroethane	**ND(2.4)**	0.032	75.00
AOC2627-SB-11 (1-5 ft)	2,4-Dinitrotoluene	**ND(2.9)**	0.0492	58.94
AOC2627-SB-11 (1-5 ft)	Hexachlorobutadiene	**ND(2.4)**	0.0413	58.11
AOC2627-SB-11 (1-5 ft)	Naphthalene	**ND(2.4)**	0.0583	41.17
AOC2627-SB-11 (1-5 ft)	1,4-Dioxane	**ND(0.55)**	0.0163	33.74
AOC2627-SB-11 (1-5 ft)	3,3-Dichlorobenzidine	**ND(2.9)**	0.124	23.39
AOC2627-SB-11 (1-5 ft)	Pentachlorophenol	**ND(2.9)**	0.152	19.08
AOC2627-SB-11 (1-5 ft)	Hexachlorobenzene	**ND(2.4)**	0.189	12.70
AOC2627-SB-11 (1-5 ft)	1,1,2,2-Tetrachloroethane	**ND(0.055)**	0.00481	11.43
AOC2627-SB-11 (1-5 ft)	Bromodichloromethane	**ND(0.055)**	0.00621	8.86
AOC2627-SB-11 (1-5 ft)	Dibromochloromethane	**ND(0.055)**	0.00755	7.28
AOC2627-SB-11 (1-5 ft)	Bromomethane	**ND(0.22)**	0.0343	6.41
AOC2627-SB-11 (1-5 ft)	Chloroform	**ND(0.055)**	0.0109	5.05
AOC2627-SB-11 (1-5 ft)	2,4-Dinitrophenol	**ND(2.9)**	0.669	4.33
AOC2627-SB-11 (1-5 ft)	Vinyl Chloride	**ND(0.055)**	0.0134	4.10
AOC2627-SB-11 (1-5 ft)	Benzo(a)anthracene	**ND(2.4)**	0.637	3.77
AOC2627-SB-11 (1-5 ft)	2,4,6-Trichlorophenol	**ND(2.4)**	0.674	3.56
AOC2627-SB-11 (1-5 ft)	2,4-Dichlorophenol	**ND(2.9)**	0.825	3.52
AOC2627-SB-11 (1-5 ft)	1-Methylnaphthalene	**ND(2.4)**	0.893	2.69
AOC2627-SB-11 (1-5 ft)	Hexachlorobutadiene	**ND(0.11)**	0.0413	2.66
AOC2627-SB-11 (1-5 ft)	1,2-Dichloroethane	**ND(0.055)**	0.0238	2.31
AOC2627-SB-11 (1-5 ft)	1,4-Dichlorobenzene	**ND(2.4)**	1.12	2.14
AOC2627-SB-11 (1-5 ft)	2-Chlorophenol	**ND(2.4)**	1.15	2.09
AOC2627-SB-11 (1-5 ft)	1,1,2-Trichloroethane	**ND(0.055)**	0.0268	2.05
AOC2627-SB-11 (1-5 ft)	1,2-Dichloropropane	**ND(0.055)**	0.0277	1.99
AOC2627-SB-11 (1-5 ft)	Naphthalene	**ND(0.11)**	0.0583	1.89
AOC2627-SB-11 (1-5 ft)	Trichloroethene	**ND(0.055)**	0.031	1.77
AOC2627-SB-11 (1-5 ft)	Chloromethane	**ND(0.16)**	0.0952	1.68
AOC2627-SB-11 (1-5 ft)	Dibromomethane	**ND(0.055)**	0.0335	1.64
AOC2627-SB-11 (1-5 ft)	1,1,1,2-Tetrachloroethane	**ND(0.055)**	0.036	1.53

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TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-11 (1-5 ft)	Carbon tetrachloride	**ND(0.055)**	0.0367	1.50
AOC2627-SB-11 (1-5 ft)	TPH GRO	**ND(5.5)**	4.94	1.11
AOC2627-SB-11 (1-5 ft)	TPH DRO	**ND(9.3)**	13.2	0.70
AOC2627-SB-12 (0.5-1 ft)	TPH ORO	**84**	13.2	6.36
AOC2627-SB-12 (0.5-1 ft)	Iron, Total	**12000**	6960	1.72
AOC2627-SB-12 (0.5-1 ft)	Cobalt, Total	**5.4**	5.4	1.00
AOC2627-SB-12 (0.5-1 ft)	N-Nitrosodimethylamine	**ND(2.9)**	0.0000204	142156.86
AOC2627-SB-12 (0.5-1 ft)	Bis(2-chloroethyl)ether	**ND(2.9)**	0.000605	4793.39
AOC2627-SB-12 (0.5-1 ft)	1,2,3-Trichloropropane	**ND(0.066)**	0.0000582	1134.02
AOC2627-SB-12 (0.5-1 ft)	2,6-Dinitrotoluene	**ND(2.9)**	0.0102	284.31
AOC2627-SB-12 (0.5-1 ft)	Nitrobenzene	**ND(2.9)**	0.0144	201.39
AOC2627-SB-12 (0.5-1 ft)	Hexachloroethane	**ND(2.4)**	0.032	75.00
AOC2627-SB-12 (0.5-1 ft)	2,4-Dinitrotoluene	**ND(2.9)**	0.0492	58.94
AOC2627-SB-12 (0.5-1 ft)	Hexachlorobutadiene	**ND(2.4)**	0.0413	58.11
AOC2627-SB-12 (0.5-1 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.066)**	0.00139	47.48
AOC2627-SB-12 (0.5-1 ft)	Naphthalene	**ND(2.4)**	0.0583	41.17
AOC2627-SB-12 (0.5-1 ft)	3,3-Dichlorobenzidine	**ND(2.9)**	0.124	23.39
AOC2627-SB-12 (0.5-1 ft)	1,4-Dioxane	**ND(0.33)**	0.0163	20.25
AOC2627-SB-12 (0.5-1 ft)	Pentachlorophenol	**ND(2.9)**	0.152	19.08
AOC2627-SB-12 (0.5-1 ft)	Hexachlorobenzene	**ND(2.4)**	0.189	12.70
AOC2627-SB-12 (0.5-1 ft)	1,1,2,2-Tetrachloroethane	**ND(0.033)**	0.00481	6.86
AOC2627-SB-12 (0.5-1 ft)	Bromodichloromethane	**ND(0.033)**	0.00621	5.31
AOC2627-SB-12 (0.5-1 ft)	Dibromochloromethane	**ND(0.033)**	0.00755	4.37
AOC2627-SB-12 (0.5-1 ft)	2,4-Dinitrophenol	**ND(2.9)**	0.669	4.33
AOC2627-SB-12 (0.5-1 ft)	Bromomethane	**ND(0.13)**	0.0343	3.79
AOC2627-SB-12 (0.5-1 ft)	Benzo(a)anthracene	**ND(2.4)**	0.637	3.77
AOC2627-SB-12 (0.5-1 ft)	2,4,6-Trichlorophenol	**ND(2.4)**	0.674	3.56
AOC2627-SB-12 (0.5-1 ft)	2,4-Dichlorophenol	**ND(2.9)**	0.825	3.52
AOC2627-SB-12 (0.5-1 ft)	Chloroform	**ND(0.033)**	0.0109	3.03
AOC2627-SB-12 (0.5-1 ft)	1-Methylnaphthalene	**ND(2.4)**	0.893	2.69
AOC2627-SB-12 (0.5-1 ft)	Vinyl Chloride	**ND(0.033)**	0.0134	2.46
AOC2627-SB-12 (0.5-1 ft)	1,4-Dichlorobenzene	**ND(2.4)**	1.12	2.14
AOC2627-SB-12 (0.5-1 ft)	2-Chlorophenol	**ND(2.4)**	1.15	2.09
AOC2627-SB-12 (0.5-1 ft)	Hexachlorobutadiene	**ND(0.066)**	0.0413	1.60
AOC2627-SB-12 (0.5-1 ft)	1,2-Dichloroethane	**ND(0.033)**	0.0238	1.39
AOC2627-SB-12 (0.5-1 ft)	1,1,2-Trichloroethane	**ND(0.033)**	0.0268	1.23
AOC2627-SB-12 (0.5-1 ft)	1,2-Dichloropropane	**ND(0.033)**	0.0277	1.19
AOC2627-SB-12 (0.5-1 ft)	Naphthalene	**ND(0.066)**	0.0583	1.13

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-12 (0.5-1 ft)	Trichloroethene	**ND(0.033)**	0.031	1.06
AOC2627-SB-12 (0.5-1 ft)	Chloromethane	**ND(0.099)**	0.0952	1.04
AOC2627-SB-12 (0.5-1 ft)	TPH DRO	**ND(10)**	13.2	0.76
AOC2627-SB-12 (0.5-1 ft)	TPH GRO	**ND(3.3)**	4.94	0.67
AOC2627-SB-12 (5-10 ft)	TPH ORO	**ND(49)**	13.2	3.71
AOC2627-SB-12 (5-10 ft)	Iron, Total	**13000**	6960	1.87
AOC2627-SB-12 (5-10 ft)	N-Nitrosodimethylamine	**ND(0.29)**	0.0000204	14215.69
AOC2627-SB-12 (5-10 ft)	1,2,3-Trichloropropane	**ND(0.11)**	0.0000582	1890.03
AOC2627-SB-12 (5-10 ft)	Bis(2-chloroethyl)ether	**ND(0.29)**	0.000605	479.34
AOC2627-SB-12 (5-10 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.11)**	0.00139	79.14
AOC2627-SB-12 (5-10 ft)	1,4-Dioxane	**ND(0.53)**	0.0163	32.52
AOC2627-SB-12 (5-10 ft)	2,6-Dinitrotoluene	**ND(0.29)**	0.0102	28.43
AOC2627-SB-12 (5-10 ft)	Nitrobenzene	**ND(0.29)**	0.0144	20.14
AOC2627-SB-12 (5-10 ft)	1,1,2,2-Tetrachloroethane	**ND(0.053)**	0.00481	11.02
AOC2627-SB-12 (5-10 ft)	Bromodichloromethane	**ND(0.053)**	0.00621	8.53
AOC2627-SB-12 (5-10 ft)	Hexachloroethane	**ND(0.24)**	0.032	7.50
AOC2627-SB-12 (5-10 ft)	Dibromochloromethane	**ND(0.053)**	0.00755	7.02
AOC2627-SB-12 (5-10 ft)	Bromomethane	**ND(0.21)**	0.0343	6.12
AOC2627-SB-12 (5-10 ft)	2,4-Dinitrotoluene	**ND(0.29)**	0.0492	5.89
AOC2627-SB-12 (5-10 ft)	Hexachlorobutadiene	**ND(0.24)**	0.0413	5.81
AOC2627-SB-12 (5-10 ft)	Chloroform	**ND(0.053)**	0.0109	4.86
AOC2627-SB-12 (5-10 ft)	Naphthalene	**ND(0.24)**	0.0583	4.12
AOC2627-SB-12 (5-10 ft)	Vinyl Chloride	**ND(0.053)**	0.0134	3.96
AOC2627-SB-12 (5-10 ft)	Hexachlorobutadiene	**ND(0.11)**	0.0413	2.66
AOC2627-SB-12 (5-10 ft)	3,3-Dichlorobenzidine	**ND(0.29)**	0.124	2.34
AOC2627-SB-12 (5-10 ft)	1,2-Dichloroethane	**ND(0.053)**	0.0238	2.23
AOC2627-SB-12 (5-10 ft)	1,1,2-Trichloroethane	**ND(0.053)**	0.0268	1.98
AOC2627-SB-12 (5-10 ft)	1,2-Dichloropropane	**ND(0.053)**	0.0277	1.91
AOC2627-SB-12 (5-10 ft)	Pentachlorophenol	**ND(0.29)**	0.152	1.91
AOC2627-SB-12 (5-10 ft)	Naphthalene	**ND(0.11)**	0.0583	1.89
AOC2627-SB-12 (5-10 ft)	Trichloroethene	**ND(0.053)**	0.031	1.71
AOC2627-SB-12 (5-10 ft)	Chloromethane	**ND(0.16)**	0.0952	1.68
AOC2627-SB-12 (5-10 ft)	Dibromomethane	**ND(0.053)**	0.0335	1.58
AOC2627-SB-12 (5-10 ft)	1,1,1,2-Tetrachloroethane	**ND(0.053)**	0.036	1.47
AOC2627-SB-12 (5-10 ft)	Carbon tetrachloride	**ND(0.053)**	0.0367	1.44
AOC2627-SB-12 (5-10 ft)	Hexachlorobenzene	**ND(0.24)**	0.189	1.27
AOC2627-SB-12 (5-10 ft)	TPH GRO	**ND(5.3)**	4.94	1.07
AOC2627-SB-12 (5-10 ft)	TPH DRO	**ND(9.8)**	13.2	0.74

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-13 (0.5-1 ft)	TPH ORO	**ND(47)**	13.2	3.56
AOC2627-SB-13 (0.5-1 ft)	Iron, Total	**9000**	6960	1.29
AOC2627-SB-13 (0.5-1 ft)	Chloroform	**0.013**	0.0109	1.19
AOC2627-SB-13 (0.5-1 ft)	N-Nitrosodimethylamine	**ND(2.8)**	0.0000204	137254.90
AOC2627-SB-13 (0.5-1 ft)	Bis(2-chloroethyl)ether	**ND(2.8)**	0.000605	4628.10
AOC2627-SB-13 (0.5-1 ft)	1,2,3-Trichloropropane	**ND(0.12)**	0.0000582	2061.86
AOC2627-SB-13 (0.5-1 ft)	2,6-Dinitrotoluene	**ND(2.8)**	0.0102	274.51
AOC2627-SB-13 (0.5-1 ft)	Nitrobenzene	**ND(2.8)**	0.0144	194.44
AOC2627-SB-13 (0.5-1 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.12)**	0.00139	86.33
AOC2627-SB-13 (0.5-1 ft)	Hexachloroethane	**ND(2.3)**	0.032	71.88
AOC2627-SB-13 (0.5-1 ft)	2,4-Dinitrotoluene	**ND(2.8)**	0.0492	56.91
AOC2627-SB-13 (0.5-1 ft)	Hexachlorobutadiene	**ND(2.3)**	0.0413	55.69
AOC2627-SB-13 (0.5-1 ft)	Naphthalene	**ND(2.3)**	0.0583	39.45
AOC2627-SB-13 (0.5-1 ft)	1,4-Dioxane	**ND(0.61)**	0.0163	37.42
AOC2627-SB-13 (0.5-1 ft)	3,3-Dichlorobenzidine	**ND(2.8)**	0.124	22.58
AOC2627-SB-13 (0.5-1 ft)	Pentachlorophenol	**ND(2.8)**	0.152	18.42
AOC2627-SB-13 (0.5-1 ft)	1,1,2,2-Tetrachloroethane	**ND(0.061)**	0.00481	12.68
AOC2627-SB-13 (0.5-1 ft)	Hexachlorobenzene	**ND(2.3)**	0.189	12.17
AOC2627-SB-13 (0.5-1 ft)	Bromodichloromethane	**ND(0.061)**	0.00621	9.82
AOC2627-SB-13 (0.5-1 ft)	Dibromochloromethane	**ND(0.061)**	0.00755	8.08
AOC2627-SB-13 (0.5-1 ft)	Bromomethane	**ND(0.24)**	0.0343	7.00
AOC2627-SB-13 (0.5-1 ft)	Vinyl Chloride	**ND(0.061)**	0.0134	4.55
AOC2627-SB-13 (0.5-1 ft)	2,4-Dinitrophenol	**ND(2.8)**	0.669	4.19
AOC2627-SB-13 (0.5-1 ft)	Benzo(a)anthracene	**ND(2.3)**	0.637	3.61
AOC2627-SB-13 (0.5-1 ft)	2,4,6-Trichlorophenol	**ND(2.3)**	0.674	3.41
AOC2627-SB-13 (0.5-1 ft)	2,4-Dichlorophenol	**ND(2.8)**	0.825	3.39
AOC2627-SB-13 (0.5-1 ft)	Hexachlorobutadiene	**ND(0.12)**	0.0413	2.91
AOC2627-SB-13 (0.5-1 ft)	1-Methylnaphthalene	**ND(2.3)**	0.893	2.58
AOC2627-SB-13 (0.5-1 ft)	1,2-Dichloroethane	**ND(0.061)**	0.0238	2.56
AOC2627-SB-13 (0.5-1 ft)	1,1,2-Trichloroethane	**ND(0.061)**	0.0268	2.28
AOC2627-SB-13 (0.5-1 ft)	1,2-Dichloropropane	**ND(0.061)**	0.0277	2.20
AOC2627-SB-13 (0.5-1 ft)	Naphthalene	**ND(0.12)**	0.0583	2.06
AOC2627-SB-13 (0.5-1 ft)	1,4-Dichlorobenzene	**ND(2.3)**	1.12	2.05
AOC2627-SB-13 (0.5-1 ft)	2-Chlorophenol	**ND(2.3)**	1.15	2.00
AOC2627-SB-13 (0.5-1 ft)	Trichloroethene	**ND(0.061)**	0.031	1.97
AOC2627-SB-13 (0.5-1 ft)	Chloromethane	**ND(0.18)**	0.0952	1.89
AOC2627-SB-13 (0.5-1 ft)	Dibromomethane	**ND(0.061)**	0.0335	1.82
AOC2627-SB-13 (0.5-1 ft)	1,1,1,2-Tetrachloroethane	**ND(0.061)**	0.036	1.69

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-13 (0.5-1 ft)	Carbon tetrachloride	**ND(0.061)**	0.0367	1.66
AOC2627-SB-13 (0.5-1 ft)	TPH GRO	**ND(6.1)**	4.94	1.23
AOC2627-SB-13 (0.5-1 ft)	TPH DRO	**ND(9.4)**	13.2	0.71
AOC2627-SB-14 (0.5-1 ft)	TPH ORO	**ND(48)**	13.2	3.64
AOC2627-SB-14 (0.5-1 ft)	TPH DRO	**23**	13.2	1.74
AOC2627-SB-14 (0.5-1 ft)	TPH GRO	**ND(7.4)**	4.94	1.50
AOC2627-SB-14 (0.5-1 ft)	Iron, Total	**8200**	6960	1.18
AOC2627-SB-14 (0.5-1 ft)	N-Nitrosodimethylamine	**ND(3)**	0.0000204	147058.82
AOC2627-SB-14 (0.5-1 ft)	Bis(2-chloroethyl)ether	**ND(3)**	0.000605	4958.68
AOC2627-SB-14 (0.5-1 ft)	1,2,3-Trichloropropane	**ND(0.15)**	0.0000582	2577.32
AOC2627-SB-14 (0.5-1 ft)	2,6-Dinitrotoluene	**ND(3)**	0.0102	294.12
AOC2627-SB-14 (0.5-1 ft)	Nitrobenzene	**ND(3)**	0.0144	208.33
AOC2627-SB-14 (0.5-1 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.15)**	0.00139	107.91
AOC2627-SB-14 (0.5-1 ft)	Hexachloroethane	**ND(2.5)**	0.032	78.13
AOC2627-SB-14 (0.5-1 ft)	2,4-Dinitrotoluene	**ND(3)**	0.0492	60.98
AOC2627-SB-14 (0.5-1 ft)	Hexachlorobutadiene	**ND(2.5)**	0.0413	60.53
AOC2627-SB-14 (0.5-1 ft)	1,4-Dioxane	**ND(0.74)**	0.0163	45.40
AOC2627-SB-14 (0.5-1 ft)	Naphthalene	**ND(2.5)**	0.0583	42.88
AOC2627-SB-14 (0.5-1 ft)	3,3-Dichlorobenzidine	**ND(3)**	0.124	24.19
AOC2627-SB-14 (0.5-1 ft)	Pentachlorophenol	**ND(3)**	0.152	19.74
AOC2627-SB-14 (0.5-1 ft)	1,1,2,2-Tetrachloroethane	**ND(0.074)**	0.00481	15.38
AOC2627-SB-14 (0.5-1 ft)	Hexachlorobenzene	**ND(2.5)**	0.189	13.23
AOC2627-SB-14 (0.5-1 ft)	Bromodichloromethane	**ND(0.074)**	0.00621	11.92
AOC2627-SB-14 (0.5-1 ft)	Dibromochloromethane	**ND(0.074)**	0.00755	9.80
AOC2627-SB-14 (0.5-1 ft)	Bromomethane	**ND(0.29)**	0.0343	8.45
AOC2627-SB-14 (0.5-1 ft)	Chloroform	**ND(0.074)**	0.0109	6.79
AOC2627-SB-14 (0.5-1 ft)	Vinyl Chloride	**ND(0.074)**	0.0134	5.52
AOC2627-SB-14 (0.5-1 ft)	2,4-Dinitrophenol	**ND(3)**	0.669	4.48
AOC2627-SB-14 (0.5-1 ft)	Benzo(a)anthracene	**ND(2.5)**	0.637	3.92
AOC2627-SB-14 (0.5-1 ft)	2,4,6-Trichlorophenol	**ND(2.5)**	0.674	3.71
AOC2627-SB-14 (0.5-1 ft)	2,4-Dichlorophenol	**ND(3)**	0.825	3.64
AOC2627-SB-14 (0.5-1 ft)	Hexachlorobutadiene	**ND(0.15)**	0.0413	3.63
AOC2627-SB-14 (0.5-1 ft)	1,2-Dichloroethane	**ND(0.074)**	0.0238	3.11
AOC2627-SB-14 (0.5-1 ft)	1-Methylnaphthalene	**ND(2.5)**	0.893	2.80
AOC2627-SB-14 (0.5-1 ft)	1,1,2-Trichloroethane	**ND(0.074)**	0.0268	2.76
AOC2627-SB-14 (0.5-1 ft)	1,2-Dichloropropane	**ND(0.074)**	0.0277	2.67
AOC2627-SB-14 (0.5-1 ft)	Trichloroethene	**ND(0.074)**	0.031	2.39
AOC2627-SB-14 (0.5-1 ft)	Chloromethane	**ND(0.22)**	0.0952	2.31

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-14 (0.5-1 ft)	1,4-Dichlorobenzene	**ND(2.5)**	1.12	2.23
AOC2627-SB-14 (0.5-1 ft)	Dibromomethane	**ND(0.074)**	0.0335	2.21
AOC2627-SB-14 (0.5-1 ft)	2-Chlorophenol	**ND(2.5)**	1.15	2.17
AOC2627-SB-14 (0.5-1 ft)	1,1,1,2-Tetrachloroethane	**ND(0.074)**	0.036	2.06
AOC2627-SB-14 (0.5-1 ft)	Carbon tetrachloride	**ND(0.074)**	0.0367	2.02
AOC2627-SB-15 (0.5-1 ft)	TPH ORO	**83**	13.2	6.29
AOC2627-SB-15 (0.5-1 ft)	Iron, Total	**15000**	6960	2.16
AOC2627-SB-15 (0.5-1 ft)	N-Nitrosodimethylamine	**ND(2.9)**	0.0000204	142156.86
AOC2627-SB-15 (0.5-1 ft)	Bis(2-chloroethyl)ether	**ND(2.9)**	0.000605	4793.39
AOC2627-SB-15 (0.5-1 ft)	1,2,3-Trichloropropane	**ND(0.12)**	0.0000582	2061.86
AOC2627-SB-15 (0.5-1 ft)	2,6-Dinitrotoluene	**ND(2.9)**	0.0102	284.31
AOC2627-SB-15 (0.5-1 ft)	Nitrobenzene	**ND(2.9)**	0.0144	201.39
AOC2627-SB-15 (0.5-1 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.12)**	0.00139	86.33
AOC2627-SB-15 (0.5-1 ft)	Hexachloroethane	**ND(2.4)**	0.032	75.00
AOC2627-SB-15 (0.5-1 ft)	2,4-Dinitrotoluene	**ND(2.9)**	0.0492	58.94
AOC2627-SB-15 (0.5-1 ft)	Hexachlorobutadiene	**ND(2.4)**	0.0413	58.11
AOC2627-SB-15 (0.5-1 ft)	Naphthalene	**ND(2.4)**	0.0583	41.17
AOC2627-SB-15 (0.5-1 ft)	1,4-Dioxane	**ND(0.59)**	0.0163	36.20
AOC2627-SB-15 (0.5-1 ft)	3,3-Dichlorobenzidine	**ND(2.9)**	0.124	23.39
AOC2627-SB-15 (0.5-1 ft)	Pentachlorophenol	**ND(2.9)**	0.152	19.08
AOC2627-SB-15 (0.5-1 ft)	Hexachlorobenzene	**ND(2.4)**	0.189	12.70
AOC2627-SB-15 (0.5-1 ft)	1,1,2,2-Tetrachloroethane	**ND(0.059)**	0.00481	12.27
AOC2627-SB-15 (0.5-1 ft)	Bromodichloromethane	**ND(0.059)**	0.00621	9.50
AOC2627-SB-15 (0.5-1 ft)	Dibromochloromethane	**ND(0.059)**	0.00755	7.81
AOC2627-SB-15 (0.5-1 ft)	Bromomethane	**ND(0.24)**	0.0343	7.00
AOC2627-SB-15 (0.5-1 ft)	Chloroform	**ND(0.059)**	0.0109	5.41
AOC2627-SB-15 (0.5-1 ft)	Vinyl Chloride	**ND(0.059)**	0.0134	4.40
AOC2627-SB-15 (0.5-1 ft)	2,4-Dinitrophenol	**ND(2.9)**	0.669	4.33
AOC2627-SB-15 (0.5-1 ft)	Benzo(a)anthracene	**ND(2.4)**	0.637	3.77
AOC2627-SB-15 (0.5-1 ft)	2,4,6-Trichlorophenol	**ND(2.4)**	0.674	3.56
AOC2627-SB-15 (0.5-1 ft)	2,4-Dichlorophenol	**ND(2.9)**	0.825	3.52
AOC2627-SB-15 (0.5-1 ft)	Hexachlorobutadiene	**ND(0.12)**	0.0413	2.91
AOC2627-SB-15 (0.5-1 ft)	1-Methylnaphthalene	**ND(2.4)**	0.893	2.69
AOC2627-SB-15 (0.5-1 ft)	1,2-Dichloroethane	**ND(0.059)**	0.0238	2.48
AOC2627-SB-15 (0.5-1 ft)	1,1,2-Trichloroethane	**ND(0.059)**	0.0268	2.20
AOC2627-SB-15 (0.5-1 ft)	1,4-Dichlorobenzene	**ND(2.4)**	1.12	2.14
AOC2627-SB-15 (0.5-1 ft)	1,2-Dichloropropane	**ND(0.059)**	0.0277	2.13
AOC2627-SB-15 (0.5-1 ft)	2-Chlorophenol	**ND(2.4)**	1.15	2.09

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-15 (0.5-1 ft)	Trichloroethene	**ND(0.059)**	0.031	1.90
AOC2627-SB-15 (0.5-1 ft)	Chloromethane	**ND(0.18)**	0.0952	1.89
AOC2627-SB-15 (0.5-1 ft)	Dibromomethane	**ND(0.059)**	0.0335	1.76
AOC2627-SB-15 (0.5-1 ft)	1,1,1,2-Tetrachloroethane	**ND(0.059)**	0.036	1.64
AOC2627-SB-15 (0.5-1 ft)	Carbon tetrachloride	**ND(0.059)**	0.0367	1.61
AOC2627-SB-15 (0.5-1 ft)	TPH DRO	**17**	13.2	1.29
AOC2627-SB-15 (0.5-1 ft)	TPH GRO	**ND(5.9)**	4.94	1.19
AOC2627-SB-16 (0.5-1 ft)	TPH ORO	**ND(460)**	13.2	34.85
AOC2627-SB-16 (0.5-1 ft)	TPH DRO	**140**	13.2	10.61
AOC2627-SB-16 (0.5-1 ft)	TPH GRO	**20**	4.94	4.05
AOC2627-SB-16 (0.5-1 ft)	Naphthalene	**0.26**	0.0583	4.46
AOC2627-SB-16 (0.5-1 ft)	Iron, Total	**12000**	6960	1.72
AOC2627-SB-16 (0.5-1 ft)	Cobalt, Total	**6.2**	5.4	1.15
AOC2627-SB-16 (0.5-1 ft)	N-Nitrosodimethylamine	**ND(2.7)**	0.0000204	132352.94
AOC2627-SB-16 (0.5-1 ft)	Bis(2-chloroethyl)ether	**ND(2.7)**	0.000605	4462.81
AOC2627-SB-16 (0.5-1 ft)	1,2,3-Trichloropropane	**ND(0.16)**	0.0000582	2749.14
AOC2627-SB-16 (0.5-1 ft)	2,6-Dinitrotoluene	**ND(2.7)**	0.0102	264.71
AOC2627-SB-16 (0.5-1 ft)	Nitrobenzene	**ND(2.7)**	0.0144	187.50
AOC2627-SB-16 (0.5-1 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.16)**	0.00139	115.11
AOC2627-SB-16 (0.5-1 ft)	Hexachloroethane	**ND(2.3)**	0.032	71.88
AOC2627-SB-16 (0.5-1 ft)	Hexachlorobutadiene	**ND(2.3)**	0.0413	55.69
AOC2627-SB-16 (0.5-1 ft)	2,4-Dinitrotoluene	**ND(2.7)**	0.0492	54.88
AOC2627-SB-16 (0.5-1 ft)	1,4-Dioxane	**ND(0.78)**	0.0163	47.85
AOC2627-SB-16 (0.5-1 ft)	Naphthalene	**ND(2.3)**	0.0583	39.45
AOC2627-SB-16 (0.5-1 ft)	3,3-Dichlorobenzidine	**ND(2.7)**	0.124	21.77
AOC2627-SB-16 (0.5-1 ft)	Pentachlorophenol	**ND(2.7)**	0.152	17.76
AOC2627-SB-16 (0.5-1 ft)	1,1,2,2-Tetrachloroethane	**ND(0.078)**	0.00481	16.22
AOC2627-SB-16 (0.5-1 ft)	Bromodichloromethane	**ND(0.078)**	0.00621	12.56
AOC2627-SB-16 (0.5-1 ft)	Hexachlorobenzene	**ND(2.3)**	0.189	12.17
AOC2627-SB-16 (0.5-1 ft)	Dibromochloromethane	**ND(0.078)**	0.00755	10.33
AOC2627-SB-16 (0.5-1 ft)	Bromomethane	**ND(0.31)**	0.0343	9.04
AOC2627-SB-16 (0.5-1 ft)	Chloroform	**ND(0.078)**	0.0109	7.16
AOC2627-SB-16 (0.5-1 ft)	Vinyl Chloride	**ND(0.078)**	0.0134	5.82
AOC2627-SB-16 (0.5-1 ft)	2,4-Dinitrophenol	**ND(2.7)**	0.669	4.04
AOC2627-SB-16 (0.5-1 ft)	Hexachlorobutadiene	**ND(0.16)**	0.0413	3.87
AOC2627-SB-16 (0.5-1 ft)	Benzo(a)anthracene	**ND(2.3)**	0.637	3.61
AOC2627-SB-16 (0.5-1 ft)	2,4,6-Trichlorophenol	**ND(2.3)**	0.674	3.41
AOC2627-SB-16 (0.5-1 ft)	1,2-Dichloroethane	**ND(0.078)**	0.0238	3.28

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-16 (0.5-1 ft)	2,4-Dichlorophenol	**ND(2.7)**	0.825	3.27
AOC2627-SB-16 (0.5-1 ft)	1,1,2-Trichloroethane	**ND(0.078)**	0.0268	2.91
AOC2627-SB-16 (0.5-1 ft)	1,2-Dichloropropane	**ND(0.078)**	0.0277	2.82
AOC2627-SB-16 (0.5-1 ft)	1-Methylnaphthalene	**ND(2.3)**	0.893	2.58
AOC2627-SB-16 (0.5-1 ft)	Chloromethane	**ND(0.24)**	0.0952	2.52
AOC2627-SB-16 (0.5-1 ft)	Trichloroethene	**ND(0.078)**	0.031	2.52
AOC2627-SB-16 (0.5-1 ft)	Dibromomethane	**ND(0.078)**	0.0335	2.33
AOC2627-SB-16 (0.5-1 ft)	1,1,1,2-Tetrachloroethane	**ND(0.078)**	0.036	2.17
AOC2627-SB-16 (0.5-1 ft)	Carbon tetrachloride	**ND(0.078)**	0.0367	2.13
AOC2627-SB-16 (0.5-1 ft)	1,4-Dichlorobenzene	**ND(2.3)**	1.12	2.05
AOC2627-SB-16 (0.5-1 ft)	2-Chlorophenol	**ND(2.3)**	1.15	2.00
AOC2627-SB-18 (0.5-1 ft)	TPH ORO	**91**	13.2	6.89
AOC2627-SB-18 (0.5-1 ft)	Iron, Total	**7600**	6960	1.09
AOC2627-SB-18 (0.5-1 ft)	N-Nitrosodimethylamine	**ND(3)**	0.0000204	147058.82
AOC2627-SB-18 (0.5-1 ft)	Bis(2-chloroethyl)ether	**ND(3)**	0.000605	4958.68
AOC2627-SB-18 (0.5-1 ft)	1,2,3-Trichloropropane	**ND(0.048)**	0.0000582	824.74
AOC2627-SB-18 (0.5-1 ft)	2,6-Dinitrotoluene	**ND(3)**	0.0102	294.12
AOC2627-SB-18 (0.5-1 ft)	Nitrobenzene	**ND(3)**	0.0144	208.33
AOC2627-SB-18 (0.5-1 ft)	Hexachloroethane	**ND(2.5)**	0.032	78.13
AOC2627-SB-18 (0.5-1 ft)	2,4-Dinitrotoluene	**ND(3)**	0.0492	60.98
AOC2627-SB-18 (0.5-1 ft)	Hexachlorobutadiene	**ND(2.5)**	0.0413	60.53
AOC2627-SB-18 (0.5-1 ft)	Naphthalene	**ND(2.5)**	0.0583	42.88
AOC2627-SB-18 (0.5-1 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.048)**	0.00139	34.53
AOC2627-SB-18 (0.5-1 ft)	3,3-Dichlorobenzidine	**ND(3)**	0.124	24.19
AOC2627-SB-18 (0.5-1 ft)	Pentachlorophenol	**ND(3)**	0.152	19.74
AOC2627-SB-18 (0.5-1 ft)	1,4-Dioxane	**ND(0.24)**	0.0163	14.72
AOC2627-SB-18 (0.5-1 ft)	Hexachlorobenzene	**ND(2.5)**	0.189	13.23
AOC2627-SB-18 (0.5-1 ft)	1,1,2,2-Tetrachloroethane	**ND(0.024)**	0.00481	4.99
AOC2627-SB-18 (0.5-1 ft)	2,4-Dinitrophenol	**ND(3)**	0.669	4.48
AOC2627-SB-18 (0.5-1 ft)	Benzo(a)anthracene	**ND(2.5)**	0.637	3.92
AOC2627-SB-18 (0.5-1 ft)	Bromodichloromethane	**ND(0.024)**	0.00621	3.86
AOC2627-SB-18 (0.5-1 ft)	2,4,6-Trichlorophenol	**ND(2.5)**	0.674	3.71
AOC2627-SB-18 (0.5-1 ft)	2,4-Dichlorophenol	**ND(3)**	0.825	3.64
AOC2627-SB-18 (0.5-1 ft)	Dibromochloromethane	**ND(0.024)**	0.00755	3.18
AOC2627-SB-18 (0.5-1 ft)	1-Methylnaphthalene	**ND(2.5)**	0.893	2.80
AOC2627-SB-18 (0.5-1 ft)	Bromomethane	**ND(0.096)**	0.0343	2.80
AOC2627-SB-18 (0.5-1 ft)	1,4-Dichlorobenzene	**ND(2.5)**	1.12	2.23
AOC2627-SB-18 (0.5-1 ft)	Chloroform	**ND(0.024)**	0.0109	2.20

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-18 (0.5-1 ft)	2-Chlorophenol	**ND(2.5)**	1.15	2.17
AOC2627-SB-18 (0.5-1 ft)	Vinyl Chloride	**ND(0.024)**	0.0134	1.79
AOC2627-SB-18 (0.5-1 ft)	Hexachlorobutadiene	**ND(0.048)**	0.0413	1.16
AOC2627-SB-18 (0.5-1 ft)	1,2-Dichloroethane	**ND(0.024)**	0.0238	1.01
AOC2627-SB-18 (0.5-1 ft)	TPH DRO	**9.8**	13.2	0.74
AOC2627-SB-18 (0.5-1 ft)	TPH GRO	**ND(2.4)**	4.94	0.49
AOC2627-SB-18 (10-11 ft)	TPH ORO	**ND(48)**	13.2	3.64
AOC2627-SB-18 (10-11 ft)	Iron, Total	**9900**	6960	1.42
AOC2627-SB-18 (10-11 ft)	N-Nitrosodimethylamine	**ND(0.3)**	0.0000204	14705.88
AOC2627-SB-18 (10-11 ft)	1,2,3-Trichloropropane	**ND(0.059)**	0.0000582	1013.75
AOC2627-SB-18 (10-11 ft)	Bis(2-chloroethyl)ether	**ND(0.3)**	0.000605	495.87
AOC2627-SB-18 (10-11 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.059)**	0.00139	42.45
AOC2627-SB-18 (10-11 ft)	2,6-Dinitrotoluene	**ND(0.3)**	0.0102	29.41
AOC2627-SB-18 (10-11 ft)	Nitrobenzene	**ND(0.3)**	0.0144	20.83
AOC2627-SB-18 (10-11 ft)	1,4-Dioxane	**ND(0.29)**	0.0163	17.79
AOC2627-SB-18 (10-11 ft)	Hexachloroethane	**ND(0.25)**	0.032	7.81
AOC2627-SB-18 (10-11 ft)	2,4-Dinitrotoluene	**ND(0.3)**	0.0492	6.10
AOC2627-SB-18 (10-11 ft)	Hexachlorobutadiene	**ND(0.25)**	0.0413	6.05
AOC2627-SB-18 (10-11 ft)	1,1,2,2-Tetrachloroethane	**ND(0.029)**	0.00481	6.03
AOC2627-SB-18 (10-11 ft)	Bromodichloromethane	**ND(0.029)**	0.00621	4.67
AOC2627-SB-18 (10-11 ft)	Naphthalene	**ND(0.25)**	0.0583	4.29
AOC2627-SB-18 (10-11 ft)	Dibromochloromethane	**ND(0.029)**	0.00755	3.84
AOC2627-SB-18 (10-11 ft)	Bromomethane	**ND(0.12)**	0.0343	3.50
AOC2627-SB-18 (10-11 ft)	Chloroform	**ND(0.029)**	0.0109	2.66
AOC2627-SB-18 (10-11 ft)	3,3-Dichlorobenzidine	**ND(0.3)**	0.124	2.42
AOC2627-SB-18 (10-11 ft)	Vinyl Chloride	**ND(0.029)**	0.0134	2.16
AOC2627-SB-18 (10-11 ft)	Pentachlorophenol	**ND(0.3)**	0.152	1.97
AOC2627-SB-18 (10-11 ft)	Hexachlorobutadiene	**ND(0.059)**	0.0413	1.43
AOC2627-SB-18 (10-11 ft)	Hexachlorobenzene	**ND(0.25)**	0.189	1.32
AOC2627-SB-18 (10-11 ft)	1,2-Dichloroethane	**ND(0.029)**	0.0238	1.22
AOC2627-SB-18 (10-11 ft)	1,1,2-Trichloroethane	**ND(0.029)**	0.0268	1.08
AOC2627-SB-18 (10-11 ft)	1,2-Dichloropropane	**ND(0.029)**	0.0277	1.05
AOC2627-SB-18 (10-11 ft)	Naphthalene	**ND(0.059)**	0.0583	1.01
AOC2627-SB-18 (10-11 ft)	TPH DRO	**ND(9.7)**	13.2	0.73
AOC2627-SB-18 (10-11 ft)	TPH GRO	**ND(2.9)**	4.94	0.59
AOC2627-SB-19 (0.5-1 ft)	TPH ORO	**80**	13.2	6.06
AOC2627-SB-19 (0.5-1 ft)	TPH GRO	**ND(5.4)**	4.94	1.09
AOC2627-SB-19 (0.5-1 ft)	Iron, Total	**11000**	6960	1.58

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-19 (0.5-1 ft)	N-Nitrosodimethylamine	**ND(2.9)**	0.0000204	142156.86
AOC2627-SB-19 (0.5-1 ft)	Bis(2-chloroethyl)ether	**ND(2.9)**	0.000605	4793.39
AOC2627-SB-19 (0.5-1 ft)	1,2,3-Trichloropropane	**ND(0.11)**	0.0000582	1890.03
AOC2627-SB-19 (0.5-1 ft)	2,6-Dinitrotoluene	**ND(2.9)**	0.0102	284.31
AOC2627-SB-19 (0.5-1 ft)	Nitrobenzene	**ND(2.9)**	0.0144	201.39
AOC2627-SB-19 (0.5-1 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.11)**	0.00139	79.14
AOC2627-SB-19 (0.5-1 ft)	Hexachloroethane	**ND(2.4)**	0.032	75.00
AOC2627-SB-19 (0.5-1 ft)	2,4-Dinitrotoluene	**ND(2.9)**	0.0492	58.94
AOC2627-SB-19 (0.5-1 ft)	Hexachlorobutadiene	**ND(2.4)**	0.0413	58.11
AOC2627-SB-19 (0.5-1 ft)	Naphthalene	**ND(2.4)**	0.0583	41.17
AOC2627-SB-19 (0.5-1 ft)	1,4-Dioxane	**ND(0.54)**	0.0163	33.13
AOC2627-SB-19 (0.5-1 ft)	3,3-Dichlorobenzidine	**ND(2.9)**	0.124	23.39
AOC2627-SB-19 (0.5-1 ft)	Pentachlorophenol	**ND(2.9)**	0.152	19.08
AOC2627-SB-19 (0.5-1 ft)	Hexachlorobenzene	**ND(2.4)**	0.189	12.70
AOC2627-SB-19 (0.5-1 ft)	1,1,2,2-Tetrachloroethane	**ND(0.054)**	0.00481	11.23
AOC2627-SB-19 (0.5-1 ft)	Bromodichloromethane	**ND(0.054)**	0.00621	8.70
AOC2627-SB-19 (0.5-1 ft)	Dibromochloromethane	**ND(0.054)**	0.00755	7.15
AOC2627-SB-19 (0.5-1 ft)	Bromomethane	**ND(0.21)**	0.0343	6.12
AOC2627-SB-19 (0.5-1 ft)	Chloroform	**ND(0.054)**	0.0109	4.95
AOC2627-SB-19 (0.5-1 ft)	2,4-Dinitrophenol	**ND(2.9)**	0.669	4.33
AOC2627-SB-19 (0.5-1 ft)	Vinyl Chloride	**ND(0.054)**	0.0134	4.03
AOC2627-SB-19 (0.5-1 ft)	Benzo(a)anthracene	**ND(2.4)**	0.637	3.77
AOC2627-SB-19 (0.5-1 ft)	2,4,6-Trichlorophenol	**ND(2.4)**	0.674	3.56
AOC2627-SB-19 (0.5-1 ft)	2,4-Dichlorophenol	**ND(2.9)**	0.825	3.52
AOC2627-SB-19 (0.5-1 ft)	1-Methylnaphthalene	**ND(2.4)**	0.893	2.69
AOC2627-SB-19 (0.5-1 ft)	Hexachlorobutadiene	**ND(0.11)**	0.0413	2.66
AOC2627-SB-19 (0.5-1 ft)	1,2-Dichloroethane	**ND(0.054)**	0.0238	2.27
AOC2627-SB-19 (0.5-1 ft)	1,4-Dichlorobenzene	**ND(2.4)**	1.12	2.14
AOC2627-SB-19 (0.5-1 ft)	2-Chlorophenol	**ND(2.4)**	1.15	2.09
AOC2627-SB-19 (0.5-1 ft)	1,1,2-Trichloroethane	**ND(0.054)**	0.0268	2.01
AOC2627-SB-19 (0.5-1 ft)	1,2-Dichloropropane	**ND(0.054)**	0.0277	1.95
AOC2627-SB-19 (0.5-1 ft)	Naphthalene	**ND(0.11)**	0.0583	1.89
AOC2627-SB-19 (0.5-1 ft)	Trichloroethene	**ND(0.054)**	0.031	1.74
AOC2627-SB-19 (0.5-1 ft)	Chloromethane	**ND(0.16)**	0.0952	1.68
AOC2627-SB-19 (0.5-1 ft)	Dibromomethane	**ND(0.054)**	0.0335	1.61
AOC2627-SB-19 (0.5-1 ft)	1,1,1,2-Tetrachloroethane	**ND(0.054)**	0.036	1.50
AOC2627-SB-19 (0.5-1 ft)	Carbon tetrachloride	**ND(0.054)**	0.0367	1.47
AOC2627-SB-19 (0.5-1 ft)	TPH DRO	**ND(9.5)**	13.2	0.72

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-19 (10-11 ft)	TPH ORO	**ND(48)**	13.2	3.64
AOC2627-SB-19 (10-11 ft)	Iron, Total	**11000**	6960	1.58
AOC2627-SB-19 (10-11 ft)	N-Nitrosodimethylamine	**ND(0.29)**	0.0000204	14215.69
AOC2627-SB-19 (10-11 ft)	1,2,3-Trichloropropane	**ND(0.054)**	0.0000582	927.84
AOC2627-SB-19 (10-11 ft)	Bis(2-chloroethyl)ether	**ND(0.29)**	0.000605	479.34
AOC2627-SB-19 (10-11 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.054)**	0.00139	38.85
AOC2627-SB-19 (10-11 ft)	2,6-Dinitrotoluene	**ND(0.29)**	0.0102	28.43
AOC2627-SB-19 (10-11 ft)	Nitrobenzene	**ND(0.29)**	0.0144	20.14
AOC2627-SB-19 (10-11 ft)	1,4-Dioxane	**ND(0.27)**	0.0163	16.56
AOC2627-SB-19 (10-11 ft)	Hexachloroethane	**ND(0.24)**	0.032	7.50
AOC2627-SB-19 (10-11 ft)	2,4-Dinitrotoluene	**ND(0.29)**	0.0492	5.89
AOC2627-SB-19 (10-11 ft)	Hexachlorobutadiene	**ND(0.24)**	0.0413	5.81
AOC2627-SB-19 (10-11 ft)	1,1,2,2-Tetrachloroethane	**ND(0.027)**	0.00481	5.61
AOC2627-SB-19 (10-11 ft)	Bromodichloromethane	**ND(0.027)**	0.00621	4.35
AOC2627-SB-19 (10-11 ft)	Naphthalene	**ND(0.24)**	0.0583	4.12
AOC2627-SB-19 (10-11 ft)	Dibromochloromethane	**ND(0.027)**	0.00755	3.58
AOC2627-SB-19 (10-11 ft)	Bromomethane	**ND(0.11)**	0.0343	3.21
AOC2627-SB-19 (10-11 ft)	Chloroform	**ND(0.027)**	0.0109	2.48
AOC2627-SB-19 (10-11 ft)	3,3-Dichlorobenzidine	**ND(0.29)**	0.124	2.34
AOC2627-SB-19 (10-11 ft)	Vinyl Chloride	**ND(0.027)**	0.0134	2.01
AOC2627-SB-19 (10-11 ft)	Pentachlorophenol	**ND(0.29)**	0.152	1.91
AOC2627-SB-19 (10-11 ft)	Hexachlorobutadiene	**ND(0.054)**	0.0413	1.31
AOC2627-SB-19 (10-11 ft)	Hexachlorobenzene	**ND(0.24)**	0.189	1.27
AOC2627-SB-19 (10-11 ft)	1,2-Dichloroethane	**ND(0.027)**	0.0238	1.13
AOC2627-SB-19 (10-11 ft)	1,1,2-Trichloroethane	**ND(0.027)**	0.0268	1.01
AOC2627-SB-19 (10-11 ft)	TPH DRO	**11**	13.2	0.83
AOC2627-SB-19 (10-11 ft)	TPH GRO	**ND(2.7)**	4.94	0.55
AOC2627-SB-20 (0.5-1 ft)	TPH ORO	**42**	13.2	3.18
AOC2627-SB-20 (0.5-1 ft)	TPH GRO	**ND(4.8)**	4.94	0.97
AOC2627-SB-20 (0.5-1 ft)	TPH DRO	**ND(9.9)**	13.2	0.75
AOC2627-SB-20 (0.5-1 ft)	Iron, Total	**9400**	6960	1.35
AOC2627-SB-20 (0.5-1 ft)	N-Nitrosodimethylamine	**ND(5.5)**	0.0000204	269607.84
AOC2627-SB-20 (0.5-1 ft)	Bis(2-chloroethyl)ether	**ND(5.5)**	0.000605	9090.91
AOC2627-SB-20 (0.5-1 ft)	1,2,3-Trichloropropane	**ND(0.097)**	0.0000582	1666.67
AOC2627-SB-20 (0.5-1 ft)	2,6-Dinitrotoluene	**ND(5.5)**	0.0102	539.22
AOC2627-SB-20 (0.5-1 ft)	Nitrobenzene	**ND(5.5)**	0.0144	381.94
AOC2627-SB-20 (0.5-1 ft)	Hexachloroethane	**ND(4.6)**	0.032	143.75
AOC2627-SB-20 (0.5-1 ft)	2,4-Dinitrotoluene	**ND(5.5)**	0.0492	111.79

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-20 (0.5-1 ft)	Hexachlorobutadiene	**ND(4.6)**	0.0413	111.38
AOC2627-SB-20 (0.5-1 ft)	Naphthalene	**ND(4.6)**	0.0583	78.90
AOC2627-SB-20 (0.5-1 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.097)**	0.00139	69.78
AOC2627-SB-20 (0.5-1 ft)	3,3-Dichlorobenzidine	**ND(5.5)**	0.124	44.35
AOC2627-SB-20 (0.5-1 ft)	Pentachlorophenol	**ND(5.5)**	0.152	36.18
AOC2627-SB-20 (0.5-1 ft)	1,4-Dioxane	**ND(0.48)**	0.0163	29.45
AOC2627-SB-20 (0.5-1 ft)	Hexachlorobenzene	**ND(4.6)**	0.189	24.34
AOC2627-SB-20 (0.5-1 ft)	1,1,2,2-Tetrachloroethane	**ND(0.048)**	0.00481	9.98
AOC2627-SB-20 (0.5-1 ft)	2,4-Dinitrophenol	**ND(5.5)**	0.669	8.22
AOC2627-SB-20 (0.5-1 ft)	Bromodichloromethane	**ND(0.048)**	0.00621	7.73
AOC2627-SB-20 (0.5-1 ft)	Benzo(a)anthracene	**ND(4.6)**	0.637	7.22
AOC2627-SB-20 (0.5-1 ft)	2,4,6-Trichlorophenol	**ND(4.6)**	0.674	6.82
AOC2627-SB-20 (0.5-1 ft)	2,4-Dichlorophenol	**ND(5.5)**	0.825	6.67
AOC2627-SB-20 (0.5-1 ft)	Dibromochloromethane	**ND(0.048)**	0.00755	6.36
AOC2627-SB-20 (0.5-1 ft)	Bromomethane	**ND(0.19)**	0.0343	5.54
AOC2627-SB-20 (0.5-1 ft)	1-Methylnaphthalene	**ND(4.6)**	0.893	5.15
AOC2627-SB-20 (0.5-1 ft)	Chloroform	**ND(0.048)**	0.0109	4.40
AOC2627-SB-20 (0.5-1 ft)	1,4-Dichlorobenzene	**ND(4.6)**	1.12	4.11
AOC2627-SB-20 (0.5-1 ft)	2-Chlorophenol	**ND(4.6)**	1.15	4.00
AOC2627-SB-20 (0.5-1 ft)	Vinyl Chloride	**ND(0.048)**	0.0134	3.58
AOC2627-SB-20 (0.5-1 ft)	Hexachlorobutadiene	**ND(0.097)**	0.0413	2.35
AOC2627-SB-20 (0.5-1 ft)	1,2-Dichloroethane	**ND(0.048)**	0.0238	2.02
AOC2627-SB-20 (0.5-1 ft)	1,1,2-Trichloroethane	**ND(0.048)**	0.0268	1.79
AOC2627-SB-20 (0.5-1 ft)	1,2-Dichloropropane	**ND(0.048)**	0.0277	1.73
AOC2627-SB-20 (0.5-1 ft)	2-Methylnaphthalene	**ND(4.6)**	2.76	1.67
AOC2627-SB-20 (0.5-1 ft)	Naphthalene	**ND(0.097)**	0.0583	1.66
AOC2627-SB-20 (0.5-1 ft)	Chloromethane	**ND(0.15)**	0.0952	1.58
AOC2627-SB-20 (0.5-1 ft)	Trichloroethene	**ND(0.048)**	0.031	1.55
AOC2627-SB-20 (0.5-1 ft)	1,2,4-Trichlorobenzene	**ND(4.6)**	3.1	1.48
AOC2627-SB-20 (0.5-1 ft)	Dibromomethane	**ND(0.048)**	0.0335	1.43
AOC2627-SB-20 (0.5-1 ft)	1,1,1,2-Tetrachloroethane	**ND(0.048)**	0.036	1.33
AOC2627-SB-20 (0.5-1 ft)	Carbon tetrachloride	**ND(0.048)**	0.0367	1.31
AOC2627-SB-20 (0.5-1 ft)	Isophorone	**ND(5.5)**	4.23	1.30
AOC2627-SB-20 (10-11 ft)	TPH ORO	**ND(49)**	13.2	3.71
AOC2627-SB-20 (10-11 ft)	TPH GRO	**ND(12)**	4.94	2.43
AOC2627-SB-20 (10-11 ft)	Iron, Total	**17000**	6960	2.44
AOC2627-SB-20 (10-11 ft)	N-Nitrosodimethylamine	**ND(0.3)**	0.0000204	14705.88
AOC2627-SB-20 (10-11 ft)	1,2,3-Trichloropropane	**ND(0.25)**	0.0000582	4295.53

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-20 (10-11 ft)	Bis(2-chloroethyl)ether	**ND(0.3)**	0.000605	495.87
AOC2627-SB-20 (10-11 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.25)**	0.00139	179.86
AOC2627-SB-20 (10-11 ft)	1,4-Dioxane	**ND(1.2)**	0.0163	73.62
AOC2627-SB-20 (10-11 ft)	2,6-Dinitrotoluene	**ND(0.3)**	0.0102	29.41
AOC2627-SB-20 (10-11 ft)	1,1,2,2-Tetrachloroethane	**ND(0.12)**	0.00481	24.95
AOC2627-SB-20 (10-11 ft)	Nitrobenzene	**ND(0.3)**	0.0144	20.83
AOC2627-SB-20 (10-11 ft)	Bromodichloromethane	**ND(0.12)**	0.00621	19.32
AOC2627-SB-20 (10-11 ft)	Dibromochloromethane	**ND(0.12)**	0.00755	15.89
AOC2627-SB-20 (10-11 ft)	Bromomethane	**ND(0.49)**	0.0343	14.29
AOC2627-SB-20 (10-11 ft)	Chloroform	**ND(0.12)**	0.0109	11.01
AOC2627-SB-20 (10-11 ft)	Vinyl Chloride	**ND(0.12)**	0.0134	8.96
AOC2627-SB-20 (10-11 ft)	Hexachloroethane	**ND(0.25)**	0.032	7.81
AOC2627-SB-20 (10-11 ft)	2,4-Dinitrotoluene	**ND(0.3)**	0.0492	6.10
AOC2627-SB-20 (10-11 ft)	Hexachlorobutadiene	**ND(0.25)**	0.0413	6.05
AOC2627-SB-20 (10-11 ft)	Hexachlorobutadiene	**ND(0.25)**	0.0413	6.05
AOC2627-SB-20 (10-11 ft)	1,2-Dichloroethane	**ND(0.12)**	0.0238	5.04
AOC2627-SB-20 (10-11 ft)	1,1,2-Trichloroethane	**ND(0.12)**	0.0268	4.48
AOC2627-SB-20 (10-11 ft)	1,2-Dichloropropane	**ND(0.12)**	0.0277	4.33
AOC2627-SB-20 (10-11 ft)	Naphthalene	**ND(0.25)**	0.0583	4.29
AOC2627-SB-20 (10-11 ft)	Naphthalene	**ND(0.25)**	0.0583	4.29
AOC2627-SB-20 (10-11 ft)	Chloromethane	**ND(0.37)**	0.0952	3.89
AOC2627-SB-20 (10-11 ft)	Trichloroethene	**ND(0.12)**	0.031	3.87
AOC2627-SB-20 (10-11 ft)	Dibromomethane	**ND(0.12)**	0.0335	3.58
AOC2627-SB-20 (10-11 ft)	1,1,1,2-Tetrachloroethane	**ND(0.12)**	0.036	3.33
AOC2627-SB-20 (10-11 ft)	Carbon tetrachloride	**ND(0.12)**	0.0367	3.27
AOC2627-SB-20 (10-11 ft)	3,3-Dichlorobenzidine	**ND(0.3)**	0.124	2.42
AOC2627-SB-20 (10-11 ft)	Pentachlorophenol	**ND(0.3)**	0.152	1.97
AOC2627-SB-20 (10-11 ft)	Benzene	**ND(0.062)**	0.0418	1.48
AOC2627-SB-20 (10-11 ft)	Hexachlorobenzene	**ND(0.25)**	0.189	1.32
AOC2627-SB-20 (10-11 ft)	TPH DRO	**ND(9.8)**	13.2	0.74
AOC2627-SB-21 (5-6 ft)	TPH ORO	**ND(47)**	13.2	3.56
AOC2627-SB-21 (5-6 ft)	TPH GRO	**ND(6.4)**	4.94	1.30
AOC2627-SB-21 (5-6 ft)	Cobalt, Total	**9.6**	5.4	1.78
AOC2627-SB-21 (5-6 ft)	Iron, Total	**9900**	6960	1.42
AOC2627-SB-21 (5-6 ft)	Arsenic, Total	**6.4**	5.83	1.10
AOC2627-SB-21 (5-6 ft)	N-Nitrosodimethylamine	**ND(0.29)**	0.0000204	14215.69
AOC2627-SB-21 (5-6 ft)	1,2,3-Trichloropropane	**ND(0.13)**	0.0000582	2233.68
AOC2627-SB-21 (5-6 ft)	Bis(2-chloroethyl)ether	**ND(0.29)**	0.000605	479.34

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-21 (5-6 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.13)**	0.00139	93.53
AOC2627-SB-21 (5-6 ft)	1,4-Dioxane	**ND(0.64)**	0.0163	39.26
AOC2627-SB-21 (5-6 ft)	2,6-Dinitrotoluene	**ND(0.29)**	0.0102	28.43
AOC2627-SB-21 (5-6 ft)	Nitrobenzene	**ND(0.29)**	0.0144	20.14
AOC2627-SB-21 (5-6 ft)	1,1,2,2-Tetrachloroethane	**ND(0.064)**	0.00481	13.31
AOC2627-SB-21 (5-6 ft)	Bromodichloromethane	**ND(0.064)**	0.00621	10.31
AOC2627-SB-21 (5-6 ft)	Dibromochloromethane	**ND(0.064)**	0.00755	8.48
AOC2627-SB-21 (5-6 ft)	Hexachloroethane	**ND(0.25)**	0.032	7.81
AOC2627-SB-21 (5-6 ft)	Bromomethane	**ND(0.26)**	0.0343	7.58
AOC2627-SB-21 (5-6 ft)	Hexachlorobutadiene	**ND(0.25)**	0.0413	6.05
AOC2627-SB-21 (5-6 ft)	2,4-Dinitrotoluene	**ND(0.29)**	0.0492	5.89
AOC2627-SB-21 (5-6 ft)	Chloroform	**ND(0.064)**	0.0109	5.87
AOC2627-SB-21 (5-6 ft)	Vinyl Chloride	**ND(0.064)**	0.0134	4.78
AOC2627-SB-21 (5-6 ft)	Naphthalene	**ND(0.25)**	0.0583	4.29
AOC2627-SB-21 (5-6 ft)	Hexachlorobutadiene	**ND(0.13)**	0.0413	3.15
AOC2627-SB-21 (5-6 ft)	1,2-Dichloroethane	**ND(0.064)**	0.0238	2.69
AOC2627-SB-21 (5-6 ft)	1,1,2-Trichloroethane	**ND(0.064)**	0.0268	2.39
AOC2627-SB-21 (5-6 ft)	3,3-Dichlorobenzidine	**ND(0.29)**	0.124	2.34
AOC2627-SB-21 (5-6 ft)	1,2-Dichloropropane	**ND(0.064)**	0.0277	2.31
AOC2627-SB-21 (5-6 ft)	Naphthalene	**ND(0.13)**	0.0583	2.23
AOC2627-SB-21 (5-6 ft)	Trichloroethene	**ND(0.064)**	0.031	2.06
AOC2627-SB-21 (5-6 ft)	Chloromethane	**ND(0.19)**	0.0952	2.00
AOC2627-SB-21 (5-6 ft)	Dibromomethane	**ND(0.064)**	0.0335	1.91
AOC2627-SB-21 (5-6 ft)	Pentachlorophenol	**ND(0.29)**	0.152	1.91
AOC2627-SB-21 (5-6 ft)	1,1,1,2-Tetrachloroethane	**ND(0.064)**	0.036	1.78
AOC2627-SB-21 (5-6 ft)	Carbon tetrachloride	**ND(0.064)**	0.0367	1.74
AOC2627-SB-21 (5-6 ft)	Hexachlorobenzene	**ND(0.25)**	0.189	1.32
AOC2627-SB-21 (5-6 ft)	TPH DRO	**ND(9.4)**	13.2	0.71
AOC2627-SB-21 (8.5-9.5 ft)	TPH ORO	**35**	13.2	2.65
AOC2627-SB-21 (8.5-9.5 ft)	TPH GRO	**ND(6.8)**	4.94	1.38
AOC2627-SB-21 (8.5-9.5 ft)	N-Nitrosodimethylamine	**ND(2.9)**	0.0000204	142156.86
AOC2627-SB-21 (8.5-9.5 ft)	Bis(2-chloroethyl)ether	**ND(2.9)**	0.000605	4793.39
AOC2627-SB-21 (8.5-9.5 ft)	1,2,3-Trichloropropane	**ND(0.14)**	0.0000582	2405.50
AOC2627-SB-21 (8.5-9.5 ft)	2,6-Dinitrotoluene	**ND(2.9)**	0.0102	284.31
AOC2627-SB-21 (8.5-9.5 ft)	Nitrobenzene	**ND(2.9)**	0.0144	201.39
AOC2627-SB-21 (8.5-9.5 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.14)**	0.00139	100.72
AOC2627-SB-21 (8.5-9.5 ft)	Hexachloroethane	**ND(2.4)**	0.032	75.00
AOC2627-SB-21 (8.5-9.5 ft)	2,4-Dinitrotoluene	**ND(2.9)**	0.0492	58.94

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-21 (8.5-9.5 ft)	Hexachlorobutadiene	**ND(2.4)**	0.0413	58.11
AOC2627-SB-21 (8.5-9.5 ft)	1,4-Dioxane	**ND(0.68)**	0.0163	41.72
AOC2627-SB-21 (8.5-9.5 ft)	Naphthalene	**ND(2.4)**	0.0583	41.17
AOC2627-SB-21 (8.5-9.5 ft)	3,3-Dichlorobenzidine	**ND(2.9)**	0.124	23.39
AOC2627-SB-21 (8.5-9.5 ft)	Pentachlorophenol	**ND(2.9)**	0.152	19.08
AOC2627-SB-21 (8.5-9.5 ft)	1,1,2,2-Tetrachloroethane	**ND(0.068)**	0.00481	14.14
AOC2627-SB-21 (8.5-9.5 ft)	Hexachlorobenzene	**ND(2.4)**	0.189	12.70
AOC2627-SB-21 (8.5-9.5 ft)	Bromodichloromethane	**ND(0.068)**	0.00621	10.95
AOC2627-SB-21 (8.5-9.5 ft)	Dibromochloromethane	**ND(0.068)**	0.00755	9.01
AOC2627-SB-21 (8.5-9.5 ft)	Bromomethane	**ND(0.27)**	0.0343	7.87
AOC2627-SB-21 (8.5-9.5 ft)	Chloroform	**ND(0.068)**	0.0109	6.24
AOC2627-SB-21 (8.5-9.5 ft)	Vinyl Chloride	**ND(0.068)**	0.0134	5.07
AOC2627-SB-21 (8.5-9.5 ft)	2,4-Dinitrophenol	**ND(2.9)**	0.669	4.33
AOC2627-SB-21 (8.5-9.5 ft)	Benzo(a)anthracene	**ND(2.4)**	0.637	3.77
AOC2627-SB-21 (8.5-9.5 ft)	2,4,6-Trichlorophenol	**ND(2.4)**	0.674	3.56
AOC2627-SB-21 (8.5-9.5 ft)	2,4-Dichlorophenol	**ND(2.9)**	0.825	3.52
AOC2627-SB-21 (8.5-9.5 ft)	Hexachlorobutadiene	**ND(0.14)**	0.0413	3.39
AOC2627-SB-21 (8.5-9.5 ft)	1,2-Dichloroethane	**ND(0.068)**	0.0238	2.86
AOC2627-SB-21 (8.5-9.5 ft)	1-Methylnaphthalene	**ND(2.4)**	0.893	2.69
AOC2627-SB-21 (8.5-9.5 ft)	1,1,2-Trichloroethane	**ND(0.068)**	0.0268	2.54
AOC2627-SB-21 (8.5-9.5 ft)	1,2-Dichloropropane	**ND(0.068)**	0.0277	2.45
AOC2627-SB-21 (8.5-9.5 ft)	Naphthalene	**ND(0.14)**	0.0583	2.40
AOC2627-SB-21 (8.5-9.5 ft)	Trichloroethene	**ND(0.068)**	0.031	2.19
AOC2627-SB-21 (8.5-9.5 ft)	1,4-Dichlorobenzene	**ND(2.4)**	1.12	2.14
AOC2627-SB-21 (8.5-9.5 ft)	Chloromethane	**ND(0.2)**	0.0952	2.10
AOC2627-SB-21 (8.5-9.5 ft)	2-Chlorophenol	**ND(2.4)**	1.15	2.09
AOC2627-SB-21 (8.5-9.5 ft)	Dibromomethane	**ND(0.068)**	0.0335	2.03
AOC2627-SB-21 (8.5-9.5 ft)	1,1,1,2-Tetrachloroethane	**ND(0.068)**	0.036	1.89
AOC2627-SB-21 (8.5-9.5 ft)	Carbon tetrachloride	**ND(0.068)**	0.0367	1.85
AOC2627-SB-21 (8.5-9.5 ft)	TPH DRO	**ND(9.3)**	13.2	0.70
AOC2627-SB-22 (0.5-1 ft)	TPH ORO	**170**	13.2	12.88
AOC2627-SB-22 (0.5-1 ft)	TPH DRO	**100**	13.2	7.58
AOC2627-SB-22 (0.5-1 ft)	Iron, Total	**7500**	6960	1.08
AOC2627-SB-22 (0.5-1 ft)	N-Nitrosodimethylamine	**ND(2.9)**	0.0000204	142156.86
AOC2627-SB-22 (0.5-1 ft)	Bis(2-chloroethyl)ether	**ND(2.9)**	0.000605	4793.39
AOC2627-SB-22 (0.5-1 ft)	1,2,3-Trichloropropane	**ND(0.13)**	0.0000582	2233.68
AOC2627-SB-22 (0.5-1 ft)	2,6-Dinitrotoluene	**ND(2.9)**	0.0102	284.31
AOC2627-SB-22 (0.5-1 ft)	Nitrobenzene	**ND(2.9)**	0.0144	201.39

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-22 (0.5-1 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.13)**	0.00139	93.53
AOC2627-SB-22 (0.5-1 ft)	Hexachloroethane	**ND(2.4)**	0.032	75.00
AOC2627-SB-22 (0.5-1 ft)	2,4-Dinitrotoluene	**ND(2.9)**	0.0492	58.94
AOC2627-SB-22 (0.5-1 ft)	Hexachlorobutadiene	**ND(2.4)**	0.0413	58.11
AOC2627-SB-22 (0.5-1 ft)	Naphthalene	**ND(2.4)**	0.0583	41.17
AOC2627-SB-22 (0.5-1 ft)	1,4-Dioxane	**ND(0.63)**	0.0163	38.65
AOC2627-SB-22 (0.5-1 ft)	3,3-Dichlorobenzidine	**ND(2.9)**	0.124	23.39
AOC2627-SB-22 (0.5-1 ft)	Pentachlorophenol	**ND(2.9)**	0.152	19.08
AOC2627-SB-22 (0.5-1 ft)	1,1,2,2-Tetrachloroethane	**ND(0.063)**	0.00481	13.10
AOC2627-SB-22 (0.5-1 ft)	Hexachlorobenzene	**ND(2.4)**	0.189	12.70
AOC2627-SB-22 (0.5-1 ft)	Bromodichloromethane	**ND(0.063)**	0.00621	10.14
AOC2627-SB-22 (0.5-1 ft)	Dibromochloromethane	**ND(0.063)**	0.00755	8.34
AOC2627-SB-22 (0.5-1 ft)	Bromomethane	**ND(0.25)**	0.0343	7.29
AOC2627-SB-22 (0.5-1 ft)	Chloroform	**ND(0.063)**	0.0109	5.78
AOC2627-SB-22 (0.5-1 ft)	Vinyl Chloride	**ND(0.063)**	0.0134	4.70
AOC2627-SB-22 (0.5-1 ft)	2,4-Dinitrophenol	**ND(2.9)**	0.669	4.33
AOC2627-SB-22 (0.5-1 ft)	Benzo(a)anthracene	**ND(2.4)**	0.637	3.77
AOC2627-SB-22 (0.5-1 ft)	2,4,6-Trichlorophenol	**ND(2.4)**	0.674	3.56
AOC2627-SB-22 (0.5-1 ft)	2,4-Dichlorophenol	**ND(2.9)**	0.825	3.52
AOC2627-SB-22 (0.5-1 ft)	Hexachlorobutadiene	**ND(0.13)**	0.0413	3.15
AOC2627-SB-22 (0.5-1 ft)	1-Methylnaphthalene	**ND(2.4)**	0.893	2.69
AOC2627-SB-22 (0.5-1 ft)	1,2-Dichloroethane	**ND(0.063)**	0.0238	2.65
AOC2627-SB-22 (0.5-1 ft)	1,1,2-Trichloroethane	**ND(0.063)**	0.0268	2.35
AOC2627-SB-22 (0.5-1 ft)	1,2-Dichloropropane	**ND(0.063)**	0.0277	2.27
AOC2627-SB-22 (0.5-1 ft)	1,4-Dichlorobenzene	**ND(2.4)**	1.12	2.14
AOC2627-SB-22 (0.5-1 ft)	2-Chlorophenol	**ND(2.4)**	1.15	2.09
AOC2627-SB-22 (0.5-1 ft)	Trichloroethene	**ND(0.063)**	0.031	2.03
AOC2627-SB-22 (0.5-1 ft)	Chloromethane	**ND(0.19)**	0.0952	2.00
AOC2627-SB-22 (0.5-1 ft)	Dibromomethane	**ND(0.063)**	0.0335	1.88
AOC2627-SB-22 (0.5-1 ft)	1,1,1,2-Tetrachloroethane	**ND(0.063)**	0.036	1.75
AOC2627-SB-22 (0.5-1 ft)	Carbon tetrachloride	**ND(0.063)**	0.0367	1.72
AOC2627-SB-22 (0.5-1 ft)	TPH GRO	**1.8**	4.94	0.36
AOC2627-SB-23 (0.5-1 ft)	TPH ORO	**79**	13.2	5.98
AOC2627-SB-23 (0.5-1 ft)	TPH GRO	**ND(7.8)**	4.94	1.58
AOC2627-SB-23 (0.5-1 ft)	TPH DRO	**ND(9.9)**	13.2	0.75
AOC2627-SB-23 (0.5-1 ft)	N-Nitrosodimethylamine	**ND(2.8)**	0.0000204	137254.90
AOC2627-SB-23 (0.5-1 ft)	Bis(2-chloroethyl)ether	**ND(2.8)**	0.000605	4628.10
AOC2627-SB-23 (0.5-1 ft)	1,2,3-Trichloropropane	**ND(0.16)**	0.0000582	2749.14

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-23 (0.5-1 ft)	2,6-Dinitrotoluene	**ND(2.8)**	0.0102	274.51
AOC2627-SB-23 (0.5-1 ft)	Nitrobenzene	**ND(2.8)**	0.0144	194.44
AOC2627-SB-23 (0.5-1 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.16)**	0.00139	115.11
AOC2627-SB-23 (0.5-1 ft)	Hexachloroethane	**ND(2.3)**	0.032	71.88
AOC2627-SB-23 (0.5-1 ft)	2,4-Dinitrotoluene	**ND(2.8)**	0.0492	56.91
AOC2627-SB-23 (0.5-1 ft)	Hexachlorobutadiene	**ND(2.3)**	0.0413	55.69
AOC2627-SB-23 (0.5-1 ft)	1,4-Dioxane	**ND(0.78)**	0.0163	47.85
AOC2627-SB-23 (0.5-1 ft)	Naphthalene	**ND(2.3)**	0.0583	39.45
AOC2627-SB-23 (0.5-1 ft)	3,3-Dichlorobenzidine	**ND(2.8)**	0.124	22.58
AOC2627-SB-23 (0.5-1 ft)	Pentachlorophenol	**ND(2.8)**	0.152	18.42
AOC2627-SB-23 (0.5-1 ft)	1,1,2,2-Tetrachloroethane	**ND(0.078)**	0.00481	16.22
AOC2627-SB-23 (0.5-1 ft)	Bromodichloromethane	**ND(0.078)**	0.00621	12.56
AOC2627-SB-23 (0.5-1 ft)	Hexachlorobenzene	**ND(2.3)**	0.189	12.17
AOC2627-SB-23 (0.5-1 ft)	Dibromochloromethane	**ND(0.078)**	0.00755	10.33
AOC2627-SB-23 (0.5-1 ft)	Bromomethane	**ND(0.31)**	0.0343	9.04
AOC2627-SB-23 (0.5-1 ft)	Chloroform	**ND(0.078)**	0.0109	7.16
AOC2627-SB-23 (0.5-1 ft)	Vinyl Chloride	**ND(0.078)**	0.0134	5.82
AOC2627-SB-23 (0.5-1 ft)	2,4-Dinitrophenol	**ND(2.8)**	0.669	4.19
AOC2627-SB-23 (0.5-1 ft)	Hexachlorobutadiene	**ND(0.16)**	0.0413	3.87
AOC2627-SB-23 (0.5-1 ft)	Benzo(a)anthracene	**ND(2.3)**	0.637	3.61
AOC2627-SB-23 (0.5-1 ft)	2,4,6-Trichlorophenol	**ND(2.3)**	0.674	3.41
AOC2627-SB-23 (0.5-1 ft)	2,4-Dichlorophenol	**ND(2.8)**	0.825	3.39
AOC2627-SB-23 (0.5-1 ft)	1,2-Dichloroethane	**ND(0.078)**	0.0238	3.28
AOC2627-SB-23 (0.5-1 ft)	1,1,2-Trichloroethane	**ND(0.078)**	0.0268	2.91
AOC2627-SB-23 (0.5-1 ft)	1,2-Dichloropropane	**ND(0.078)**	0.0277	2.82
AOC2627-SB-23 (0.5-1 ft)	Naphthalene	**ND(0.16)**	0.0583	2.74
AOC2627-SB-23 (0.5-1 ft)	1-Methylnaphthalene	**ND(2.3)**	0.893	2.58
AOC2627-SB-23 (0.5-1 ft)	Trichloroethene	**ND(0.078)**	0.031	2.52
AOC2627-SB-23 (0.5-1 ft)	Chloromethane	**ND(0.23)**	0.0952	2.42
AOC2627-SB-23 (0.5-1 ft)	Dibromomethane	**ND(0.078)**	0.0335	2.33
AOC2627-SB-23 (0.5-1 ft)	1,1,1,2-Tetrachloroethane	**ND(0.078)**	0.036	2.17
AOC2627-SB-23 (0.5-1 ft)	Carbon tetrachloride	**ND(0.078)**	0.0367	2.13
AOC2627-SB-23 (0.5-1 ft)	1,4-Dichlorobenzene	**ND(2.3)**	1.12	2.05
AOC2627-SB-23 (0.5-1 ft)	2-Chlorophenol	**ND(2.3)**	1.15	2.00
AOC2627-SB-23 (4-5 ft)	TPH DRO	**330**	13.2	25.00
AOC2627-SB-23 (4-5 ft)	TPH ORO	**180**	13.2	13.64
AOC2627-SB-23 (4-5 ft)	TPH GRO	**ND(5.3)**	4.94	1.07
AOC2627-SB-23 (4-5 ft)	Iron, Total	**15000**	6960	2.16

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-23 (4-5 ft)	Cobalt, Total	**5.4**	5.4	1.00
AOC2627-SB-23 (4-5 ft)	N-Nitrosodimethylamine	**ND(3)**	0.0000204	147058.82
AOC2627-SB-23 (4-5 ft)	Bis(2-chloroethyl)ether	**ND(3)**	0.000605	4958.68
AOC2627-SB-23 (4-5 ft)	1,2,3-Trichloropropane	**ND(0.11)**	0.0000582	1890.03
AOC2627-SB-23 (4-5 ft)	2,6-Dinitrotoluene	**ND(3)**	0.0102	294.12
AOC2627-SB-23 (4-5 ft)	Nitrobenzene	**ND(3)**	0.0144	208.33
AOC2627-SB-23 (4-5 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.11)**	0.00139	79.14
AOC2627-SB-23 (4-5 ft)	Hexachloroethane	**ND(2.5)**	0.032	78.13
AOC2627-SB-23 (4-5 ft)	2,4-Dinitrotoluene	**ND(3)**	0.0492	60.98
AOC2627-SB-23 (4-5 ft)	Hexachlorobutadiene	**ND(2.5)**	0.0413	60.53
AOC2627-SB-23 (4-5 ft)	Naphthalene	**ND(2.5)**	0.0583	42.88
AOC2627-SB-23 (4-5 ft)	1,4-Dioxane	**ND(0.53)**	0.0163	32.52
AOC2627-SB-23 (4-5 ft)	3,3-Dichlorobenzidine	**ND(3)**	0.124	24.19
AOC2627-SB-23 (4-5 ft)	Pentachlorophenol	**ND(3)**	0.152	19.74
AOC2627-SB-23 (4-5 ft)	Hexachlorobenzene	**ND(2.5)**	0.189	13.23
AOC2627-SB-23 (4-5 ft)	1,1,2,2-Tetrachloroethane	**ND(0.053)**	0.00481	11.02
AOC2627-SB-23 (4-5 ft)	Bromodichloromethane	**ND(0.053)**	0.00621	8.53
AOC2627-SB-23 (4-5 ft)	Dibromochloromethane	**ND(0.053)**	0.00755	7.02
AOC2627-SB-23 (4-5 ft)	Bromomethane	**ND(0.21)**	0.0343	6.12
AOC2627-SB-23 (4-5 ft)	Chloroform	**ND(0.053)**	0.0109	4.86
AOC2627-SB-23 (4-5 ft)	2,4-Dinitrophenol	**ND(3)**	0.669	4.48
AOC2627-SB-23 (4-5 ft)	Vinyl Chloride	**ND(0.053)**	0.0134	3.96
AOC2627-SB-23 (4-5 ft)	Benzo(a)anthracene	**ND(2.5)**	0.637	3.92
AOC2627-SB-23 (4-5 ft)	2,4,6-Trichlorophenol	**ND(2.5)**	0.674	3.71
AOC2627-SB-23 (4-5 ft)	2,4-Dichlorophenol	**ND(3)**	0.825	3.64
AOC2627-SB-23 (4-5 ft)	1-Methylnaphthalene	**ND(2.5)**	0.893	2.80
AOC2627-SB-23 (4-5 ft)	Hexachlorobutadiene	**ND(0.11)**	0.0413	2.66
AOC2627-SB-23 (4-5 ft)	1,4-Dichlorobenzene	**ND(2.5)**	1.12	2.23
AOC2627-SB-23 (4-5 ft)	1,2-Dichloroethane	**ND(0.053)**	0.0238	2.23
AOC2627-SB-23 (4-5 ft)	2-Chlorophenol	**ND(2.5)**	1.15	2.17
AOC2627-SB-23 (4-5 ft)	1,1,2-Trichloroethane	**ND(0.053)**	0.0268	1.98
AOC2627-SB-23 (4-5 ft)	1,2-Dichloropropane	**ND(0.053)**	0.0277	1.91
AOC2627-SB-23 (4-5 ft)	Naphthalene	**ND(0.11)**	0.0583	1.89
AOC2627-SB-23 (4-5 ft)	Trichloroethene	**ND(0.053)**	0.031	1.71
AOC2627-SB-23 (4-5 ft)	Chloromethane	**ND(0.16)**	0.0952	1.68
AOC2627-SB-23 (4-5 ft)	Dibromomethane	**ND(0.053)**	0.0335	1.58
AOC2627-SB-23 (4-5 ft)	1,1,1,2-Tetrachloroethane	**ND(0.053)**	0.036	1.47

TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-23 (4-5 ft)	Carbon tetrachloride	**ND(0.053)**	0.0367	1.44
AOC2627-SB-24 (0.5-1 ft)	TPH ORO	**140**	13.2	10.61
AOC2627-SB-24 (0.5-1 ft)	TPH DRO	**22**	13.2	1.67
AOC2627-SB-24 (0.5-1 ft)	TPH GRO	**ND(6.4)**	4.94	1.30
AOC2627-SB-24 (0.5-1 ft)	N-Nitrosodimethylamine	**ND(3)**	0.0000204	147058.82
AOC2627-SB-24 (0.5-1 ft)	Bis(2-chloroethyl)ether	**ND(3)**	0.000605	4958.68
AOC2627-SB-24 (0.5-1 ft)	1,2,3-Trichloropropane	**ND(0.13)**	0.0000582	2233.68
AOC2627-SB-24 (0.5-1 ft)	2,6-Dinitrotoluene	**ND(3)**	0.0102	294.12
AOC2627-SB-24 (0.5-1 ft)	Nitrobenzene	**ND(3)**	0.0144	208.33
AOC2627-SB-24 (0.5-1 ft)	1,2-Dibromo-3-Chloropropane	**ND(0.13)**	0.00139	93.53
AOC2627-SB-24 (0.5-1 ft)	Hexachloroethane	**ND(2.5)**	0.032	78.13
AOC2627-SB-24 (0.5-1 ft)	2,4-Dinitrotoluene	**ND(3)**	0.0492	60.98
AOC2627-SB-24 (0.5-1 ft)	Hexachlorobutadiene	**ND(2.5)**	0.0413	60.53
AOC2627-SB-24 (0.5-1 ft)	Naphthalene	**ND(2.5)**	0.0583	42.88
AOC2627-SB-24 (0.5-1 ft)	1,4-Dioxane	**ND(0.64)**	0.0163	39.26
AOC2627-SB-24 (0.5-1 ft)	3,3-Dichlorobenzidine	**ND(3)**	0.124	24.19
AOC2627-SB-24 (0.5-1 ft)	Pentachlorophenol	**ND(3)**	0.152	19.74
AOC2627-SB-24 (0.5-1 ft)	1,1,2,2-Tetrachloroethane	**ND(0.064)**	0.00481	13.31
AOC2627-SB-24 (0.5-1 ft)	Hexachlorobenzene	**ND(2.5)**	0.189	13.23
AOC2627-SB-24 (0.5-1 ft)	Bromodichloromethane	**ND(0.064)**	0.00621	10.31
AOC2627-SB-24 (0.5-1 ft)	Dibromochloromethane	**ND(0.064)**	0.00755	8.48
AOC2627-SB-24 (0.5-1 ft)	Bromomethane	**ND(0.25)**	0.0343	7.29
AOC2627-SB-24 (0.5-1 ft)	Chloroform	**ND(0.064)**	0.0109	5.87
AOC2627-SB-24 (0.5-1 ft)	Vinyl Chloride	**ND(0.064)**	0.0134	4.78
AOC2627-SB-24 (0.5-1 ft)	2,4-Dinitrophenol	**ND(3)**	0.669	4.48
AOC2627-SB-24 (0.5-1 ft)	Benzo(a)anthracene	**ND(2.5)**	0.637	3.92
AOC2627-SB-24 (0.5-1 ft)	2,4,6-Trichlorophenol	**ND(2.5)**	0.674	3.71
AOC2627-SB-24 (0.5-1 ft)	2,4-Dichlorophenol	**ND(3)**	0.825	3.64
AOC2627-SB-24 (0.5-1 ft)	Hexachlorobutadiene	**ND(0.13)**	0.0413	3.15
AOC2627-SB-24 (0.5-1 ft)	1-Methylnaphthalene	**ND(2.5)**	0.893	2.80
AOC2627-SB-24 (0.5-1 ft)	1,2-Dichloroethane	**ND(0.064)**	0.0238	2.69
AOC2627-SB-24 (0.5-1 ft)	1,1,2-Trichloroethane	**ND(0.064)**	0.0268	2.39
AOC2627-SB-24 (0.5-1 ft)	1,2-Dichloropropane	**ND(0.064)**	0.0277	2.31
AOC2627-SB-24 (0.5-1 ft)	1,4-Dichlorobenzene	**ND(2.5)**	1.12	2.23
AOC2627-SB-24 (0.5-1 ft)	2-Chlorophenol	**ND(2.5)**	1.15	2.17
AOC2627-SB-24 (0.5-1 ft)	Trichloroethene	**ND(0.064)**	0.031	2.06
AOC2627-SB-24 (0.5-1 ft)	Chloromethane	**ND(0.19)**	0.0952	2.00

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TABLE 3-1E. MAXIMUM SOIL ANALYTICAL RESULTS COMPARED TO SOIL LEACHATE/D AF SCREENING LEVELS
AOC 26 AND AOC 27 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY
GALLUP, NEW MEXICO

Location ID	Analyte	Result	NMED DAF SSL	Ratio of Soil Concentration to DAF SSL
AOC2627-SB-24 (0.5-1 ft)	Dibromomethane	**ND(0.064)**	0.0335	1.91
AOC2627-SB-24 (0.5-1 ft)	1,1,1,2-Tetrachloroethane	**ND(0.064)**	0.036	1.78
AOC2627-SB-24 (0.5-1 ft)	Carbon tetrachloride	**ND(0.064)**	0.0367	1.74

Notes:

DAF - Dilution Attenuation Factor

Dup - Field duplicate

ft - feet

ND(X) - Not Detected at the Reporting Limit X

NMED - New Mexico Environment Department

SSL - Soil Screening Level

Bold text indicates a result that exceeds one or more of the SSLs.

TABLE 3-2A. VOLATILE ORGANIC COMPOUND LNAPL ANALYTICAL RESULTS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzene (mg/kg)	Ethylbenzene (mg/kg)	MTBE (mg/kg)	Toluene (mg/kg)
MKTF-39	8/16/23	ND(100)	380	ND(200)	ND(100)
OW-61	8/16/23	1200	1200	ND(200)	ND(100)

Notes:
LNAPL - Light non-aqueous phase liquid
NA - Not applicable
ND(X) - Not detected at the reporting limit X
mg/kg - Milligrams per kilogram
MTBE - Methyl tert-Butyl Ether

TABLE 3-2B. SEMI-VOLATILE ORGANIC COMPOUND LNAPL ANALYTICAL RESULTS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Location	Sample Date	1-Methylnaphthalene (mg/kg)	2-Methylnaphthalene (mg/kg)	Naphthalene (mg/kg)	Phenanthrene (mg/kg)	1,2-Dichlorobenzene (mg/kg)
MKTF-39	8/16/23	1900 J	2700 J	740 J	600 J	ND(1000) R
OW-61		3700 J	6000 J	2300 J	ND(1300) R	ND(1300) R

Notes:
J - Estimated concentration
NA - Not applicable
ND(X) - Not detected at the reporting limit X
mg/kg - Milligrams per kilogram
R - Rejected, data not usable

TABLE 3-2B. SEMI-VOLATILE ORGANIC COMPOUND LNAPL ANALYTICAL RESULTS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Location	Sample Date	1,2,4-Trichlorobenzene (mg/kg)	1,3-Dichlorobenzene (mg/kg)	1,4-Dichlorobenzene (mg/kg)	2-Chloronaphthalene (mg/kg)	2-Chlorophenol (mg/kg)
MKTF-39	8/16/23	ND(1000) R	ND(1000) R	ND(1000) R	ND(510) R	ND(1000) R
OW-61		ND(1300) R	ND(1300) R	ND(1300) R	ND(630) R	ND(1300) R

Notes:
J - Estimated concentration
NA - Not applicable
ND(X) - Not detected at the reporting limit X
mg/kg - Milligrams per kilogram
R - Rejected, data not usable

TABLE 3-2B. SEMI-VOLATILE ORGANIC COMPOUND LNAPL ANALYTICAL RESULTS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Location	Sample Date	2-Methylphenol (mg/kg)	2-Nitroaniline (mg/kg)	2-Nitrophenol (mg/kg)	2,4-Dichlorophenol (mg/kg)	2,4-Dimethylphenol (mg/kg)
MKTF-39	8/16/23	ND(1000) R	ND(1000) R	ND(1000) R	ND(1000) R	ND(1000) R
OW-61		ND(1300) R	ND(1300) R	ND(1300) R	ND(1300) R	ND(1300) R

Notes:
J - Estimated concentration
NA - Not applicable
ND(X) - Not detected at the reporting limit X
mg/kg - Milligrams per kilogram
R - Rejected, data not usable

TABLE 3-2B. SEMI-VOLATILE ORGANIC COMPOUND LNAPL ANALYTICAL RESULTS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Location	Sample Date	2,4-Dinitrophenol (mg/kg)	2,4-Dinitrotoluene (mg/kg)	2,4,5-Trichlorophenol (mg/kg)	2,4,6-Trichlorophenol (mg/kg)	2,6-Dinitrotoluene (mg/kg)
MKTF-39	8/16/23	ND(1000) R	ND(1000) R	ND(510) R	ND(510) R	ND(1000) R
OW-61		ND(1300) R	ND(1300) R	ND(630) R	ND(630) R	ND(1300) R

Notes:
J - Estimated concentration
NA - Not applicable
ND(X) - Not detected at the reporting limit X
mg/kg - Milligrams per kilogram
R - Rejected, data not usable

TABLE 3-2B. SEMI-VOLATILE ORGANIC COMPOUND LNAPL ANALYTICAL RESULTS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Location	Sample Date	3-Nitroaniline (mg/kg)	3,3-Dichlorobenzidine (mg/kg)	3,4-Methylphenol (mg/kg)	4-Bromophenyl-phenylether (mg/kg)	4-Chloro-3-Methylphenol (mg/kg)
MKTF-39	8/16/23	ND(1000) R	ND(1000) R	ND(1000) R	ND(510) R	ND(1000) R
OW-61		ND(1300) R	ND(1300) R	ND(1300) R	ND(630) R	ND(1300) R

Notes:
J - Estimated concentration
NA - Not applicable
ND(X) - Not detected at the reporting limit X
mg/kg - Milligrams per kilogram
R - Rejected, data not usable

TABLE 3-2B. SEMI-VOLATILE ORGANIC COMPOUND LNAPL ANALYTICAL RESULTS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Location	Sample Date	4-Chloroaniline (mg/kg)	4-Chlorophenyl-phenylether (mg/kg)	4-Nitroaniline (mg/kg)	4-Nitrophenol (mg/kg)	4,6-Dinitro-2-methylphenol (mg/kg)
MKTF-39	8/16/23	ND(1000) R	ND(510) R	ND(1000) R	ND(1000) R	ND(1000) R
OW-61		ND(1300) R	ND(630) R	ND(1300) R	ND(1300) R	ND(1300) R

Notes:
J - Estimated concentration
NA - Not applicable
ND(X) - Not detected at the reporting limit X
mg/kg - Milligrams per kilogram
R - Rejected, data not usable

TABLE 3-2B. SEMI-VOLATILE ORGANIC COMPOUND LNAPL ANALYTICAL RESULTS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Location	Sample Date	Acenaphthene (mg/kg)	Acenaphthylene (mg/kg)	Aniline (mg/kg)	Anthracene (mg/kg)	Benzo(a)anthracene (mg/kg)
MKTF-39	8/16/23	ND(510) R	ND(510) R	ND(2000) R	ND(510) R	ND(1000) R
OW-61		ND(630) R	ND(630) R	ND(2500) R	ND(630) R	ND(1300) R

Notes:
J - Estimated concentration
NA - Not applicable
ND(X) - Not detected at the reporting limit X
mg/kg - Milligrams per kilogram
R - Rejected, data not usable

TABLE 3-2B. SEMI-VOLATILE ORGANIC COMPOUND LNAPL ANALYTICAL RESULTS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Location	Sample Date	Benzo(a)pyrene (mg/kg)	Benzo(b)fluoranthene (mg/kg)	Benzo(g,h,i)perylene (mg/kg)	Benzo(k)fluoranthene (mg/kg)	Benzoic Acid (mg/kg)
MKTF-39	8/16/23	ND(1000) R	ND(1000) R	ND(1000) R	ND(1000) R	ND(1000) R
OW-61		ND(1300) R	ND(1300) R	ND(1300) R	ND(1300) R	ND(1300) R

Notes:
J - Estimated concentration
NA - Not applicable
ND(X) - Not detected at the reporting limit X
mg/kg - Milligrams per kilogram
R - Rejected, data not usable

TABLE 3-2B. SEMI-VOLATILE ORGANIC COMPOUND LNAPL ANALYTICAL RESULTS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Location	Sample Date	Benzyl Alcohol (mg/kg)	Bis(2-chloroethoxy)methane (mg/kg)	Bis(2-chloroethyl)ether (mg/kg)	Bis(2-chloroisopropyl) ether (mg/kg)	Bis(2-ethylhexyl)phthalate (mg/kg)
MKTF-39	8/16/23	ND(1000) R	ND(1000) R	ND(2000) R	ND(1000) R	ND(1000) R
OW-61		ND(1300) R	ND(1300) R	ND(2500) R	ND(1300) R	ND(1300) R

Notes:
J - Estimated concentration
NA - Not applicable
ND(X) - Not detected at the reporting limit X
mg/kg - Milligrams per kilogram
R - Rejected, data not usable

TABLE 3-2B. SEMI-VOLATILE ORGANIC COMPOUND LNAPL ANALYTICAL RESULTS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Location	Sample Date	Butylbenzylphthalate (mg/kg)	Carbazole (mg/kg)	Chrysene (mg/kg)	Di-n-butylphthalate (mg/kg)	Di-n-octylphthalate (mg/kg)
MKTF-39	8/16/23	ND(1000) R	ND(1000) R	ND(1000) R	ND(510) R	ND(1000) R
OW-61		ND(1300) R	ND(1300) R	ND(1300) R	ND(630) R	ND(1300) R

Notes:
J - Estimated concentration
NA - Not applicable
ND(X) - Not detected at the reporting limit X
mg/kg - Milligrams per kilogram
R - Rejected, data not usable

TABLE 3-2B. SEMI-VOLATILE ORGANIC COMPOUND LNAPL ANALYTICAL RESULTS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Location	Sample Date	Dibenzo(a,h)anthracene (mg/kg)	Dibenzofuran (mg/kg)	Diethylphthalate (mg/kg)	Dimethylphthalate (mg/kg)	Fluoranthene (mg/kg)
MKTF-39	8/16/23	ND(1000) R	ND(1000) R	ND(510) R	ND(1000) R	ND(510) R
OW-61		ND(1300) R	ND(1300) R	ND(630) R	ND(1300) R	ND(630) R

Notes:
J - Estimated concentration
NA - Not applicable
ND(X) - Not detected at the reporting limit X
mg/kg - Milligrams per kilogram
R - Rejected, data not usable

TABLE 3-2B. SEMI-VOLATILE ORGANIC COMPOUND LNAPL ANALYTICAL RESULTS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Location	Sample Date	Fluorene (mg/kg)	Hexachlorobenzene (mg/kg)	Hexachlorobutadiene (mg/kg)	Hexachlorocyclopentadiene (mg/kg)	Hexachloroethane (mg/kg)
MKTF-39	8/16/23	ND(510) R	ND(1000) R	ND(510) R	ND(1000) R	ND(2000) R
OW-61		ND(630) R	ND(1300) R	ND(630) R	ND(1300) R	ND(2500) R

Notes:
J - Estimated concentration
NA - Not applicable
ND(X) - Not detected at the reporting limit X
mg/kg - Milligrams per kilogram
R - Rejected, data not usable

TABLE 3-2B. SEMI-VOLATILE ORGANIC COMPOUND LNAPL ANALYTICAL RESULTS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Location	Sample Date	Indeno(1,2,3-cd)pyrene (mg/kg)	Isophorone (mg/kg)	N-Nitrosodi-n-propylamine (mg/kg)	N-Nitrosodimethylamine (mg/kg)	N-Nitrosodiphenylamine (mg/kg)
MKTF-39	8/16/23	ND(1000) R	ND(1000) R	ND(1000) R	ND(1000) R	ND(1000) R
OW-61		ND(1300) R	ND(1300) R	ND(1300) R	ND(1300) R	ND(1300) R

Notes:
J - Estimated concentration
NA - Not applicable
ND(X) - Not detected at the reporting limit X
mg/kg - Milligrams per kilogram
R - Rejected, data not usable

TABLE 3-2B. SEMI-VOLATILE ORGANIC COMPOUND LNAPL ANALYTICAL RESULTS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Location	Sample Date	Nitrobenzene (mg/kg)	Pentachlorophenol (mg/kg)	Phenol (mg/kg)	Pyrene (mg/kg)	Pyridine (mg/kg)
MKTF-39	8/16/23	ND(1000) R	ND(1000) R	ND(1000) R	ND(1000) R	ND(2000) R
OW-61		ND(1300) R	ND(1300) R	ND(1300) R	ND(1300) R	ND(2500) R

Notes:
J - Estimated concentration
NA - Not applicable
ND(X) - Not detected at the reporting limit X
mg/kg - Milligrams per kilogram
R - Rejected, data not usable

TABLE 3-2C. SEMI-VOLATILE ORGANIC COMPOUND LNAPL ANALYTICAL RESULTS EXCLUDING REJECTED DATA

AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Location	Sample Date	1-Methylnaphthalene (mg/kg)	2-Methylnaphthalene (mg/kg)	Naphthalene (mg/kg)	Phenanthrene (mg/kg)
MKTF-39	8/16/23	1900 J	2700 J	740 J	600 J
OW-61		3700 J	6000 J	2300 J	--

Notes:
J - Estimated concentration
NA - Not applicable
ND(X) - Not detected at the reporting limit X
mg/kg - Milligrams per kilogram

TABLE 3-2D. METAL LNAPL ANALYTICAL RESULTS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Location	Sample Date	Arsenic, Total (mg/kg)	Chromium, Total (mg/kg)	Lead, Total (mg/kg)	Selenium, Total (mg/kg)
MKTF-39	8/16/23	ND(10 (µg/L))	ND(10 (µg/L))	ND(6 (µg/L))	ND(10 (µg/L))
OW-61	8/16/23	1.6 J	ND(1)	ND(0.5)	ND(2)

Notes:
J - Estimated concentration
LNAPL - Light non-aqueous phase liquid
ND(X) - Not detected at the reporting limit X
mg/kg - Milligrams per kilogram
(µg/L) - Micrograms per Liter

Data for MKTF-39 were reported by the laboratory with units of µg/L and mg/kg for OW-61

TABLE 3-2E. GENERAL CHEMISTRY LNAPL ANALYTICAL RESULTS
AOC 26 AND AOC 27 INVESTIGATION REPORT, WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Location	Sample Date	TPH DRO (%)	TPH GRO (%)	TPH ORO (%)
MKTF-39	8/16/23	91	2.6 J	ND(10)
OW-61	8/16/23	52	32	ND(8.8)

Notes:
DRO - Diesel range organics
GRO - Gasoline range organics
J - Estimated concentration
LNAPL - Light non-aqueous phase liquid
ND(X) - Not detected at the reporting limit X
mg/kg - Milligrams per kilogram
ORO - Oil range organics
TPH - Total Petroleum Hydrocarbons
% - Percent

Appendices – Please see attached CD

Appendix A – Boring Logs
Appendix B – Laboratory Reports
Appendix C – Data Validation Reports

Appendix A – Boring Logs

Trihydro CORPORATION

Lithology Log Sheet 1 of 2

LOCID: SB-01

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 19.5'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/15/2023 13:50
Date/Time Total Depth Reached: 8/15/2023 14:10			
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** First Dry	Final Cave in @ 18'
Sample Hammer: Type: Hydraulic Hammer	Driving Wt.	Drop	**Geologist/Engineer:** Aaron Wiggins
Checked by/Date: AW 8/16/2023			
Weather: Partly Cloudy, 79°		**Other Personnel Present:** Emily Conkling / Keith Edmonds	
Site Conditions:			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1				Fill sand, very clayey, gravelly, very fine-grained to fine-grained, very dense, moist, brown, gravels from 05-4.0cm							PID @ 0.1' = 1.9ppm PID @ 1-5' = 3.10ppm
2											
3											
4											
5											PID @ 5-10' = 3.15ppm 5' Slight Odor
6											
7											
8				Clay, very sandy, very fine-grained to fine-grained, stiff, moist, brown, slight odor							
9											
10				Sand, silty, very fine-grained to fine-grained, medium dense, moist, brown to light brown							

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Lithology Log (continued) Sheet 2 of 2 LOCID SB-01

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11											PID @ 10-15' = 173.2ppm
12				Sand, gravelly, slightly clayey, very fine-grained to fine-grained, dense, moist, brown, gravels from 0.5-2.5cm							
13											
14				Clay, very sandy, very fine-grained to fine-grained, stiff, moist, brown							
15											PID @ 15-19.5' = 192.6ppm
16				Sand, gravelly, slightly clayey, very fine-grained to coarse-grained, medium dense, moist, brown, gravels from 0.5-1.5cm							
17											
18				Siltstone, very sandy, very fine-grained to fine-grained, medium hard, moist, light brown to rusty light brown, with interbedded sandstone lenses							
19											
20				Refusal @ 19.5'							
21											
22											

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Lithology Log

Sheet 1 of 3

LOCID: SB-02

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 34.5'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/16/2023 7:50
Date/Time Total Depth Reached: 8/16/2023 8:25			
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** First 20.7'	Final Cave in @ 20'
Sample Hammer: Type: Hydraulic Hammer	**Driving Wt.**	**Drop**	**Geologist/Engineer:** Aaron Wiggins
Checked by/Date: AW 8/17/2023			
Weather: Clear, 66°		**Other Personnel Present:** Emily Conkling / Keith Edmonds	
Site Conditions:			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1				Fill clay, sandy, trace gravel, very fine-grained to fine-grained, stiff, moist, brown, gravels 0.5cm.							PID @ 0-1' = 314.29ppm
											PID @ 1-5' = 326.4ppm
2											
3				Fill sand, gravelly, fine-grained to coarse-grained, dense, moist, brown, gravels 0.5-2.0cm.							
4											
5											PID @ 5-10' = 197.7ppm
6				Sand, very clayey, slightly gravelly, very fine-grained to coarse-grained, medium dense, moist to very moist, brown, slightly calcareous, with interbedded clay lenses.							
7				Sand, slightly silty, fine-grained, medium dense, saturated, brown, slightly calcareous, with interbedded clay lenses.							
8											
9											
10											

Lithology Log (continued) Sheet 2 of 3 LOCID: SB-02

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11				(Fill) clay, very sandy, slightly gravelly, very fine-grained to coarse-grained, stiff, moist, brown, with frequently interbedded sand-gravelly lenses.							PID @ 10-15' = 468.4ppm
12											
13											
14											
15											PID @ 15-20' = 859.1ppm
16				Sand, very gravelly, very fine-grained to coarse-grained, very dense, moist, gray, gravels from 0.5-4.0cm.							
17				Sand, very clayey, very fine-grained to fine-grained, medium dense, moist, brown.							
18											
19											
20											PID @ 20-25' = 246.7ppm
21				Clay, very sandy, very fine-grained to fine-grained, medium stiff, very moist, brown, slight odor.							
22											
23											

Lithology Log (continued) Sheet 3 of 3 LOCID SB-02

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
24											
25											PID @ 25-30' = 274.1ppm
26				"Same" with frequently interbedded lenses of sand, very clayey, slightly gravelly, very fine-grained to coarse-grained, medium dense, saturated, slight odor.							
27											
28											
29											
30											PID @ 30-34.5' = 139.6ppm
31				Mudstone, very silty, very fine-grained, medium hard, moist, brown to gray, with interbedded siltstone, very clayey lenses.							
32											
33											
34											
35				Refusal @ 34.5'							

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Lithology Log Sheet 1 of 3

LOCID: SB-03

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 30.0'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/16/2023 8:35	**Date/Time Total Depth Reached:** 8/16/2023 8:50
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** First 19.0'	Final Cave in @ 14.8'
Sample Hammer: Type: Hydraulic Hammer Driving Wt. Drop		**Geologist/Engineer:** Aaron Wiggins	**Checked by/Date:** AW 8/17/2023
Weather: Sunny, 67°		**Other Personnel Present:** Emily Conkling / Keith Edmonds	
Site Conditions:			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1–5				Fill clay, sandy, very fine-grained to fine-grained, stiff, moist, brown, slight staining, slight odor.							PID @ 0-1' = 76.7ppm PID @ 1-5' = 313.2ppm
5–10				Fill sand, very clayey to gravelly, very fine-grained to coarse-grained, very dense, moist, brown to light brown, gravels from 0.5-4.0cm							PID @ 5-10' = 201.9ppm

Lithology Log (continued) Sheet 2 of 3 LOCID: SB-03

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11											PID @ 10-15' = 197.6ppm
12											
13				"Same" - gravels 0.5cm, slight odor							
14											
15											PID @ 15-20' = 435.6ppm
16				Clay, very sandy, very fine-grained to fine-grained, stiff, moist, brown, slight odor, with interbedded Sand, very clayey lenses.							
17											
18											
19				Sand, gravely to slightly clayey, very fine-grained to coarse-grained, moderately dense, moist, brown to light gray, gravels 0.5cm.							
20				Clay, very sandy, very fine-grained to fine-grained, stiff, moist, brown, with occasional interbedded Sand, slightly clayey lenses.							PID @ 20-25' = 84.9ppm
21											
22											
23											

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Lithology Log (continued) Sheet 3 of 3 LOCID SB-03

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
24				"Same" - very moist							
25											PID @ 25-30' = 29.4ppm
26											
27											
28											
29											
30				Refusal @ 30.0'							
31											
32											
33											
34											
35											

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Lithology Log

Sheet 1 of 3

LOCID: SB-04

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 25.0'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/16/2023 10:10
Date/Time Total Depth Reached: 8/16/2023 10:30			
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** First Dry	Final Cave in @ 20.4'
Sample Hammer: Type: Hydraulic Hammer	Driving Wt.	Drop	**Geologist/Engineer:** Aaron Wiggins
Checked by/Date: AW 8/17/2023			
Weather: Clear, 71°			**Other Personnel Present:** Emily Conkling / Keith Edmonds
Site Conditions: Slightly muddy			

Location Description (include sketch in field logbook)

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1–5	0-5'	Nb recovery 0-5'		Fill clay, very sandy to gravelly, stiff, moist, brown							
5–6				Fill sand, gravelly, very fine-grained to coarse-grained, dense, moist, brown.							PID @ 5-10' = 6.95ppm
6–10				Fill clay, sandy, very fine-grained to fine-grained, stiff, moist, reddish-brown, with calcareous nodules.							

Lithology Log (continued) Sheet 2 of 3 LOCID: SB-04

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11				Fill clay, sandy, very fine-grained to fine-grained, stiff, moist, mottled brown.							PID @ 10-15' = 2.05ppm
12											
13											
14											
15				Clay, very sandy, very fine-grained to fine-grained, stiff, moist, brown to gray, slight odor.							PID @ 15-20' = 49.65ppm
16											
17											
18											
19											
20											PID @ 20-25' = 5.20ppm
21											
22				"Same" - very moist							
23											

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Lithology Log (continued) Sheet 3 of 3 LOCID SB-04

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
24											
25				Refusal @ 25'							
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											

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Lithology Log

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LOCID: SB-05

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020		**Site ID:**
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 25.0'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/16/2023 9:40	**Date/Time Total Depth Reached:** 8/16/2023 10:00
Type of Sampling Device: Soil Probe Rod			**Water Level (bgs)** First Dry Final Dry
Sample Hammer: Type: Hydraulic Hammer	**Driving Wt.**	**Drop**	**Geologist/Engineer:** Aaron Wiggins	**Checked by/Date:** AW 8/17/2023
Weather: Sunny, 71°			**Other Personnel Present:** Emily Conkling / Keith Edmonds
Site Conditions: Slightly muddy			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1				Fill clay, very sandy, slightly gravelly very fine-grained to fine-grained, stiff, moist, brown							PID @ 0-1' = 10.75ppm
2											PID @ 1-5' = 13.5ppm
3											
4											
5				Fill sand, very clayey, gravelly, very fine-grained to coarse-grained, very dense, moist, brown to light brown, gravels from 0.5cm-4cm.							PID @ 5-10' = 3.75ppm
6											
7											
8				Fill clay, sandy, very fine-grained to fine-grained, stiff, moist, brown.							
9											
10											

Lithology Log (continued) Sheet 2 of 3 LOCID: SB-05

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11				Fill sand, gravelly, very fine-grained to coarse grained, dense, mostly brown to light brown, gravels 0.5-4.cm.							PID @ 10-15' = 4.75ppm
12											
13				Clay, sandy, very fine-grained to fine-grained, stiff, moist, brown to gray with interbedded sand lenses.							
14											
15				Clay, very sandy, very fine-grained to fine-grained, stiff, moist, brown to gray, slight odor.							PID @ 15-20' = 12.45ppm
16											
17				"Same" - black staining, slight odor, very moist to saturated in sand lenses.							
18											
19											
20				"Same" - no staining, faint odor. Clay, very moist							PID @ 20-25' = 37.15ppm
21											
22											
23											

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Lithology Log (continued) Sheet 3 of 3 LOCID SB-05

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
24											
25				Refusal @ 25'							
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											

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Lithology Log

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LOCID: SB-06

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 18.0'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/15/2023 13:20
Date/Time Total Depth Reached: 8/15/2023 13:40			
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** First 12.55'	Final Boring backfilled
Sample Hammer: Type: Hydraulic Hammer Driving Wt. Drop		**Geologist/Engineer:** Aaron Wiggins	**Checked by/Date:** AW 8/16/2023
Weather: Partly Cloudy, 78°, 5mph wind		**Other Personnel Present:** Emily Conkling / Keith Edmonds	
Site Conditions: Slightly muddy			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1–10				Fill clay, very sandy, slightly gravelly, very fine-grained to fine-grained, stiff, moist, brown. Gravel in tip							PID @ 0-1' = 0ppm
											PID @ 5-10' = 267.3ppm
8				Sand, gravelly, fine-grained to coarse-grained, medium dense, moist, light brown.							

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Lithology Log (continued) Sheet 2 of 2 LOCID SB-06

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
											PID @ 10-15' = 504.6ppm
11				Clay, very sandy, slightly gravelly, very fine-grained to coarse-grained, very stiff, moist, brown.							
12											
13				Sand, slightly clayey, very fine-grained to fine-grained, medium dense, very moist to saturated, brown to dark brown to gray, slight odor.							
14											
15											
				Siltstone, very sandy, very-fine grained to fine-grained, medium hard, moist, light brown to light gray, poorly cemented.							PID @ 15-18' = 10.45ppm
16											
17											
18				Refusal @ 18'							
19											
20											
21											
22											

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Lithology Log

Sheet 1 of 2

LOCID: SB-07

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 18.0'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/15/2023 15:50
Date/Time Total Depth Reached: 8/15/2023 15:55			
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** First Dry	Final 12'
Sample Hammer: Type: Hydraulic Hammer	**Driving Wt.**	**Drop**	**Geologist/Engineer:** Aaron Wiggins
Checked by/Date: AW 8/16/2023			
Weather: Cloudy, 80°, on/off rain			**Other Personnel Present:** Emily Conkling / Keith Edmonds
Site Conditions: muddy			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1				Fill clay, sandy, slightly gravelly, very fine-grained to coarse-grained, stiff, moist, brown.							PID @ 0-1' = 0.75ppm
2											
3											
4											
5											PID @ 5-10' = 502.6ppm
6				Sand, gravelly, fine-grained to coarse-grained, medium dense, moist, light brown to brown with interbedded clay lenses.							
7											
8											
9											
10											

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Lithology Log (continued) Sheet 2 of 2 LOCID SB-07

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
											PID @ 10-15' = 523.1ppm
11				Sand, very clayey, slightly gravelly, very fine-grained to fine-grained, medium dense, moist, light brown, gravels from 0.5-1.5cm, slight odor.							
12											
13				Sand, slightly clayey, slightly gravelly, very fine-grained to fine-grained, medium dense, moist, brown, gravels 0.5cm, slight odor.							
14											
15											PID @ 15-18' = 274.3ppm
16				Sandstone, very silty, slightly clayey, very fine-grained to fine-grained, medium hard, moist, light brown, poorly cemented.							
17											
18				Refusal @ 18'							
19											
20											
21											
22											

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Lithology Log Sheet 1 of 2

LOCID: SB-08

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 14.0'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/15/2023 14:15
Date/Time Total Depth Reached: 8/15/2023 14:23			
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** First Dry	Final Caved @ 1'
Sample Hammer: Type: Hydraulic Hammer	Driving Wt.	Drop	**Geologist/Engineer:** Aaron Wiggins
Checked by/Date: AW 8/16/2023			
Weather: Partly Cloudy, 80°		**Other Personnel Present:** Emily Conkling / Keith Edmonds	
Site Conditions: Dry			

Location Description (include sketch in field logbook)

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1				(Fill) clay, very sandy, slightly gravelly, very fine-grained to fine-grained, very stiff, moist, brown, gravels from 0.5 to 4cm.							PID @ 0-1' = 5.2ppm
2											
3											
4											
5											PID @ 5-10' = 4.5ppm
6				Sand, gravelly, fine-grained to coarse-grained, medium dense, moist, light brown, gravels from 0.5-1.5cm.							
7				Sand, very clayey, very fine-grained to fine-grained, medium dense, moist, brown.							
8											
9											
10											

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Lithology Log (continued) Sheet 2 of 2 LOCID SB-08

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11				Sand, gravelly, fine-grained to coarse-grained, very dense, moist, light brown to brown, gravels from 0.5-4cm.							PID @ 10-14' = 3.2ppm
12											
13											
14				Clay, very sandy, gravelly, very fine-grained to coarse-grained, moist, brown, gravels from 0.5-4cm Refusal @14'							
15											
16											
17											
18											
19											
20											
21											
22											

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Lithology Log

Sheet 1 of 3

LOCID: SB-09

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020		**Site ID:**
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 28.0'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/16/2023 8:55
Date/Time Total Depth Reached: 8/16/2023 9:15			
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** First 21.55'	Final Cave in @ 2.9'
Sample Hammer: Type: Hydraulic Hammer	**Driving Wt.**	**Drop**	**Geologist/Engineer:** Aaron Wiggins
Checked by/Date: AW 8/17/2023			
Weather: Sunny, 69°			**Other Personnel Present:** Emily Conkling / Keith Edmonds
Site Conditions: Slightly muddy			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1				Fill clay, sandy, very fine-grained to fine-grained, very stiff, moist, brown.							PID @ 0-1' = 3.80ppm
2											
3											
4											
5											PID @ 5-10' = 1.55ppm
6				(Fill) sand, very clayey, slightly gravelly, very fine-grained to coarse-grained, dense, moist, brown to light brown, gravels from 0.5-4cm.							
7											
8				(Fill) clay, sandy, slightly gravelly, very fine-grained to fine-grained, stiff, moist, brown, gravels from 0.5-2cm.							
9											
10											

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Lithology Log (continued) Sheet 2 of 3 LOCID: SB-09

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11											PID @ 10-15' = 0.75ppm
12				(Fill) sand, very clayey, gravelly, very fine-grained to coarse-grained, dense, moist, brown to light gray, gravels from 0.5-2cm, with interbedded clayey, sandy, slightly gravelly lenses, slight odor.							
13											
14											
15											PID @ 15-20' = 0.55ppm
16											
17				Clay, sandy, very fine-grained to fine-grained, medium stiff, very moist, brown.							
18											
19											
20											
21				No recovery							
22											
23											

Trihydro CORPORATION

Lithology Log (continued) Sheet 3 of 3 LOCID SB-09

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
24		No recovery									
25											
26											
27											
28				Mudstone, very silty, very fine-grained, medium hard, moist, brown.							
29				Refusal @ 28'							
30											
31											
32											
33											
34											
35											

Trihydro CORPORATION

Lithology Log Sheet 1 of 3

LOCID: SB-10

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 24.5'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/16/2023 10:37
Date/Time Total Depth Reached: 8/16/2023 11:00			
Type of Sampling Device: Soil Probe Rod		**Water Level (Bgs)** First Dry	Final Dry
Sample Hammer: Type: Hydraulic Hammer	Driving Wt.	Drop	**Geologist/Engineer:** Aaron Wiggins
Checked by/Date: AW 8/17/2023			
Weather: Sunny, 74°			**Other Personnel Present:** Emily Conkling / Keith Edmonds
Site Conditions: Slightly muddy			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
0				(Fill) clay, very sandy, gravelly, very fine-grained to coarse-grained, very stiff, moist, brown, gravels from 0.5-2.5cm, with interbedded sand, gravelly lenses.							PID @ 0-1' = 2.80ppm
1											PID @ 1-5' = 0.0ppm
2											
3											
4											
5				(Fill) clay, sandy, very fine-grained to fine-grained, stiff, moist, brown, slight staining at 6.5-7'.							PID @ 5-10' = 0.0ppm
6											
7											
8											
9											
10				Sand, very gravelly, slightly clayey, very fine-grained to coarse-grained, dense, moist,							

Trihydro CORPORATION

Lithology Log (continued) Sheet 2 of 3 LOCID: SB-10

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11				brown to light brown to light gray, gravels from 0.5-4cm.							PID @ 10-15' = 0.0ppm
12				Clay, sandy, slightly gravelly, stiff, moist, brown, slightly stained. Sand - very clayey lenses, medium dense, very moist, heavily stained black, slight odor.							
13											
14											
15											PID @ 15-20' = 3.8ppm
16				Clay, very sandy, very fine-grained to fine-grained, stiff, moist, brown to gray, slightly stained, slight odor from 22.5-24', stained.							
17											
18											
19											
20											
21											
22											
23											

Trihydro CORPORATION

Lithology Log (continued) Sheet 3 of 3 LOCID SB-10

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
24											PID @ 20-24' = 13.66ppm
25				Refusal @ 24.5'							
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCID: SB-11

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 20.0'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/16/2023 12:00
Date/Time Total Depth Reached: 8/16/2023 12:15			
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** First Dry	Final Caved in @ 18'
Sample Hammer: Type: Hydraulic Hammer	Driving Wt.	Drop	**Geologist/Engineer:** Aaron Wiggins
Checked by/Date: AW 8/17/2023			
Weather: Partly Cloudy, 78°			**Other Personnel Present:** Emily Conkling / Keith Edmonds
Site Conditions: slightly muddy			

Location Description (include sketch in field logbook)

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1				Fill clay, very sandy, gravelly, very fine-grained to coarse-grained, very stiff, moist, brown, gravels from 0.5-4cm, with interbedded sand, clayey, gravelly lenses.							PID @ 0-1' = 67.65ppm PID @ 1-5' = 146.6ppm
2											
3											
4				Fill sand, very gravelly, slightly clayey, very fine-grained to coarse-grained, very dense, moist, brown to light brown, gravels from 0.5-4cm.							
5											PID @ 5-10' = 85.9ppm
6											
7				Rock in tip at 7'							
8											
9											
10											

Trihydro CORPORATION

Lithology Log (continued) Sheet 2 of 2 LOCID SB-11

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11				Fill sand, slightly clayey, very fine-grained to coarse-grained, medium dense, moist, brown, with interbedded clay lenses.							PID @ 10-15' = 16.15ppm
12											
13				Clay, very sandy, very fine-grained to fine-grained, stiff, moist, brown, slight odor.							
14											
15											PID @ 15-20' = 120.5ppm
16											
17											
18											
19				"Same" - very moist.							
20				Refusal @ 20'							
21											
22											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 3

LOCID: SB-12

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 24.5'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/15/2023 14:35
Date/Time Total Depth Reached: 8/15/2023 15:00			
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** First Dry	Final Caved in @ 2'
Sample Hammer: Type: Hydraulic Hammer	Driving Wt.	Drop	**Geologist/Engineer:** Aaron Wiggins
Checked by/Date: AW 8/16/2023			
Weather: Partly cloudy		**Other Personnel Present:** Emily Conkling / Keith Edmonds	
Site Conditions:			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
0–5				Fill sand, very clayey, slightly gravelly, very fine-grained to coarse-grained, very dense, moist, brown, gravels from 0.5-2cm.							PID @ 0-1' = 0.55ppm .
5–7				Clay, sandy, very fine-grained to fine-grained, medium dense, moist, brown.							PID @ 5-10' = 38.65ppm
7–9				Sand, gravelly, fine-grained to coarse-grained, very dense, moist, dark brown, gravels from 0.5-2cm.							
9–10				Clay, sandy, very fine-grained to fine-grained, stiff, moist, brown.							

Trihydro CORPORATION

Lithology Log (continued) Sheet 2 of 3 LOCID: SB-12

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11				Sand, slightly gravelly, fine-grained, medium dense, moist, light brown to brown, odor.							PID @ 10-15' = 353.8ppm
12				Claystone, very sandy, very fine-grained to fine-grained, medium hard, moist, light brown to light gray, slightly calcareous, blocky structure.							
13											
14											
15											PID @ 15-20' = 4.6ppm
16											
17				Mudstone, very silty, very fine-grained, medium hard, moist, brown to gray.							
18											
19											
20				Claystone, very sandy, very fine-grained to fine-grained, medium hard, moist, gray, blocky structure.							
21											
22				Mudstone, very silty, very fine-grained, medium hard, moist, brown to gray.							
23											

Trihydro CORPORATION

Lithology Log (continued) Sheet 3 of 3 LOCID SB-12

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
24											PID @ 20-24.5' = 2.9 ppm
25				Refusal @ 24.5'							
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 3

LOCID: SB-13

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 25'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/16/2023 12:20
Date/Time Total Depth Reached: 8/16/2023 12:40			
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** First Dry	Final Caved in @ 14'
Sample Hammer: Type: Hydraulic Hammer	Driving Wt.	Drop	**Geologist/Engineer:** Aaron Wiggins
Checked by/Date:			
Weather: Partly cloudy, 79°		**Other Personnel Present:** Emily Conkling / Keith Edmonds	
Site Conditions: slightly muddy			

Location Description (include sketch in field logbook)

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1				Fill clay, sandy, slightly gravelly, very fine-grained to coarse-grained, stiff, moist, brown, gravels from 0.5-4cm. Rock in tip at 1'							PID @ 0-1' = 162.0ppm .
5				(Fill) clay, sandy, very fine-grained to fine-grained, stiff, moist, brown, with interbedded sand, very clayey lenses, slight odor.							PID @ 5-10' = 65.45ppm

Trihydro CORPORATION

Lithology Log (continued) Sheet 2 of 3 LOCID: SB-13

Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
										PID @ 10-15' = 515.2ppm
11			Fill sand, very gravelly, clayey, very fine-grained to coarse-grained, dense, moist, brown to light brown, gray, gravels, 0.5cm, strong odor.							
12										
13										
14										
15			Clay, very sandy, very fine-grained to fine grained, stiff, moist, brown to gray, with interbedded sand lenses, very moist sand lenses at 16.5'.							PID @ 15-20' = 251.4ppm
16										
17			Clay, very silty, very fine-grained, moist, brown.							
18										
19										
20										PID @ 20-25' = 19.5ppm
21										
22										
23			"Same" - very moist.							

Trihydro CORPORATION

Lithology Log (continued) Sheet 3 of 3 LOCID SB-13

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
24											
25				Refusal @ 25'							
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											

Trihydro CORPORATION

Lithology Log Sheet 1 of 3

LOCID: SB-14

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 28'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/16/2023 12:45
Date/Time Total Depth Reached: 8/16/2023 13:05			
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** First Dry	Final Caved in @ 8.7'
Sample Hammer: Type: Hydraulic Hammer	Driving Wt.	Drop	**Geologist/Engineer:** Aaron Wiggins
Checked by/Date: AW 8/17/2023			
Weather: Partly cloudy, 80°		**Other Personnel Present:** Emily Conkling / Keith Edmonds	
Site Conditions: slightly muddy			

Location Description (include sketch in field logbook)

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1				Fill clay, very sandy, gravelly, very fine-grained to coarse-grained, very stiff, moist, brown, gravels 0.5-4cm.							PID @ 0-1' = 39.75ppm .
2											
3											
4											
5											PID @ 5-10' = 18.55ppm
6				Fill sand, gravelly, slightly clayey, very fine-grained to coarse-grained, dense, moist, brown to light brown, gravels from 0.5-4cm.							
7											
8											
9											
10											

Trihydro CORPORATION

Lithology Log (continued) Sheet 2 of 3 LOCID: SB-14

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11											PID @ 10-15' = 93.45ppm
12				Clay in tip at 12.5'							
13				Clay, sandy, very fine-grained to fine-grained, stiff, moist, brown, with interbedded sand, slightly clayey lenses							
14											
15											PID @ 15-20' = 43.4ppm
16											
17											
18											
19											
20											
21											
22											
23											

Trihydro CORPORATION

Lithology Log (continued) Sheet 3 of 3 LOCID SB-14

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
24											PID @ 20-25' = 273.4ppm
25				"Same" - black staining, strong odor, in sand lenses possible saturation at 25'							
26											
27											PID @ 25-28' = 491.5ppm
28				Refusal @ 28'							
29											
30											
31											
32											
33											
34											
35											

Trihydro CORPORATION

Lithology Log Sheet 1 of 2

LOCID: SB-15

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 19.0'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/15/2023 15:30
Date/Time Total Depth Reached: 8/15/2023 15:45			
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** First Dry	Final Caved in @ 4.5'
Sample Hammer: Type: Hydraulic Hammer	**Driving Wt.**	**Drop**	**Geologist/Engineer:** Aaron Wiggins
Checked by/Date: AW 8/16/2023			
Weather: Partly Cloudy			**Other Personnel Present:** Emily Conkling / Keith Edmonds
Site Conditions: slightly muddy			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1				Fill clay, sandy, slightly gravelly, very fine-grained to fine-grained, very stiff, moist, brown, gravels from 0.5-1.5cm.							PID @ 0-1' = 2.45ppm PID @ 1-5' = 4.3ppm
2											
3											
4											
5											PID @ 5-10' = 29.5ppm
6				Sand, gravelly, fine-grained, medium dense, moist, light brown, gravels 0.5cm.							
7				Clay, very sandy, very fine-grained to fine-grained, stiff, moist, brown.							
8											
9											
10											

Trihydro CORPORATION

Lithology Log (continued) Sheet 2 of 2 LOCID SB-15

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11				Sand, gravelly, fine-grained to coarse-grained, medium dense, moist, brown to light gray, gravels from 0.5-1.5cm, slight odor.							PID @ 10-15' = 176.2ppm
12				Clay, very sandy, slightly gravelly, very fine-grained to fine-grained, stiff, moist, brown, gravels 0.5cm.							
13											
14				Siltstone, very clayey, very fine-grained, medium hard, moist, gray.							
15											PID @ 15-19' = 7.15ppm
16											
17				Mudstone, very silty, very fine-grained, medium hard, moist, brown.							
18											
19				Refusal @ 19'							
20											
21											
22											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCID: SB-16

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 15.0'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/16/2023 7:25	**Date/Time Total Depth Reached:** 8/16/2023 7:45
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** First Dry	Final Dry
Sample Hammer: Type: Hydraulic Hammer	**Driving Wt.**	**Drop**	**Geologist/Engineer:** Aaron Wiggins	**Checked by/Date:** AW 8/17/2023
Weather: Clear, 64°			**Other Personnel Present:** Emily Conkling / Keith Edmonds
Site Conditions: slightly muddy			

Location Description (include sketch in field logbook)

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1				Fill sand, gravelly, slightly clayey, very fine-grained to coarse-grained, very dense, moist, brown, gravels from 0.5-2cm.							PID @ 0-1' = 1.15ppm
											PID @ 1-5' = 71.5ppm
2				Fill clay, very sandy, slightly gravelly, very fine-grained to fine-grained, stiff, moist, brown, slight staining, slight odor.							
3											
4											
5											PID @ 5-10' = 5.95ppm
6				Clay, very sandy, very fine-grained to fine-grained, stiff, moist, brown.							
7				Sand, very clayey, slightly gravelly, very fine-grained to medium-grained, stiff, moist, brown, gravels from 0.5-4cm.							
8											
9				Clay, silty, very fine-grained, stiff, moist, brown, trace calcareous.							
10											

Trihydro CORPORATION

Lithology Log (continued) Sheet 2 of 2 LOCID SB-16

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11											PID @ 10-15' = 87.25ppm
12											
13											
14				Sand, very clayey, trace gravels, very fine-grained to fine-grained, very dense, moist, brown, gravels from 0.5-2.5cm, slight odor.							
15				Refusal @ 15'							
16											
17											
18											
19											
20											
21											
22											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 3

LOCID: SB-17

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 23.5'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/16/2023 13:15
Date/Time Total Depth Reached: 8/16/2023 13:35			
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** **First** Dry	**Final** Caved in @ 14.7'
Sample Hammer: **Type:** Hydraulic Hammer **Driving Wt.** **Drop**		**Geologist/Engineer:** Aaron Wiggins	**Checked by/Date:** AW 8/17/2023
Weather: Partly cloudy, 80°		**Other Personnel Present:** Emily Conkling / Keith Edmonds	
Site Conditions: slightly muddy			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1		No recovery		Fill clay, very gravelly, occasional large cobbles, sandy, very fine-grained to coarse-grained, stiff, moist, brown							.
2											
3											
4											
5											
6											
7		No recovery									
8											
9											
10											

Trihydro CORPORATION

Lithology Log (continued) Sheet 2 of 3 LOCID: SB-17

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11				Clay, very sandy, very fine-grained to fine-grained, stiff, moist, brown to gray.							PID @ 10-15' = 17.5ppm
12				"Same" - very moist.							
13											
14											
15				"Same" - 15-18.5' possible saturation.							PID @ 15-20' = 29.4ppm
16											
17											
18											
19											
20											PID @ 20-23.5' = 22.8ppm
21											
22											
23											

Trihydro CORPORATION

Lithology Log (continued) Sheet 3 of 3 LOCID SB-17

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
24				Refusal @ 23.5'							
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCID: SB-18

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 19.0'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/15/2023 11:15	**Date/Time Total Depth Reached:** 8/15/2023 11:30
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** First Caved in at 5'	Final Caved in at 1'
Sample Hammer: Type: Hydraulic Hammer Driving Wt. Drop		**Geologist/Engineer:** Aaron Wiggins	**Checked by/Date:** AW 8/16/2023
Weather: Partly Cloudy, 75°		**Other Personnel Present:** Emily Conkling / Keith Edmonds	
Site Conditions: slightly muddy			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1				(Road base), sand, gravelly, slightly clayey, very fine-grained to coarse-grained, dense, moist, brown, gravels from 0.5-4cm.							PID @ 0-1' = 0.0ppm PID @ 1-5' = No recovery
2				(Fill) clay, very sandy, slightly gravelly, very fine-grained to fine-grained, stiff, moist, brown, gravels from 0.5-1.5cm.							
3											
4											
5											PID @ 5-10' = 0.0ppm
6				Clay, sandy, very fine-grained to fine-grained, stiff, moist, brown, slightly calcareous, with interbedded sand, gravelly lenses, fine-grained, very dense, moist, light brown.							
7											
8											
9											
10											

Lithology Log (continued) Sheet 2 of 2 LOCID SB-18

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11				Sand, very clayey, very fine-grained to fine-grained, dense, moist, gray.							PID @ 10-15' = 0.0ppm
12											
13				Mudstone, very sandy, very fine-grained to fine-grained, very stiff, moist, brown to gray.							
14											
15											PID @ 15-19' = 0.0ppm
16											
17											
18											
19				Refusal @ 19'							
20											
21											
22											

Trihydro CORPORATION

Lithology Log Sheet 1 of 2

LOCID: SB-19

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 14.0'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/15/2023 10:50
Date/Time Total Depth Reached: 8/15/2023 11:05			
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** **First** Cave in @ 9.2'	**Final** Cave in @ 2.7
Sample Hammer: **Type:** Hydraulic Hammer **Driving Wt.** **Drop**		**Geologist/Engineer:** Aaron Wiggins	**Checked by/Date:** AW 8/16/2023
Weather: Clear, 72°		**Other Personnel Present:** Emily Conkling / Keith Edmonds	
Site Conditions: slightly muddy			

Location Description (include sketch in field logbook)

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1				Fill clay, sandy, slightly gravelly, very fine-grained to fine-grained, very stiff, moist, brown, gravels from 0.5-3cm.							PID @ 0-1' = 0.0ppm PID @ 1-5' = 0.0ppm
2											
3											
4											
5											PID @ 5-10' = 0.0ppm
6				Clay, sandy, very fine-grained to fine-grained, stiff, moist, brown.							
7											
8											
9											
10				Sand, very clayey, very fine-grained to fine-grained, medium dense, moist, brown.							

Trihydro CORPORATION

Lithology Log (continued) Sheet 2 of 2 LOCID SB-19

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11											PID @ 10-14' = 0.0ppm
12				Sand, slightly clayey, very fine-grained to coarse-grained, medium dense, saturated, brown.							
13				Mudstone, very sandy, very fine-grained to fine-grained, very stiff, moist, brown, slightly calcareous.							
14				Refusal @ 14'							
15											
16											
17											
18											
19											
20											
21											
22											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCID: SB-20

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 21.0'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/15/2023 10:20
Date/Time Total Depth Reached: 8/15/2023 10:40			
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** First Dry	Final Dry
Sample Hammer: Type: Hydraulic Hammer	Driving Wt.	Drop	**Geologist/Engineer:** Aaron Wiggins
Checked by/Date: AW 8/16/2023			
Weather: Clear, 71°			**Other Personnel Present:** Emily Conkling / Keith Edmonds
Site Conditions: slightly muddy			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1				Fill clay, sandy, slightly gravelly, very fine-grained to fine-grained, very stiff, moist, brown							PID @ 0-1' = 0.0ppm PID @ 1-5' = 0.0ppm
2				Fill sand, very clayey, gravelly, very fine-grained to fine-grained, very dense, moist, light brown, gravels from 0.5-2.5cm.							
3											
4											
5											PID @ 5-10' = 0.0ppm
6											
7											
8											
9				Clay, silty, very fine-grained, medium stiff, moist, brown, slightly calcareous.							
10											

Trihydro CORPORATION

Lithology Log (continued) Sheet 2 of 2 LOCID SB-20

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11				Mudstone, very sandy, very fine-grained to fine-grained, medium stiff, moist, dark brown, slightly calcareous.							PID @ 10-15' = 0.0ppm
12											
13											
14											
15											PID @ 15-20' = 0.0ppm
16											
17											
18											
19											
20											PID @ 20-21' = 0.0ppm
21				Refusal @ 21'							
22											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 1

LOCID: SB-21

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 9.5'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/15/2023 10:05
Date/Time Total Depth Reached: 8/15/2023 10:15			
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** First Dry	Final Caved @ 3.5'
Sample Hammer: Type: Hydraulic Hammer	**Driving Wt.**	**Drop**	**Geologist/Engineer:** Aaron Wiggins
Checked by/Date: AW 8/16/2023			
Weather: Clear, 70°			**Other Personnel Present:** Emily Conkling / Keith Edmonds
Site Conditions: slightly muddy			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1–5		No Recovery		(Fill)clay, sandy, gravelly, very fine-grained to fine-grained, very stiff, moist, brown, gravels 0.5-4cm.							PID @ 0-1' = 0.0
5–6											PID @ 5-9.5' = 0.0ppm
6–7				(Fill) sand, gravelly, fine-grained to coarse-grained, dense, moist, brown.							
7–8				Sand, slightly clayey, very fine-grained to fine-grained, medium dense, moist, light brown.							
8–9				Sand, gravelly, fine-grained to coarse-grained, very dense, slightly moist, light brown to light gray.							
9–10				Refusal @ 9.5'							

Trihydro CORPORATION

Lithology Log (continued) Sheet 2 of 2 LOCID SB-21

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 3

LOCID: SB-22

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 24.0'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/15/2023 9:35
Date/Time Total Depth Reached: 8/15/2023 9:50			
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** First 17.3	Final 17.3
Sample Hammer: Type: Hydraulic Hammer	Driving Wt.	Drop	**Geologist/Engineer:** Aaron Wiggins
Checked by/Date: AW 8/16/2023			
Weather: Clear, 67°		**Other Personnel Present:** Emily Conkling / Keith Edmonds	
Site Conditions: slightly muddy			

Location Description (include sketch in field logbook)

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
0				(Fill) sand, gravelly, fine-grained, medium dense, moist, light brown.							PID @ 0-1' = 0.0ppm
1				(Fill) clay, sandy, slightly gravelly, very fine-grained to fine-grained, stiff, moist, brown, gravels from 0.5-2cm.							PID @ 1-5' = 0.0ppm
2				Clay, silty, very fine-grained, very stiff, moist, brown, slightly calcareous.							
3											
4											
5											PID @ 5-10' = 0.0ppm
6											
7											
8											
9				Clay, sandy, slightly gravelly, very fine-grained to fine-grained, stiff, moist, brown, with interbedded sand, gravely lenses, gravels from 0.5-1.5cm.							
10											

Trihydro CORPORATION

Lithology Log (continued) Sheet 2 of 3 LOCID: SB-22

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11											PID @ 10-15' = 0.0ppm
12				Clay, sandy, very fine-grained to fine-grained, stiff, moist, brown.							
13											
14				Sand, silty, slightly clayey, very fine-grained to medium-grained, dense, moist, brown.							
15											PID @ 15-20' = 1.0ppm
16				Clay, silty, very fine-grained, medium stiff, very moist, brown, slightly calcareous, with interbedded sand lenses.							
17											
18											
19											
20											PID @ 20-24' = 4.7ppm
21				Sand, slightly clayey, fine-grained, medium dense, saturated, brown, slight odor.							
22											
23											

Trihydro CORPORATION

Lithology Log (continued) Sheet 3 of 3 LOCID SB-22

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
24				Mudstone, sandy, trace gravels, very fine-grained to fine-grained, very stiff, moist, dark brown, gravels 0.5cm.							
				Refusal @ 24'							
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											

Trihydro CORPORATION

Lithology Log Sheet 1 of 1

LOCID: SB-23

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 7.0'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/15/2023 9:15
Date/Time Total Depth Reached: 8/15/2023 9:24			
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** First Dry	Final Caved @ 3.5'
Sample Hammer: Type: Hydraulic Hammer	**Driving Wt.**	**Drop**	**Geologist/Engineer:** Aaron Wiggins
Checked by/Date: AW 8/16/2023			
Weather: Clear, 62°			**Other Personnel Present:** Emily Conkling / Keith Edmonds
Site Conditions: slightly muddy			

Location Description (include sketch in field logbook)

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1				(Road base) sand,gravelly, slightly clayey, fine-grained to coarse-grained, dense, moist, light brown, gravels from 1-3cm.							PID @ 0-1' = 0.0ppm PID @ 1-5' = 0.0ppm
2											
3											
4											
5											
6											
7				Refusal @ 7'. Encountered something very hard.							
8											
9											
10											

No Recovery

Trihydro CORPORATION

Lithology Log (continued) Sheet 2 of 2 LOCID SB-21

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											

Trihydro CORPORATION

Lithology Log Sheet 1 of 3

LOCID: SB-24

Project Name: Marathon Gallup Refinery - AOC 26/27	**Project Number:** 00697-097-0020	**Site ID:**	
Drilling Company: Yellow Jacket	**Driller:** Shane S.	**Ground Elevation:**	**Total Drilled Depth:** 27.0'
Drilling Equipment: Geoprobe 7822 DT	**Drilling Method:** Direct Push	**Borehole Diameter:** 2.25"	**Date/Time Drilling Started:** 8/15/2023 8:15
Date/Time Total Depth Reached: 8/15/2023 8:55			
Type of Sampling Device: Soil Probe Rod		**Water Level (bgs)** First Dry	Final Caved @ 24'
Sample Hammer: Type: Hydraulic Hammer	Driving Wt.	Drop	**Geologist/Engineer:** Aaron Wiggins
Checked by/Date: AW 8/16/2023			
Weather: Clear, 58°		**Other Personnel Present:** Emily Conkling / Keith Edmonds	
Site Conditions: slightly muddy			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Count	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Cont	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
1				(Road base) clay, sandy, slightly gravelly, very fine-grained to fine-grained, very stiff, moist, brown, gravels from 1-4cm.							PID @ 0-1' = 0.0ppm .
2											PID @ 1-5' = 0.0ppm
3				Sand, gravelly, slightly clayey, very fine-grained to fine-grained, dense, moist, brown, gravels from 1-5cm.							
4											
5											PID @ 5-10' = 0.0ppm
6											
7				Sand, very clayey, very fine-grained to fine-grained, medium dense, moist, brown.							
8											
9											
10											

Trihydro CORPORATION

Lithology Log (continued) Sheet 2 of 3 LOCID: SB-24

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
11				Sand, gravelly, fine-grained to coarse-grained, medium dense, moist, light brown, gravels from 0.5-1cm.							PID @ 10-15' = 0.0ppm
12				Clay, silty, slightly sandy, very fine-grained, stiff, moist, brown.							
13											
14											
15											PID @ 15-20' = 0.0ppm
16				Sand, slightly gravelly, fine-grained, moderately dense, moist, light brown, gravels 0.5cm.							
17											
18											
19				Clay, silty, very fine-grained, stiff, moist, brown.							
20											PID @ 20-23' = 0.0ppm
21				Sand, slightly gravelly, fine-grained, medium dense, saturated, gravels 0.5cm.							
22											
23											

Trihydro CORPORATION

Lithology Log (continued) Sheet 3 of 3 LOCID SB-24

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
24				Mudstone, silty, very fine-grained, medium hard, moist, dark brown, slightly calcareous.							PID @ 23-25' = 0.0ppm
25											PID @ 25-27' = 0.0ppm
26											
27				Refusal @ 27'							
28											
29											
30											
31											
32											
33											
34											
35											

Appendix B – Laboratory Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 21, 2023

Emily Conkling

Marathon
92 Giant Crossing Rd
Gallup, NM 87301
TEL: (505) 722-3833
FAX:

RE: AOC 26 27 OrderNo.: 2308A31

Dear Emily Conkling:

Hall Environmental Analysis Laboratory received 2 sample(s) on 8/18/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2308A31**
Date Reported: **9/21/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** MKTF-39
Project: AOC 26 27 **Collection Date:** 8/16/2023 1:30:00 PM
Lab ID: 2308A31-001 **Matrix:** OIL **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
DRO BY 8015D							Analyst: **JME**	
Diesel Range Organics (DRO)	91	2.0	2.0		wt%	20	8/24/2023 10:17:49 AM	77002
Motor Oil Range Organics (MRO)	ND	4.3	10	D	wt%	20	8/24/2023 10:17:49 AM	77002
Surr: DNOP	0	0	65.2-113	S	%Rec	20	8/24/2023 10:17:49 AM	77002
GRO BY 8015D							Analyst: **JJP**	
Gasoline Range Organics (GRO)	2.6	1.5	5.0	J	wt%	1	8/28/2023 12:04:13 PM	77010
Surr: BFB	111	0	57-241		%Rec	1	8/28/2023 12:04:13 PM	77010
SEMIVOLATILE ORGANICS BY 8270C							Analyst: **DAM**	
Acenaphthene	ND	430	510	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Acenaphthylene	ND	390	510	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Aniline	ND	1100	2000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Anthracene	ND	500	510	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Benz(a)anthracene	ND	740	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Benzo(a)pyrene	ND	670	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Benzo(b)fluoranthene	ND	510	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Benzo(g,h,i)perylene	ND	730	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Benzo(k)fluoranthene	ND	620	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Benzoic acid	ND	250	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Benzyl alcohol	ND	920	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Bis(2-chloroethoxy)methane	ND	710	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Bis(2-chloroethyl)ether	ND	1000	2000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Bis(2-chloroisopropyl)ether	ND	960	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Bis(2-ethylhexyl)phthalate	ND	820	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
4-Bromophenyl phenyl ether	ND	340	510	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Butyl benzyl phthalate	ND	810	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Carbazole	ND	560	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
4-Chloro-3-methylphenol	ND	660	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
4-Chloroaniline	ND	670	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
2-Chloronaphthalene	ND	280	510	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
2-Chlorophenol	ND	850	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
4-Chlorophenyl phenyl ether	ND	470	510	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Chrysene	ND	790	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Di-n-butyl phthalate	ND	330	510	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Di-n-octyl phthalate	ND	930	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Dibenz(a,h)anthracene	ND	640	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Dibenzofuran	ND	570	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
1,2-Dichlorobenzene	ND	620	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
1,3-Dichlorobenzene	ND	600	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
1,4-Dichlorobenzene	ND	650	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A31**
Date Reported: **9/21/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: MKTF-39
Project: AOC 26 27
Collection Date: 8/16/2023 1:30:00 PM
Lab ID: 2308A31-001
Matrix: OIL
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
SEMIVOLATILE ORGANICS BY 8270C							Analyst: **DAM**	
3,3´-Dichlorobenzidine	ND	930	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Diethyl phthalate	ND	410	510	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Dimethyl phthalate	ND	520	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
2,4-Dichlorophenol	ND	590	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
2,4-Dimethylphenol	ND	650	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
4,6-Dinitro-2-methylphenol	ND	780	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
2,4-Dinitrophenol	ND	300	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
2,4-Dinitrotoluene	ND	610	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
2,6-Dinitrotoluene	ND	760	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Fluoranthene	ND	330	510	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Fluorene	ND	420	510	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Hexachlorobenzene	ND	610	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Hexachlorobutadiene	ND	370	510	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Hexachlorocyclopentadiene	ND	930	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Hexachloroethane	ND	1200	2000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Indeno(1,2,3-cd)pyrene	ND	720	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Isophorone	ND	960	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
1-Methylnaphthalene	1900	480	510	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
2-Methylnaphthalene	2700	460	510	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
2-Methylphenol	ND	950	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
3+4-Methylphenol	ND	970	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
N-Nitrosodi-n-propylamine	ND	540	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
N-Nitrosodimethylamine	ND	760	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
N-Nitrosodiphenylamine	ND	690	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Naphthalene	740	580	1000	JD	mg/Kg	10	9/19/2023 6:46:27 PM	77604
2-Nitroaniline	ND	550	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
3-Nitroaniline	ND	810	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
4-Nitroaniline	ND	800	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Nitrobenzene	ND	570	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
2-Nitrophenol	ND	570	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
4-Nitrophenol	ND	650	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Pentachlorophenol	ND	510	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Phenanthrene	600	550	1000	JD	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Phenol	ND	930	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Pyrene	ND	920	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
Pyridine	ND	1100	2000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
1,2,4-Trichlorobenzene	ND	650	1000	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
2,4,5-Trichlorophenol	ND	310	510	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604
2,4,6-Trichlorophenol	ND	300	510	D	mg/Kg	10	9/19/2023 6:46:27 PM	77604

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
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J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A31**
Date Reported: **9/21/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: MKTF-39
Project: AOC 26 27
Collection Date: 8/16/2023 1:30:00 PM
Lab ID: 2308A31-001
Matrix: OIL
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
SEMIVOLATILE ORGANICS BY 8270C							Analyst: **DAM**	
Surr: 2-Fluorophenol	0	0	70-130	SD	%Rec	10	9/19/2023 6:46:27 PM	77604
Surr: Phenol-d5	0	0	70-130	SD	%Rec	10	9/19/2023 6:46:27 PM	77604
Surr: 2,4,6-Tribromophenol	0	0	62.3-119	SD	%Rec	10	9/19/2023 6:46:27 PM	77604
Surr: Nitrobenzene-d5	0	0	70-130	SD	%Rec	10	9/19/2023 6:46:27 PM	77604
Surr: 2-Fluorobiphenyl	0	0	70-130	SD	%Rec	10	9/19/2023 6:46:27 PM	77604
Surr: 4-Terphenyl-d14	0	0	34-161	SD	%Rec	10	9/19/2023 6:46:27 PM	77604
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	100	100	D	mg/Kg	100	8/27/2023 6:22:58 AM	77010
Toluene	ND	100	100	D	mg/Kg	100	8/27/2023 6:22:58 AM	77010
Ethylbenzene	380	100	100	D	mg/Kg	100	8/27/2023 6:22:58 AM	77010
Methyl tert-butyl ether (MTBE)	ND	200	200	D	mg/Kg	100	8/27/2023 6:22:58 AM	77010
Surr: Toluene-d8	100	0	70-130	D	%Rec	100	8/27/2023 6:22:58 AM	77010

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A31**
Date Reported: **9/21/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: OW-61
Project: AOC 26 27
Collection Date: 8/16/2023 2:40:00 PM
Lab ID: 2308A31-002
Matrix: OIL
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
DRO BY 8015D							Analyst: **JME**	
Diesel Range Organics (DRO)	52	1.7	1.8		wt%	20	8/24/2023 10:30:17 AM	77002
Motor Oil Range Organics (MRO)	ND	3.8	8.8	D	wt%	20	8/24/2023 10:30:17 AM	77002
Surr: DNOP	0	0	65.2-113	S	%Rec	20	8/24/2023 10:30:17 AM	77002
GRO BY 8015D							Analyst: **JJP**	
Gasoline Range Organics (GRO)	32	1.5	5.0		wt%	1	8/28/2023 12:27:45 PM	77010
Surr: BFB	116	0	57-241		%Rec	1	8/28/2023 12:27:45 PM	77010
SEMIVOLATILE ORGANICS BY 8270C							Analyst: **DAM**	
Acenaphthene	ND	540	630	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Acenaphthylene	ND	480	630	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Aniline	ND	1400	2500	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Anthracene	ND	630	630	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Benz(a)anthracene	ND	910	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Benzo(a)pyrene	ND	840	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Benzo(b)fluoranthene	ND	640	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Benzo(g,h,i)perylene	ND	910	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Benzo(k)fluoranthene	ND	770	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Benzoic acid	ND	310	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Benzyl alcohol	ND	1100	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Bis(2-chloroethoxy)methane	ND	890	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Bis(2-chloroethyl)ether	ND	1300	2500	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Bis(2-chloroisopropyl)ether	ND	1200	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Bis(2-ethylhexyl)phthalate	ND	1000	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
4-Bromophenyl phenyl ether	ND	420	630	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Butyl benzyl phthalate	ND	1000	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Carbazole	ND	690	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
4-Chloro-3-methylphenol	ND	820	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
4-Chloroaniline	ND	830	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
2-Chloronaphthalene	ND	350	630	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
2-Chlorophenol	ND	1100	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
4-Chlorophenyl phenyl ether	ND	580	630	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Chrysene	ND	980	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Di-n-butyl phthalate	ND	410	630	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Di-n-octyl phthalate	ND	1200	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Dibenz(a,h)anthracene	ND	790	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Dibenzofuran	ND	700	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
1,2-Dichlorobenzene	ND	770	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
1,3-Dichlorobenzene	ND	740	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
1,4-Dichlorobenzene	ND	800	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A31**
Date Reported: **9/21/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: OW-61
Project: AOC 26 27
Collection Date: 8/16/2023 2:40:00 PM
Lab ID: 2308A31-002 **Matrix:** OIL **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
SEMIVOLATILE ORGANICS BY 8270C							Analyst: **DAM**	
3,3´-Dichlorobenzidine	ND	1200	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Diethyl phthalate	ND	510	630	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Dimethyl phthalate	ND	650	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
2,4-Dichlorophenol	ND	730	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
2,4-Dimethylphenol	ND	810	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
4,6-Dinitro-2-methylphenol	ND	970	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
2,4-Dinitrophenol	ND	370	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
2,4-Dinitrotoluene	ND	750	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
2,6-Dinitrotoluene	ND	940	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Fluoranthene	ND	410	630	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Fluorene	ND	530	630	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Hexachlorobenzene	ND	760	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Hexachlorobutadiene	ND	460	630	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Hexachlorocyclopentadiene	ND	1200	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Hexachloroethane	ND	1400	2500	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Indeno(1,2,3-cd)pyrene	ND	900	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Isophorone	ND	1200	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
1-Methylnaphthalene	3700	600	630	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
2-Methylnaphthalene	6000	570	630	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
2-Methylphenol	ND	1200	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
3+4-Methylphenol	ND	1200	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
N-Nitrosodi-n-propylamine	ND	670	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
N-Nitrosodimethylamine	ND	950	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
N-Nitrosodiphenylamine	ND	850	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Naphthalene	2300	720	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
2-Nitroaniline	ND	690	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
3-Nitroaniline	ND	1000	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
4-Nitroaniline	ND	990	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Nitrobenzene	ND	700	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
2-Nitrophenol	ND	700	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
4-Nitrophenol	ND	800	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Pentachlorophenol	ND	640	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Phenanthrene	ND	680	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Phenol	ND	1200	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Pyrene	ND	1100	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
Pyridine	ND	1400	2500	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
1,2,4-Trichlorobenzene	ND	800	1300	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
2,4,5-Trichlorophenol	ND	380	630	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604
2,4,6-Trichlorophenol	ND	380	630	D	mg/Kg	10	9/19/2023 7:29:35 PM	77604

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
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ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
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Analytical Report
Lab Order **2308A31**
Date Reported: **9/21/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: OW-61
Project: AOC 26 27
Collection Date: 8/16/2023 2:40:00 PM
Lab ID: 2308A31-002
Matrix: OIL
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
SEMIVOLATILE ORGANICS BY 8270C							Analyst: **DAM**	
Surr: 2-Fluorophenol	0	0	70-130	SD	%Rec	10	9/19/2023 7:29:35 PM	77604
Surr: Phenol-d5	0	0	70-130	SD	%Rec	10	9/19/2023 7:29:35 PM	77604
Surr: 2,4,6-Tribromophenol	0	0	62.3-119	SD	%Rec	10	9/19/2023 7:29:35 PM	77604
Surr: Nitrobenzene-d5	0	0	70-130	SD	%Rec	10	9/19/2023 7:29:35 PM	77604
Surr: 2-Fluorobiphenyl	0	0	70-130	SD	%Rec	10	9/19/2023 7:29:35 PM	77604
Surr: 4-Terphenyl-d14	0	0	34-161	SD	%Rec	10	9/19/2023 7:29:35 PM	77604
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	1200	100	100		mg/Kg	100	8/27/2023 6:51:14 AM	77010
Toluene	ND	100	100		mg/Kg	100	8/27/2023 6:51:14 AM	77010
Ethylbenzene	1200	100	100		mg/Kg	100	8/27/2023 6:51:14 AM	77010
Methyl tert-butyl ether (MTBE)	ND	200	200		mg/Kg	100	8/27/2023 6:51:14 AM	77010
Surr: Toluene-d8	98.8	0	70-130		%Rec	100	8/27/2023 6:51:14 AM	77010

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Pace Analytical®

ANALYTICAL REPORT

August 31, 2023

Hall Environmental Analysis Laboratory

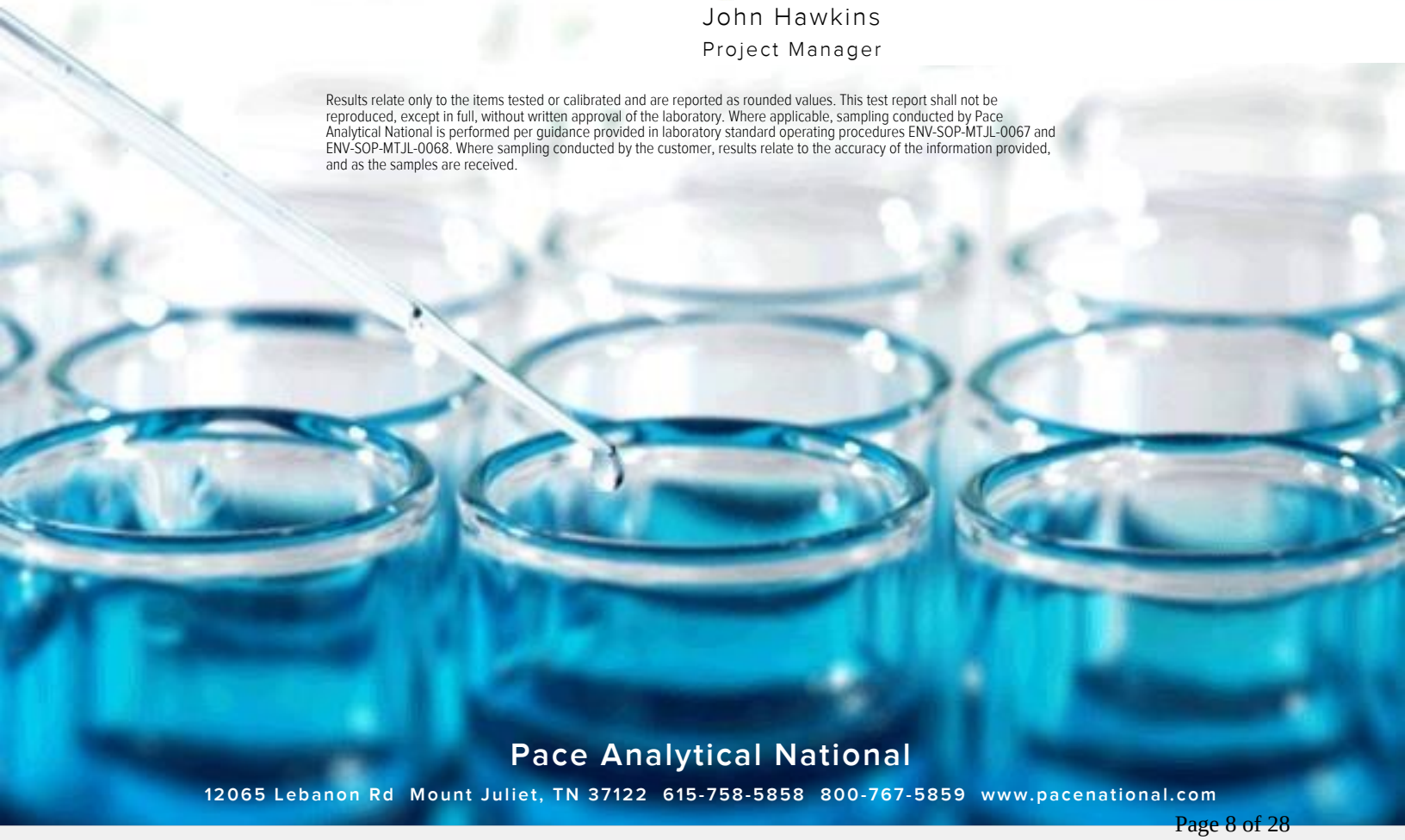
Sample Delivery Group:	L1648527
Samples Received:	08/22/2023
Project Number:	
Description:	

Report To: Andy Freeman
4901 Hawkins NE
Albuquerque, NM 87109

Entire Report Reviewed By:

John Hawkins
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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SAMPLE SUMMARY

2308A31-002C OW-61 L1648527-01 Solid

			Collected by	Collected date/time	Received date/time	
				08/16/23 14:40	08/22/23 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG2119176	1	08/23/23 16:26	08/28/23 15:42	ZSA	Mt. Juliet, TN

2308A31-001C MKTF-39 L1648527-02 GW

			Collected by	Collected date/time	Received date/time	
				08/16/23 13:30	08/22/23 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG2122632	1	08/29/23 11:55	08/31/23 11:16	ZSA	Mt. Juliet, TN

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All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

John Hawkins
Project Manager

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Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.63	J	0.518	2.00	1	08/28/2023 15:42	WG2119176
Chromium	U		0.133	1.00	1	08/28/2023 15:42	WG2119176
Lead	U		0.208	0.500	1	08/28/2023 15:42	WG2119176
Selenium	U		0.764	2.00	1	08/28/2023 15:42	WG2119176

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Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Arsenic	U		4.40	10.0	1	08/31/2023 11:16	WG2122632
Chromium	U		1.40	10.0	1	08/31/2023 11:16	WG2122632
Lead	U		2.99	6.00	1	08/31/2023 11:16	WG2122632
Selenium	U		7.35	10.0	1	08/31/2023 11:16	WG2122632

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Method Blank (MB)

(MB) R3966516-1 08/28/23 15:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.518	2.00
Chromium	U		0.133	1.00
Lead	U		0.208	0.500
Selenium	U		0.764	2.00

Laboratory Control Sample (LCS)

(LCS) R3966516-2 08/28/23 15:05

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	97.2	97.2	80.0-120	
Chromium	100	94.3	94.3	80.0-120	
Lead	100	94.0	94.0	80.0-120	
Selenium	100	97.3	97.3	80.0-120	

L1642209-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1642209-03 08/28/23 15:08 • (MS) R3966516-5 08/28/23 15:18 • (MSD) R3966516-6 08/28/23 15:21

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	2.50	95.8	116	93.3	113	1	75.0-125			18.9	20
Chromium	100	13.6	95.6	120	82.0	106	1	75.0-125		J3	22.4	20
Lead	100	8.26	111	124	103	115	1	75.0-125			10.8	20
Selenium	100	U	93.1	115	93.1	115	1	75.0-125		J3	21.2	20

Method Blank (MB)

(MB) R3967844-1 08/31/23 10:50

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Arsenic	U		4.40	10.0
Chromium	U		1.40	10.0
Lead	U		2.99	6.00
Selenium	U		7.35	10.0

Laboratory Control Sample (LCS)

(LCS) R3967844-2 08/31/23 10:53

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	1000	998	99.8	80.0-120	
Chromium	1000	1010	101	80.0-120	
Lead	1000	985	98.5	80.0-120	
Selenium	1000	983	98.3	80.0-120	

L1649690-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1649690-01 08/31/23 10:56 • (MS) R3967844-4 08/31/23 11:01 • (MSD) R3967844-5 08/31/23 11:04

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	1000	U	1020	1050	102	105	1	75.0-125			2.81	20
Chromium	1000	2.33	964	986	96.2	98.4	1	75.0-125			2.24	20
Lead	1000	U	967	988	96.7	98.8	1	75.0-125			2.12	20
Selenium	1000	U	1010	1020	101	102	1	75.0-125			1.08	20

L1649705-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1649705-02 08/31/23 11:07 • (MS) R3967844-6 08/31/23 11:10 • (MSD) R3967844-7 08/31/23 11:13

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	1000	U	1050	1030	105	103	1	75.0-125			2.14	20
Chromium	1000	U	966	946	96.6	94.6	1	75.0-125			2.07	20
Lead	1000	U	989	974	98.9	97.4	1	75.0-125			1.52	20
Selenium	1000	U	1060	1050	106	105	1	75.0-125			1.15	20

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Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.

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Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

C187

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

SUB CONTRATOR:	Pace TN	COMPANY: PACE TN	PHONE: (800) 767-5859	FAX: (615) 758-5859	
ADDRESS:	12065 Lebanon Rd		ACCOUNT #:	EMAIL:	
CITY, STATE, ZIP:	Mt. Juliet, TN 37122				

LL#585527

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2308A31-001C	MKTF-39	250HDPE	Oil	8/16/2023 1:30:00 PM	1	Arsenic, Chromium, Lead, Selenium
2	2308A31-002C	OW-61	250HDPE	Oil	8/16/2023 2:40:00 PM	1	Arsenic, Chromium, Lead, Selenium -01

Sample Receipt Checklist

COC Seal Present/Intact:	Y N	If Applicable	
COC Signed/Accurate:	Y N	VOA Zero Headspace:	Y N
Bottles arrive intact:	Y N	Pres.Correct/Check:	Y N
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
RAD Screen <0.5 mR/hr:	Y N		

Count=2B

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 8/18/2023	Time: 12:43 PM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date: 8-22-23	Time: 0900

TAT: Standard ☑ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

REPORT TRANSMITTAL DESIRED:
☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY

Temp of samples 1.9° C Attempt to Cool ?

1.9°c ±0.1°c ORAS

Comments:

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8/22-NCF-L1648527 HALLENVANM

R5

Time estimate: oh **Time spent:** oh

Members

Hailey Melson (responsible) JVH John V Hawkins

Due on *25 August 2023 8:00 AM* for target *Done*

- [ ] Parameter(s) past holding time
- [ ] Temperature not in range
- [ ] Improper container type
- [ ] pH not in range
- [ ] Insufficient sample volume
- [x] Sample is biphasic
- [ ] Vials received with headspace
- [ ] Broken container
- [ ] Sufficient sample remains
- [ ] If broken container: Insufficient packing material around container
- [ ] If broken container: Insufficient packing material inside cooler
- [ ] If broken container: Improper handling by carrier:_____
- [ ] If broken container: Sample was frozen
- [ ] If broken container: Container lid not intact
- [ ] Client informed by Call
- [x] Client informed by Email
- [ ] Client informed by Voicemail
- [x] Date/Time:_8-22-23 2:50_____
- [x] PM initials:__JVH_____
- [ ] Client Contact:_Michelle and Andy_____

Comments

Hailey Melson *22 August 2023 2:48 PM*

ID: 2308A31-001C Sample is Biphasic. 1/4th oily layer (top) and 3/4 water layer (water).

John V Hawkins *22 August 2023 3:16 PM*

Infomred client, waiting response.

John V Hawkins *26 August 2023 11:30 AM*

Analyze water layer

Hailey Melson *26 August 2023 5:07 PM*

Done

Received by OCD: 2/29/2024 3:49:46 PM

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A31**

21-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB-77002**	SampType: **MBLK**	TestCode: **DRO by 8015D**							
Client ID: **PBW**	Batch ID: **77002**	RunNo: **99200**							
Prep Date: **8/22/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617368**	Units: **wt%**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.10								
Motor Oil Range Organics (MRO)	ND	0.50								
Surr: DNOP	0.061		0.1000		60.5	65.2	113			S

Sample ID: **MB-77002**	SampType: **MBLK**	TestCode: **DRO by 8015D**							
Client ID: **PBW**	Batch ID: **77002**	RunNo: **99199**							
Prep Date: **8/22/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617383**	Units: **wt%**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.10								
Motor Oil Range Organics (MRO)	ND	0.50								
Surr: DNOP	0.084		0.1000		84.2	65.2	113			

Sample ID: **LCS-77002**	SampType: **LCS**	TestCode: **DRO by 8015D**							
Client ID: **LCSW**	Batch ID: **77002**	RunNo: **99199**							
Prep Date: **8/22/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617384**	Units: **wt%**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	0.47	0.10	0.5000	0	94.0	70	130			
Surr: DNOP	0.049		0.05000		97.5	65.2	113			

Sample ID: **LCSD-77002**	SampType: **LCSD**	TestCode: **DRO by 8015D**							
Client ID: **LCSS02**	Batch ID: **77002**	RunNo: **99199**							
Prep Date: **8/22/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617385**	Units: **wt%**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	0.49	0.10	0.5000	0	98.1	70	130	4.22	20	
Surr: DNOP	0.051		0.05000		103	65.2	113	0	0	

Sample ID: **MB-77002**	SampType: **MBLK**	TestCode: **DRO by 8015D**							
Client ID: **PBW**	Batch ID: **77002**	RunNo: **99211**							
Prep Date: **8/22/2023**	Analysis Date: **8/23/2023**	SeqNo: **3617526**	Units: **wt%**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.10								
Motor Oil Range Organics (MRO)	ND	0.50								
Surr: DNOP	0.076		0.1000		76.2	65.2	113			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A31**

21-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **lcs-77010**	SampType: **LCS**	TestCode: **GRO by 8015D**							
Client ID: **LCSW**	Batch ID: **77010**	RunNo: **99270**							
Prep Date: **8/22/2023**	Analysis Date: **8/28/2023**	SeqNo: **3621070**	Units: **wt%**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	84.7	80	120			
Surr: BFB	1900		1000		193	57	241			

Sample ID: **lcsd-77010**	SampType: **LCSD**	TestCode: **GRO by 8015D**							
Client ID: **LCSS02**	Batch ID: **77010**	RunNo: **99270**							
Prep Date: **8/22/2023**	Analysis Date: **8/28/2023**	SeqNo: **3621071**	Units: **wt%**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	84.5	80	120	0.189	20	
Surr: BFB	1900		1000		192	57	241	0	0	

Sample ID: **mb-77010**	SampType: **MBLK**	TestCode: **GRO by 8015D**							
Client ID: **PBW**	Batch ID: **77010**	RunNo: **99270**							
Prep Date: **8/22/2023**	Analysis Date: **8/28/2023**	SeqNo: **3621072**	Units: **wt%**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	940		1000		94.1	57	241			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A31**

21-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **lcs-77010**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSW**	Batch ID: **77010**	RunNo: **99258**
Prep Date: **8/22/2023**	Analysis Date: **8/26/2023**	SeqNo: **3620311** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	57	2.5	50.00	0	114	70	130			
Toluene	52	2.5	50.00	0	104	70	130			
Surr: Dibromofluoromethane	25		25.00		101	67.3	137			
Surr: 1,2-Dichloroethane-d4	28		25.00		113	50.8	154			
Surr: Toluene-d8	24		25.00		95.8	70	130			
Surr: 4-Bromofluorobenzene	25		25.00		99.1	55.9	157			

Sample ID: **lcsd-77010**	SampType: **LCSD**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS02**	Batch ID: **77010**	RunNo: **99258**
Prep Date: **8/22/2023**	Analysis Date: **8/26/2023**	SeqNo: **3620312** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	58	2.5	50.00	0	115	70	130	1.04	20	
Toluene	51	2.5	50.00	0	102	70	130	1.94	20	
Surr: Dibromofluoromethane	25		25.00		101	67.3	137	0	0	
Surr: 1,2-Dichloroethane-d4	27		25.00		109	50.8	154	0	0	
Surr: Toluene-d8	22		25.00		89.2	70	130	0	0	
Surr: 4-Bromofluorobenzene	25		25.00		98.6	55.9	157	0	0	

Sample ID: **mb-77010**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBW**	Batch ID: **77010**	RunNo: **99258**
Prep Date: **8/22/2023**	Analysis Date: **8/26/2023**	SeqNo: **3620313** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	2.5								
Toluene	ND	2.5								
Ethylbenzene	ND	2.5								
Methyl tert-butyl ether (MTBE)	ND	2.5								
Surr: Dibromofluoromethane	25		25.00		102	68.3	132			
Surr: 1,2-Dichloroethane-d4	25		25.00		99.3	70	130			
Surr: Toluene-d8	25		25.00		99.4	70	130			
Surr: 4-Bromofluorobenzene	25		25.00		99.5	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A31**

21-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb-77604**	SampType: **MBLK**	TestCode: **SEMIVOLATILE ORGANICS by 8270C**
Client ID: **PBW**	Batch ID: **77604**	RunNo: **99819**
Prep Date: **9/19/2023**	Analysis Date: **9/19/2023**	SeqNo: **3649176** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	120								
Acenaphthylene	ND	120								
Aniline	ND	500								
Anthracene	ND	120								
Benz(a)anthracene	ND	250								
Benzo(a)pyrene	ND	250								
Benzo(b)fluoranthene	ND	250								
Benzo(g,h,i)perylene	ND	250								
Benzo(k)fluoranthene	ND	250								
Benzoic acid	ND	250								
Benzyl alcohol	ND	250								
Bis(2-chloroethoxy)methane	ND	250								
Bis(2-chloroethyl)ether	ND	500								
Bis(2-chloroisopropyl)ether	ND	250								
Bis(2-ethylhexyl)phthalate	ND	250								
4-Bromophenyl phenyl ether	ND	120								
Butyl benzyl phthalate	ND	250								
Carbazole	ND	250								
4-Chloro-3-methylphenol	ND	250								
4-Chloroaniline	ND	250								
2-Chloronaphthalene	ND	120								
2-Chlorophenol	ND	250								
4-Chlorophenyl phenyl ether	ND	120								
Chrysene	ND	250								
Di-n-butyl phthalate	ND	120								
Di-n-octyl phthalate	ND	250								
Dibenz(a,h)anthracene	ND	250								
Dibenzofuran	ND	250								
1,2-Dichlorobenzene	ND	250								
1,3-Dichlorobenzene	ND	250								
1,4-Dichlorobenzene	ND	250								
3,3´-Dichlorobenzidine	ND	250								
Diethyl phthalate	ND	120								
Dimethyl phthalate	ND	250								
2,4-Dichlorophenol	ND	250								
2,4-Dimethylphenol	ND	250								
4,6-Dinitro-2-methylphenol	ND	250								
2,4-Dinitrophenol	ND	250								
2,4-Dinitrotoluene	ND	250								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A31**
21-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **mb-77604**	SampType: **MBLK**	TestCode: **SEMIVOLATILE ORGANICS by 8270C**
Client ID: **PBW**	Batch ID: **77604**	RunNo: **99819**
Prep Date: **9/19/2023**	Analysis Date: **9/19/2023**	SeqNo: **3649176** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,6-Dinitrotoluene	ND	250								
Fluoranthene	ND	120								
Fluorene	ND	120								
Hexachlorobenzene	ND	250								
Hexachlorobutadiene	ND	120								
Hexachlorocyclopentadiene	ND	250								
Hexachloroethane	ND	500								
Indeno(1,2,3-cd)pyrene	ND	250								
Isophorone	ND	250								
1-Methylnaphthalene	ND	120								
2-Methylnaphthalene	ND	120								
2-Methylphenol	ND	250								
3+4-Methylphenol	ND	250								
N-Nitrosodi-n-propylamine	ND	250								
N-Nitrosodimethylamine	ND	250								
N-Nitrosodiphenylamine	ND	250								
Naphthalene	ND	250								
2-Nitroaniline	ND	250								
3-Nitroaniline	ND	250								
4-Nitroaniline	ND	250								
Nitrobenzene	ND	250								
2-Nitrophenol	ND	250								
4-Nitrophenol	ND	250								
Pentachlorophenol	ND	250								
Phenanthrene	ND	250								
Phenol	ND	250								
Pyrene	ND	250								
Pyridine	ND	500								
1,2,4-Trichlorobenzene	ND	250								
2,4,5-Trichlorophenol	ND	120								
2,4,6-Trichlorophenol	ND	120								
Surr: 2-Fluorophenol	1500		1250		121	70	130			
Surr: Phenol-d5	1500		1250		118	70	130			
Surr: 2,4,6-Tribromophenol	1200		1250		94.6	62.3	119			
Surr: Nitrobenzene-d5	620		625.0		100	70	130			
Surr: 2-Fluorobiphenyl	600		625.0		96.1	70	130			
Surr: 4-Terphenyl-d14	640		625.0		103	34	161			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A31**

21-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **lcs-77604** SampType: **LCS** TestCode: **SEMIVOLATILE ORGANICS by 8270C**

Client ID: **LCSW** Batch ID: **77604** RunNo: **99819**

Prep Date: **9/19/2023** Analysis Date: **9/19/2023** SeqNo: **3649177** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	600	120	625.0	0	96.7	68.2	130			
4-Chloro-3-methylphenol	1300	250	1250	0	105	70	130			
2-Chlorophenol	1200	250	1250	0	97.0	70	132			
1,4-Dichlorobenzene	640	250	625.0	0	102	70	130			
2,4-Dinitrotoluene	500	250	625.0	0	80.8	54.7	130			
N-Nitrosodi-n-propylamine	650	250	625.0	0	104	70	130			
4-Nitrophenol	1300	250	1250	0	102	68.7	130			
Pentachlorophenol	900	250	1250	0	71.8	56	130			
Phenol	1200	250	1250	0	99.2	70	142			
Pyrene	590	250	625.0	0	95.0	70	130			
1,2,4-Trichlorobenzene	610	250	625.0	0	98.2	61.4	130			
Surr: 2-Fluorophenol	1400		1250		108	70	130			
Surr: Phenol-d5	1400		1250		108	70	130			
Surr: 2,4,6-Tribromophenol	1300		1250		101	62.3	119			
Surr: Nitrobenzene-d5	620		625.0		99.3	70	130			
Surr: 2-Fluorobiphenyl	590		625.0		94.1	70	130			
Surr: 4-Terphenyl-d14	630		625.0		101	34	161			

Sample ID: **lcsd-77604** SampType: **LCSD** TestCode: **SEMIVOLATILE ORGANICS by 8270C**

Client ID: **LCSS02** Batch ID: **77604** RunNo: **99819**

Prep Date: **9/19/2023** Analysis Date: **9/19/2023** SeqNo: **3649178** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	640	120	625.0	0	102	68.2	130	5.70	20	
4-Chloro-3-methylphenol	1300	250	1250	0	107	70	130	2.07	20	
2-Chlorophenol	1300	250	1250	0	105	70	132	7.76	20	
1,4-Dichlorobenzene	640	250	625.0	0	103	70	130	0.582	20	
2,4-Dinitrotoluene	520	250	625.0	0	82.9	54.7	130	2.65	20	
N-Nitrosodi-n-propylamine	650	250	625.0	0	104	70	130	0.0517	20	
4-Nitrophenol	1300	250	1250	0	102	68.7	130	0.210	20	
Pentachlorophenol	970	250	1250	0	77.4	56	130	7.47	20	
Phenol	1300	250	1250	0	101	70	142	1.87	20	
Pyrene	590	250	625.0	0	94.5	70	130	0.560	20	
1,2,4-Trichlorobenzene	620	250	625.0	0	99.9	61.4	130	1.71	20	
Surr: 2-Fluorophenol	1400		1250		112	70	130	0	0	
Surr: Phenol-d5	1400		1250		111	70	130	0	0	
Surr: 2,4,6-Tribromophenol	1300		1250		103	62.3	119	0	0	
Surr: Nitrobenzene-d5	620		625.0		98.6	70	130	0	0	
Surr: 2-Fluorobiphenyl	600		625.0		96.1	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A31**

21-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID:	**lcsd-77604**	SampType:	**LCSD**	TestCode:	**SEMIVOLATILE ORGANICS by 8270C**					
Client ID:	**LCSS02**	Batch ID:	**77604**	RunNo:	**99819**					
Prep Date:	**9/19/2023**	Analysis Date:	**9/19/2023**	SeqNo:	**3649178**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	610		625.0		98.4	34	161	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
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J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Marathon | Work Order Number: 2308A31 | RcptNo: 1

Received By: Tracy Casarrubias 8/18/2023 7:40:00 AM

Completed By: Cheyenne Cason 8/18/2023 8:39:23 AM

Reviewed By: JN 8/18/23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☑	NA ☑ SCM 8/18/23
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: SCM 8/18/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks: SAMPLES 001B & 003B RECEIVED WITH AIR BUBBLES. SCM 8/18/23

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.1	Good	Not Present	Morty		

Received by OCD: 2/29/2024 3:49:46 PM

Released to Imaging: 2/7/2025 1:59:07 PM

Chain-of-Custody Record

Client: Marathon Petroleum Company

Mailing Address: 92 Giant Crossing Rd.
Jamestown, NM 87347

Phone #: 808-640-1823

email or Fax#: econkling@trihydro.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: ADC 26|27

Project #: 00697-097-0020

Project Manager: Emily Conkling

Sampler:

On Ice: ☒ Yes ☐ No marty

# of Coolers: 1

Cooler Temp(Including CF): 5.1-0=5.1°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2308A31	8260/BTEX	8270/SVOCs	8270/MTBE	8015B /TPH-GRO, TPH-DRO, TPH-MRO	6010/6020 / Total Arsenic, Total Chromium, Total Lead, Total Selenium
8.16	1330	Oil	MKTF-39	4		001	X	X	X	X	X
↓	1440	↓	OW-61	↓		002	X	X	X	X	X

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8.17.23	14:00	Emily Conkling				
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					8/18/23	7:40

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 18, 2023

Emily Conkling

Marathon
92 Giant Crossing Rd
Gallup, NM 87301
TEL: (505) 722-3833
FAX:

RE: AOC 26 27 OrderNo.: 2308A58

Dear Emily Conkling:

Hall Environmental Analysis Laboratory received 49 sample(s) on 8/18/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-14(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/16/2023 12:45:00 PM
Lab ID: 2308A58-001 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.056	0.090		µg/Kg	1	8/23/2023 9:40:02 PM	76925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	23	8.2	9.6		mg/Kg	1	8/28/2023 10:15:40 PM	77049
Motor Oil Range Organics (MRO)	ND	26	48		mg/Kg	1	8/28/2023 10:15:40 PM	77049
Surr: DNOP	95.7	0	69-147		%Rec	1	8/28/2023 10:15:40 PM	77049
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.9	7.4		mg/Kg	1	8/24/2023 11:00:27 PM	GS992(
Surr: BFB	96.2	0	15-244		%Rec	1	8/24/2023 11:00:27 PM	GS992(
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 10:56:49 AM	76974
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.52		mg/Kg	5	9/6/2023 2:09:46 PM	76998
Arsenic	2.4	0.26	0.52		mg/Kg	5	9/6/2023 2:09:46 PM	76998
Lead	8.6	0.26	0.52		mg/Kg	5	9/6/2023 2:09:46 PM	76998
Nickel	7.0	0.36	0.52		mg/Kg	5	9/7/2023 3:41:14 PM	76998
Selenium	2.4	0.52	0.52		mg/Kg	5	9/12/2023 2:39:26 PM	76998
Silver	ND	0.26	0.52		mg/Kg	5	9/6/2023 2:09:46 PM	76998
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	0.19	0.072	0.072		mg/Kg	1	8/24/2023 2:05:06 PM	77022
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	710	0.52	0.52		mg/Kg	5	8/28/2023 11:01:52 AM	76998
Beryllium	0.54	0.10	0.31		mg/Kg	2	8/28/2023 10:55:37 AM	76998
Cadmium	ND	0.43	0.52		mg/Kg	2	8/28/2023 10:55:37 AM	76998
Chromium	12	0.62	0.62		mg/Kg	2	8/28/2023 10:55:37 AM	76998
Cobalt	2.7	0.31	0.62		mg/Kg	2	8/28/2023 10:55:37 AM	76998
Iron	8200	520	520		mg/Kg	50	8/28/2023 12:58:38 PM	76998
Manganese	700	1.0	1.3		mg/Kg	5	8/28/2023 11:01:52 AM	76998
Vanadium	29	0.31	5.2		mg/Kg	2	8/28/2023 10:55:37 AM	76998
Zinc	21	5.2	5.2		mg/Kg	2	8/28/2023 10:55:37 AM	76998
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.9	2.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Acenaphthylene	ND	1.9	2.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Aniline	ND	1.2	2.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Anthracene	ND	2.0	2.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Azobenzene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Benz(a)anthracene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-14(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/16/2023 12:45:00 PM
Lab ID: 2308A58-001 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.2	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Benzo(b)fluoranthene	ND	2.0	2.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Benzo(g,h,i)perylene	ND	2.2	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Benzo(k)fluoranthene	ND	2.0	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Benzoic acid	ND	2.0	5.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Benzyl alcohol	ND	1.8	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Bis(2-chloroethoxy)methane	ND	1.7	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Bis(2-chloroethyl)ether	ND	2.4	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Bis(2-chloroisopropyl)ether	ND	1.7	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Bis(2-ethylhexyl)phthalate	ND	3.1	5.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
4-Bromophenyl phenyl ether	ND	2.0	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Butyl benzyl phthalate	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Carbazole	ND	2.3	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
4-Chloro-3-methylphenol	ND	2.0	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
4-Chloroaniline	ND	1.4	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
2-Chloronaphthalene	ND	1.8	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
2-Chlorophenol	ND	1.4	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
4-Chlorophenyl phenyl ether	ND	2.0	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Chrysene	ND	2.2	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Di-n-butyl phthalate	ND	6.0	10	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Di-n-octyl phthalate	ND	2.1	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Dibenz(a,h)anthracene	ND	2.2	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Dibenzofuran	ND	2.0	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
1,2-Dichlorobenzene	ND	1.6	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
1,3-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
1,4-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
3,3´-Dichlorobenzidine	ND	2.5	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Diethyl phthalate	ND	18	30	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Dimethyl phthalate	ND	2.3	4.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
2,4-Dichlorophenol	ND	2.1	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
2,4-Dimethylphenol	ND	1.7	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
4,6-Dinitro-2-methylphenol	ND	2.2	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
2,4-Dinitrophenol	ND	2.3	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
2,4-Dinitrotoluene	ND	2.0	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
2,6-Dinitrotoluene	ND	2.2	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Fluoranthene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Fluorene	ND	1.9	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Hexachlorobenzene	ND	1.7	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Hexachlorobutadiene	ND	1.5	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-14(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/16/2023 12:45:00 PM
Lab ID: 2308A58-001 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.92	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Hexachloroethane	ND	2.0	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Indeno(1,2,3-cd)pyrene	ND	2.2	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Isophorone	ND	1.7	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
1-Methylnaphthalene	ND	1.6	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
2-Methylnaphthalene	ND	1.7	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
2-Methylphenol	ND	1.5	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
3+4-Methylphenol	ND	1.7	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
N-Nitrosodi-n-propylamine	ND	2.0	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
N-Nitrosodimethylamine	ND	1.5	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
N-Nitrosodiphenylamine	ND	2.2	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Naphthalene	ND	1.5	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
2-Nitroaniline	ND	1.9	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
3-Nitroaniline	ND	1.4	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
4-Nitroaniline	ND	1.2	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Nitrobenzene	ND	1.6	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
2-Nitrophenol	ND	1.6	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
4-Nitrophenol	ND	1.9	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Pentachlorophenol	ND	2.4	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Phenanthrene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Phenol	ND	2.4	3.0	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Pyrene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Pyridine	ND	1.9	10	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
1,2,4-Trichlorobenzene	ND	1.4	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
2,4,5-Trichlorophenol	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
2,4,6-Trichlorophenol	ND	1.8	2.5	D	mg/Kg	10	9/11/2023 8:31:53 PM	77079
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/11/2023 8:31:53 PM	77079
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/11/2023 8:31:53 PM	77079
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/11/2023 8:31:53 PM	77079
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/11/2023 8:31:53 PM	77079
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/11/2023 8:31:53 PM	77079
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/11/2023 8:31:53 PM	77079
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.012	0.037		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Toluene	ND	0.013	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Ethylbenzene	ND	0.0088	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Methyl tert-butyl ether (MTBE)	ND	0.042	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1,2,4-Trimethylbenzene	0.048	0.010	0.074	J	mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1,3,5-Trimethylbenzene	ND	0.017	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-14(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 12:45:00 PM
Lab ID: 2308A58-001
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.017	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1,2-Dibromoethane (EDB)	ND	0.012	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Naphthalene	0.056	0.027	0.15	J	mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1-Methylnaphthalene	0.032	0.022	0.29	J	mg/Kg	1	8/22/2023 8:37:00 PM	R99144
2-Methylnaphthalene	ND	0.076	0.29		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Acetone	ND	1.1	1.1		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Bromobenzene	ND	0.016	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Bromodichloromethane	ND	0.016	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Bromoform	ND	0.018	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Bromomethane	ND	0.24	0.29		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
2-Butanone	ND	0.41	0.74		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Carbon disulfide	ND	0.018	0.74		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Carbon tetrachloride	ND	0.021	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Chlorobenzene	ND	0.0073	0.15		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Chloroethane	ND	0.010	0.15		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Chloroform	ND	0.010	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Chloromethane	ND	0.073	0.22		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
2-Chlorotoluene	ND	0.020	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
4-Chlorotoluene	ND	0.015	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
cis-1,2-DCE	ND	0.037	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
cis-1,3-Dichloropropene	ND	0.0097	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1,2-Dibromo-3-chloropropane	ND	0.032	0.15		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Dibromochloromethane	ND	0.0097	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Dibromomethane	ND	0.011	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1,2-Dichlorobenzene	ND	0.015	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1,3-Dichlorobenzene	ND	0.014	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1,4-Dichlorobenzene	ND	0.020	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Dichlorodifluoromethane	ND	0.029	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1,1-Dichloroethane	ND	0.0060	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1,1-Dichloroethene	ND	0.042	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1,2-Dichloropropane	ND	0.013	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1,3-Dichloropropane	ND	0.0078	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
2,2-Dichloropropane	ND	0.0086	0.15		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1,1-Dichloropropene	ND	0.0078	0.15		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Hexachlorobutadiene	ND	0.15	0.15		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
2-Hexanone	ND	0.032	0.74		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Isopropylbenzene	ND	0.014	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
4-Isopropyltoluene	ND	0.0074	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
4-Methyl-2-pentanone	ND	0.086	0.74		mg/Kg	1	8/22/2023 8:37:00 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-14(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 12:45:00 PM
Lab ID: 2308A58-001
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.17	0.22		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
n-Butylbenzene	ND	0.020	0.22		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
n-Propylbenzene	0.018	0.012	0.074	J	mg/Kg	1	8/22/2023 8:37:00 PM	R99144
sec-Butylbenzene	ND	0.019	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Styrene	ND	0.0093	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
tert-Butylbenzene	ND	0.025	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1,1,1,2-Tetrachloroethane	ND	0.011	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1,1,2,2-Tetrachloroethane	ND	0.025	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Tetrachloroethene (PCE)	ND	0.020	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
trans-1,2-DCE	ND	0.026	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
trans-1,3-Dichloropropene	ND	0.015	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1,2,3-Trichlorobenzene	ND	0.011	0.15		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1,2,4-Trichlorobenzene	ND	0.026	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1,1,1-Trichloroethane	ND	0.025	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1,1,2-Trichloroethane	ND	0.018	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Trichloroethene (TCE)	ND	0.025	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Trichlorofluoromethane	ND	0.017	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1,2,3-Trichloropropane	ND	0.014	0.15		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Vinyl chloride	ND	0.040	0.074		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Xylenes, Total	ND	0.025	0.15		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
1,4-Dioxane	ND	0.37	0.74		mg/Kg	1	8/22/2023 8:37:00 PM	R99144
Surr: Dibromofluoromethane	106	0	73-145		%Rec	1	8/22/2023 8:37:00 PM	R99144
Surr: 1,2-Dichloroethane-d4	95.6	0	64.8-147		%Rec	1	8/22/2023 8:37:00 PM	R99144
Surr: Toluene-d8	94.4	0	70-130		%Rec	1	8/22/2023 8:37:00 PM	R99144
Surr: 4-Bromofluorobenzene	95.8	0	62.1-144		%Rec	1	8/22/2023 8:37:00 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-14(25-28)
Project: AOC 26 27 **Collection Date:** 8/16/2023 1:00:00 PM
Lab ID: 2308A58-002 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.055	0.088		µg/Kg	1	8/23/2023 9:54:54 PM	76925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	2300	82	96		mg/Kg	10	8/25/2023 4:47:30 AM	77049
Motor Oil Range Organics (MRO)	ND	270	480	D	mg/Kg	10	8/25/2023 4:47:30 AM	77049
Surr: DNOP	0	0	69-147	S	%Rec	10	8/25/2023 4:47:30 AM	77049
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	590	7.9	31		mg/Kg	5	8/24/2023 11:23:58 PM	GS992(
Surr: BFB	162	0	15-244		%Rec	5	8/24/2023 11:23:58 PM	GS992(
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 11:09:14 AM	76974
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.52		mg/Kg	5	9/6/2023 2:36:24 PM	76998
Arsenic	2.6	0.26	0.52		mg/Kg	5	9/6/2023 2:36:24 PM	76998
Lead	8.5	0.26	0.52		mg/Kg	5	9/7/2023 3:58:52 PM	76998
Nickel	6.8	0.36	0.52		mg/Kg	5	9/7/2023 3:58:52 PM	76998
Selenium	2.4	0.52	0.52		mg/Kg	5	9/6/2023 2:36:24 PM	76998
Silver	ND	0.26	0.52		mg/Kg	5	9/6/2023 2:36:24 PM	76998
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.073	0.073		mg/Kg	1	8/24/2023 2:09:21 PM	77022
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	2100	1.0	1.0		mg/Kg	10	8/28/2023 1:02:37 PM	76998
Beryllium	0.60	0.10	0.31		mg/Kg	2	8/28/2023 11:03:45 AM	76998
Cadmium	ND	0.44	0.52		mg/Kg	2	8/28/2023 11:03:45 AM	76998
Chromium	5.0	0.62	0.62		mg/Kg	2	8/28/2023 11:03:45 AM	76998
Cobalt	2.7	0.31	0.62		mg/Kg	2	8/28/2023 11:03:45 AM	76998
Iron	9200	520	520		mg/Kg	50	8/28/2023 1:04:31 PM	76998
Manganese	1900	2.1	2.6		mg/Kg	10	8/28/2023 1:02:37 PM	76998
Vanadium	25	0.78	13		mg/Kg	5	8/28/2023 11:14:30 AM	76998
Zinc	10	5.2	5.2		mg/Kg	2	8/28/2023 11:03:45 AM	76998
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.9	2.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Acenaphthylene	ND	1.9	2.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Aniline	ND	1.2	2.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Anthracene	ND	2.0	2.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Azobenzene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Benz(a)anthracene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-14(25-28)
Project: AOC 26 27
Collection Date: 8/16/2023 1:00:00 PM
Lab ID: 2308A58-002
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Benzo(b)fluoranthene	ND	2.0	2.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Benzo(g,h,i)perylene	ND	2.2	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Benzo(k)fluoranthene	ND	2.0	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Benzoic acid	ND	2.0	5.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Benzyl alcohol	ND	1.8	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Bis(2-chloroethoxy)methane	ND	1.7	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Bis(2-chloroethyl)ether	ND	2.4	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Bis(2-chloroisopropyl)ether	ND	1.7	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Bis(2-ethylhexyl)phthalate	ND	3.1	5.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
4-Bromophenyl phenyl ether	ND	2.0	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Butyl benzyl phthalate	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Carbazole	ND	2.2	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
4-Chloro-3-methylphenol	ND	1.9	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
4-Chloroaniline	ND	1.4	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
2-Chloronaphthalene	ND	1.8	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
2-Chlorophenol	ND	1.4	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
4-Chlorophenyl phenyl ether	ND	2.0	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Chrysene	ND	2.2	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Di-n-butyl phthalate	ND	5.9	10	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Di-n-octyl phthalate	ND	2.1	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Dibenz(a,h)anthracene	ND	2.2	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Dibenzofuran	ND	2.0	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
1,2-Dichlorobenzene	ND	1.6	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
1,3-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
1,4-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
3,3´-Dichlorobenzidine	ND	2.5	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Diethyl phthalate	ND	18	30	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Dimethyl phthalate	ND	2.3	4.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
2,4-Dichlorophenol	ND	2.1	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
2,4-Dimethylphenol	ND	1.7	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
4,6-Dinitro-2-methylphenol	ND	2.2	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
2,4-Dinitrophenol	ND	2.3	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
2,4-Dinitrotoluene	ND	2.0	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
2,6-Dinitrotoluene	ND	2.2	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Fluoranthene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Fluorene	ND	1.9	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Hexachlorobenzene	ND	1.7	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Hexachlorobutadiene	ND	1.5	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-14(25-28)
Project: AOC 26 27 **Collection Date:** 8/16/2023 1:00:00 PM
Lab ID: 2308A58-002 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.91	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Hexachloroethane	ND	2.0	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Indeno(1,2,3-cd)pyrene	ND	2.2	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Isophorone	ND	1.7	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
1-Methylnaphthalene	ND	1.6	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
2-Methylnaphthalene	ND	1.7	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
2-Methylphenol	ND	1.5	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
3+4-Methylphenol	ND	1.7	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
N-Nitrosodi-n-propylamine	ND	1.9	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
N-Nitrosodimethylamine	ND	1.5	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
N-Nitrosodiphenylamine	ND	2.2	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Naphthalene	ND	1.5	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
2-Nitroaniline	ND	1.9	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
3-Nitroaniline	ND	1.4	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
4-Nitroaniline	ND	1.2	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Nitrobenzene	ND	1.6	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
2-Nitrophenol	ND	1.6	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
4-Nitrophenol	ND	1.9	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Pentachlorophenol	ND	2.4	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Phenanthrene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Phenol	ND	2.4	3.0	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Pyrene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Pyridine	ND	1.9	10	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
1,2,4-Trichlorobenzene	ND	1.4	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
2,4,5-Trichlorophenol	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
2,4,6-Trichlorophenol	ND	1.8	2.5	D	mg/Kg	10	9/11/2023 1:32:06 PM	77079
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/11/2023 1:32:06 PM	77079
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/11/2023 1:32:06 PM	77079
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/11/2023 1:32:06 PM	77079
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/11/2023 1:32:06 PM	77079
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/11/2023 1:32:06 PM	77079
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/11/2023 1:32:06 PM	77079
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.10	0.31		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Toluene	ND	0.11	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Ethylbenzene	0.16	0.074	0.62	J	mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Methyl tert-butyl ether (MTBE)	ND	0.35	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1,2,4-Trimethylbenzene	0.27	0.088	0.62	J	mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1,3,5-Trimethylbenzene	ND	0.14	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-14(25-28)
Project: AOC 26 27
Collection Date: 8/16/2023 1:00:00 PM
Lab ID: 2308A58-002
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.14	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1,2-Dibromoethane (EDB)	ND	0.10	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Naphthalene	ND	0.23	1.2		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1-Methylnaphthalene	ND	0.18	2.5		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
2-Methylnaphthalene	ND	0.65	2.5		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Acetone	ND	9.3	9.3		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Bromobenzene	ND	0.13	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Bromodichloromethane	ND	0.13	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Bromoform	ND	0.15	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Bromomethane	ND	2.0	2.5		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
2-Butanone	ND	3.5	6.2		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Carbon disulfide	ND	0.15	6.2		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Carbon tetrachloride	ND	0.18	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Chlorobenzene	ND	0.062	1.2		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Chloroethane	ND	0.086	1.2		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Chloroform	ND	0.086	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Chloromethane	ND	0.61	1.9		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
2-Chlorotoluene	ND	0.17	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
4-Chlorotoluene	ND	0.13	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
cis-1,2-DCE	ND	0.31	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
cis-1,3-Dichloropropene	ND	0.082	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1,2-Dibromo-3-chloropropane	ND	0.27	1.2		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Dibromochloromethane	ND	0.082	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Dibromomethane	ND	0.095	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1,2-Dichlorobenzene	ND	0.13	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1,3-Dichlorobenzene	ND	0.12	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1,4-Dichlorobenzene	ND	0.17	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Dichlorodifluoromethane	ND	0.25	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1,1-Dichloroethane	ND	0.051	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1,1-Dichloroethene	ND	0.35	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1,2-Dichloropropane	ND	0.11	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1,3-Dichloropropane	ND	0.066	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
2,2-Dichloropropane	ND	0.073	1.2		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1,1-Dichloropropene	ND	0.066	1.2		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Hexachlorobutadiene	ND	1.2	1.2		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
2-Hexanone	ND	0.27	6.2		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Isopropylbenzene	ND	0.12	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
4-Isopropyltoluene	ND	0.062	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
4-Methyl-2-pentanone	ND	0.73	6.2		mg/Kg	10	8/22/2023 9:05:21 PM	R99144

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-14(25-28)
Project: AOC 26 27
Collection Date: 8/16/2023 1:00:00 PM
Lab ID: 2308A58-002
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	1.4	1.9		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
n-Butylbenzene	ND	0.17	1.9		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
n-Propylbenzene	ND	0.10	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
sec-Butylbenzene	ND	0.16	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Styrene	ND	0.078	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
tert-Butylbenzene	ND	0.21	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1,1,1,2-Tetrachloroethane	ND	0.091	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1,1,2,2-Tetrachloroethane	ND	0.21	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Tetrachloroethene (PCE)	ND	0.17	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
trans-1,2-DCE	ND	0.22	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
trans-1,3-Dichloropropene	ND	0.13	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1,2,3-Trichlorobenzene	ND	0.096	1.2		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1,2,4-Trichlorobenzene	ND	0.22	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1,1,1-Trichloroethane	ND	0.21	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1,1,2-Trichloroethane	ND	0.16	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Trichloroethene (TCE)	ND	0.21	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Trichlorofluoromethane	ND	0.14	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1,2,3-Trichloropropane	ND	0.12	1.2		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Vinyl chloride	ND	0.34	0.62		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Xylenes, Total	ND	0.21	1.2		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
1,4-Dioxane	ND	3.1	6.2		mg/Kg	10	8/22/2023 9:05:21 PM	R99144
Surr: Dibromofluoromethane	95.3	0	73-145		%Rec	10	8/22/2023 9:05:21 PM	R99144
Surr: 1,2-Dichloroethane-d4	125	0	64.8-147		%Rec	10	8/22/2023 9:05:21 PM	R99144
Surr: Toluene-d8	96.7	0	70-130		%Rec	10	8/22/2023 9:05:21 PM	R99144
Surr: 4-Bromofluorobenzene	105	0	62.1-144		%Rec	10	8/22/2023 9:05:21 PM	R99144

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-14(27-28)
Project: AOC 26 27 **Collection Date:** 8/16/2023 1:05:00 PM
Lab ID: 2308A58-003 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.056	0.090		µg/Kg	1	8/23/2023 10:24:43 PM	76925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	170	8.4	9.8		mg/Kg	1	8/25/2023 5:08:42 AM	77049
Motor Oil Range Organics (MRO)	ND	27	49		mg/Kg	1	8/25/2023 5:08:42 AM	77049
Surr: DNOP	101	0	69-147		%Rec	1	8/25/2023 5:08:42 AM	77049
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	3.5	1.6	6.5	J	mg/Kg	1	8/29/2023 5:44:13 AM	GS992(
Surr: BFB	92.0	0	15-244		%Rec	1	8/29/2023 5:44:13 AM	GS992(
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 11:21:38 AM	76974
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.48		mg/Kg	5	9/6/2023 2:40:51 PM	76998
Arsenic	0.83	0.24	0.48		mg/Kg	5	9/6/2023 2:40:51 PM	76998
Lead	11	0.24	0.48		mg/Kg	5	9/6/2023 2:40:51 PM	76998
Nickel	9.9	0.34	0.48		mg/Kg	5	9/7/2023 4:03:16 PM	76998
Selenium	1.5	0.48	0.48		mg/Kg	5	9/6/2023 2:40:51 PM	76998
Silver	ND	0.24	0.48		mg/Kg	5	9/6/2023 2:40:51 PM	76998
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.072	0.072		mg/Kg	1	8/24/2023 2:11:28 PM	77022
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	260	0.19	0.19		mg/Kg	2	8/28/2023 11:22:21 AM	76998
Beryllium	1.0	0.094	0.29		mg/Kg	2	8/28/2023 11:22:21 AM	76998
Cadmium	ND	0.41	0.48		mg/Kg	2	8/28/2023 11:22:21 AM	76998
Chromium	8.9	0.58	0.58		mg/Kg	2	8/28/2023 11:22:21 AM	76998
Cobalt	4.1	0.29	0.58		mg/Kg	2	8/28/2023 11:22:21 AM	76998
Iron	14000	970	970		mg/Kg	100	8/28/2023 1:14:42 PM	76998
Manganese	380	0.39	0.48		mg/Kg	2	8/28/2023 11:22:21 AM	76998
Vanadium	16	0.29	4.8		mg/Kg	2	8/28/2023 11:22:21 AM	76998
Zinc	13	4.8	4.8		mg/Kg	2	8/28/2023 11:22:21 AM	76998
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.20		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Aniline	ND	0.12	0.20		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Anthracene	ND	0.19	0.20		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Azobenzene	ND	0.21	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Benz(a)anthracene	ND	0.21	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079

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Qualifiers:

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H	Holding times for preparation or analysis exceeded
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PQL	Practical Quanitative Limit
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Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-14(27-28)
Project: AOC 26 27
Collection Date: 8/16/2023 1:05:00 PM
Lab ID: 2308A58-003
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Benzo(b)fluoranthene	ND	0.20	0.20		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Benzo(g,h,i)perylene	ND	0.22	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Benzo(k)fluoranthene	ND	0.20	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Benzoic acid	ND	0.19	0.49		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Benzyl alcohol	ND	0.18	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Bis(2-chloroethoxy)methane	ND	0.17	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Bis(2-ethylhexyl)phthalate	ND	0.31	0.49		mg/Kg	1	9/8/2023 11:53:03 PM	77079
4-Bromophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Butyl benzyl phthalate	ND	0.21	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Carbazole	ND	0.22	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
2-Chloronaphthalene	ND	0.17	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
2-Chlorophenol	ND	0.13	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
4-Chlorophenyl phenyl ether	ND	0.19	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Chrysene	ND	0.22	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Di-n-butyl phthalate	ND	0.59	0.98		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Di-n-octyl phthalate	ND	0.21	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Dibenz(a,h)anthracene	ND	0.22	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Dibenzofuran	ND	0.19	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
1,2-Dichlorobenzene	ND	0.16	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
1,3-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
1,4-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
3,3´-Dichlorobenzidine	ND	0.25	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Diethyl phthalate	ND	1.8	2.9		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Dimethyl phthalate	ND	0.23	0.39		mg/Kg	1	9/8/2023 11:53:03 PM	77079
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
2,4-Dinitrophenol	ND	0.23	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Fluoranthene	ND	0.21	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Fluorene	ND	0.19	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Hexachlorobenzene	ND	0.17	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Hexachlorobutadiene	ND	0.15	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079

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B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
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ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
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Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-14(27-28)
Project: AOC 26 27
Collection Date: 8/16/2023 1:05:00 PM
Lab ID: 2308A58-003
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.090	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Hexachloroethane	ND	0.20	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Indeno(1,2,3-cd)pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Isophorone	ND	0.17	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
1-Methylnaphthalene	ND	0.16	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
2-Methylnaphthalene	ND	0.17	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
2-Methylphenol	ND	0.15	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
N-Nitrosodimethylamine	ND	0.15	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
N-Nitrosodiphenylamine	ND	0.22	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Naphthalene	ND	0.15	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
4-Nitrophenol	ND	0.19	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Phenanthrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Phenol	ND	0.24	0.29		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Pyridine	ND	0.18	0.98		mg/Kg	1	9/8/2023 11:53:03 PM	77079
1,2,4-Trichlorobenzene	ND	0.14	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
2,4,5-Trichlorophenol	ND	0.21	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
2,4,6-Trichlorophenol	ND	0.18	0.25		mg/Kg	1	9/8/2023 11:53:03 PM	77079
Surr: 2-Fluorophenol	52.8		15-123		%Rec	1	9/8/2023 11:53:03 PM	77079
Surr: Phenol-d5	56.7		15-141		%Rec	1	9/8/2023 11:53:03 PM	77079
Surr: 2,4,6-Tribromophenol	69.0		23-118		%Rec	1	9/8/2023 11:53:03 PM	77079
Surr: Nitrobenzene-d5	45.4		15-125		%Rec	1	9/8/2023 11:53:03 PM	77079
Surr: 2-Fluorobiphenyl	44.6		15-129		%Rec	1	9/8/2023 11:53:03 PM	77079
Surr: 4-Terphenyl-d14	72.3		31.1-134		%Rec	1	9/8/2023 11:53:03 PM	77079
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.052	0.16		mg/Kg	5	8/23/2023 9:42:54 AM	R99180
Toluene	ND	0.058	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R99180
Ethylbenzene	ND	0.038	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R99180
Methyl tert-butyl ether (MTBE)	ND	0.18	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R99180
1,2,4-Trimethylbenzene	ND	0.046	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R99180
1,3,5-Trimethylbenzene	ND	0.074	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R99180

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J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
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Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-14(27-28)
Project: AOC 26 27
Collection Date: 8/16/2023 1:05:00 PM
Lab ID: 2308A58-003
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.074	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
1,2-Dibromoethane (EDB)	ND	0.052	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Naphthalene	ND	0.12	0.65		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
1-Methylnaphthalene	ND	0.096	1.3		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
2-Methylnaphthalene	ND	0.33	1.3		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Acetone	ND	4.8	4.8		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Bromobenzene	ND	0.068	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Bromodichloromethane	ND	0.069	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Bromoform	ND	0.078	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Bromomethane	ND	1.0	1.3		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
2-Butanone	ND	1.8	3.2		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Carbon disulfide	ND	0.079	3.2		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Carbon tetrachloride	ND	0.091	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Chlorobenzene	ND	0.032	0.65		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Chloroethane	ND	0.045	0.65		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Chloroform	0.089	0.044	0.32	J	mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Chloromethane	ND	0.32	0.97		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
2-Chlorotoluene	ND	0.086	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
4-Chlorotoluene	ND	0.068	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
cis-1,2-DCE	ND	0.16	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
cis-1,3-Dichloropropene	ND	0.042	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
1,2-Dibromo-3-chloropropane	ND	0.14	0.65		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Dibromochloromethane	ND	0.042	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Dibromomethane	ND	0.049	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
1,2-Dichlorobenzene	ND	0.067	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
1,3-Dichlorobenzene	ND	0.061	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
1,4-Dichlorobenzene	ND	0.086	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Dichlorodifluoromethane	ND	0.13	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
1,1-Dichloroethane	ND	0.026	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
1,1-Dichloroethene	ND	0.18	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
1,2-Dichloropropane	ND	0.055	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
1,3-Dichloropropane	ND	0.034	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
2,2-Dichloropropane	ND	0.038	0.65		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
1,1-Dichloropropene	ND	0.034	0.65		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Hexachlorobutadiene	ND	0.65	0.65		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
2-Hexanone	ND	0.14	3.2		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Isopropylbenzene	ND	0.060	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
4-Isopropyltoluene	ND	0.032	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
4-Methyl-2-pentanone	ND	0.38	3.2		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C

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PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
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Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-14(27-28)
Project: AOC 26 27
Collection Date: 8/16/2023 1:05:00 PM
Lab ID: 2308A58-003
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.75	0.97		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
n-Butylbenzene	ND	0.086	0.97		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
n-Propylbenzene	ND	0.052	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
sec-Butylbenzene	ND	0.084	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Styrene	ND	0.041	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
tert-Butylbenzene	ND	0.11	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
1,1,1,2-Tetrachloroethane	ND	0.047	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
1,1,2,2-Tetrachloroethane	ND	0.11	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Tetrachloroethene (PCE)	ND	0.088	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
trans-1,2-DCE	ND	0.12	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
trans-1,3-Dichloropropene	ND	0.065	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
1,2,3-Trichlorobenzene	ND	0.050	0.65		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
1,2,4-Trichlorobenzene	ND	0.11	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
1,1,1-Trichloroethane	ND	0.11	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
1,1,2-Trichloroethane	ND	0.081	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Trichloroethene (TCE)	ND	0.11	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Trichlorofluoromethane	ND	0.073	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
1,2,3-Trichloropropane	ND	0.062	0.65		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Vinyl chloride	ND	0.18	0.32		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Xylenes, Total	ND	0.11	0.65		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
1,4-Dioxane	ND	1.6	3.2		mg/Kg	5	8/23/2023 9:42:54 AM	R9918C
Surr: Dibromofluoromethane	93.4	0	73-145		%Rec	5	8/23/2023 9:42:54 AM	R9918C
Surr: 1,2-Dichloroethane-d4	92.9	0	64.8-147		%Rec	5	8/23/2023 9:42:54 AM	R9918C
Surr: Toluene-d8	102	0	70-130		%Rec	5	8/23/2023 9:42:54 AM	R9918C
Surr: 4-Bromofluorobenzene	102	0	62.1-144		%Rec	5	8/23/2023 9:42:54 AM	R9918C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-16(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/16/2023 7:25:00 AM
Lab ID: 2308A58-004 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.060	0.096		µg/Kg	1	8/23/2023 10:39:36 PM	76925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	140	79	92		mg/Kg	10	8/25/2023 5:48:31 AM	77049
Motor Oil Range Organics (MRO)	ND	250	460	D	mg/Kg	10	8/25/2023 5:48:31 AM	77049
Surr: DNOP	0	0	69-147	S	%Rec	10	8/25/2023 5:48:31 AM	77049
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	20	2.0	7.8		mg/Kg	1	8/25/2023 12:57:54 AM	GS992(
Surr: BFB	151	0	15-244		%Rec	1	8/25/2023 12:57:54 AM	GS992(
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 11:34:03 AM	76974
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.25	0.49		mg/Kg	5	9/6/2023 2:45:17 PM	76998
Arsenic	2.8	0.25	0.49		mg/Kg	5	9/6/2023 2:45:17 PM	76998
Lead	8.1	0.25	0.49		mg/Kg	5	9/6/2023 2:45:17 PM	76998
Nickel	39	0.69	0.98		mg/Kg	10	9/7/2023 4:16:32 PM	76998
Selenium	1.8	0.49	0.49		mg/Kg	5	9/6/2023 2:45:17 PM	76998
Silver	ND	0.25	0.49		mg/Kg	5	9/6/2023 2:45:17 PM	76998
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	0.15	0.070	0.070		mg/Kg	1	8/24/2023 2:13:36 PM	77022
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	210	0.20	0.20		mg/Kg	2	8/28/2023 11:30:30 AM	76998
Beryllium	0.68	0.096	0.30		mg/Kg	2	8/28/2023 11:30:30 AM	76998
Cadmium	ND	0.41	0.49		mg/Kg	2	8/28/2023 11:30:30 AM	76998
Chromium	30	0.59	0.59		mg/Kg	2	8/28/2023 11:30:30 AM	76998
Cobalt	6.2	0.29	0.59		mg/Kg	2	8/28/2023 11:30:30 AM	76998
Iron	12000	490	490		mg/Kg	50	8/28/2023 1:16:40 PM	76998
Manganese	250	0.40	0.49		mg/Kg	2	8/28/2023 11:30:30 AM	76998
Vanadium	24	0.29	4.9		mg/Kg	2	8/28/2023 11:30:30 AM	76998
Zinc	44	4.9	4.9		mg/Kg	2	8/28/2023 11:30:30 AM	76998
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.7	1.8	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Acenaphthylene	ND	1.7	1.8	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Aniline	ND	1.1	1.8	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Anthracene	ND	1.8	1.8	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Azobenzene	ND	1.9	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Benz(a)anthracene	ND	1.9	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079

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Qualifiers:

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B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-16(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/16/2023 7:25:00 AM
Lab ID: 2308A58-004 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.0	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Benzo(b)fluoranthene	ND	1.8	1.8	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Benzo(g,h,i)perylene	ND	2.0	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Benzo(k)fluoranthene	ND	1.9	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Benzoic acid	ND	1.8	4.6	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Benzyl alcohol	ND	1.6	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Bis(2-chloroethoxy)methane	ND	1.5	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Bis(2-chloroethyl)ether	ND	2.2	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Bis(2-chloroisopropyl)ether	ND	1.5	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Bis(2-ethylhexyl)phthalate	ND	2.8	4.6	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
4-Bromophenyl phenyl ether	ND	1.8	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Butyl benzyl phthalate	ND	1.9	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Carbazole	ND	2.1	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
4-Chloro-3-methylphenol	ND	1.8	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
4-Chloroaniline	ND	1.3	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
2-Chloronaphthalene	ND	1.6	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
2-Chlorophenol	ND	1.2	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
4-Chlorophenyl phenyl ether	ND	1.8	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Chrysene	ND	2.0	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Di-n-butyl phthalate	ND	5.4	9.1	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Di-n-octyl phthalate	ND	1.9	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Dibenz(a,h)anthracene	ND	2.0	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Dibenzofuran	ND	1.8	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
1,2-Dichlorobenzene	ND	1.5	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
1,3-Dichlorobenzene	ND	1.6	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
1,4-Dichlorobenzene	ND	1.6	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
3,3´-Dichlorobenzidine	ND	2.3	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Diethyl phthalate	ND	16	27	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Dimethyl phthalate	ND	2.1	3.6	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
2,4-Dichlorophenol	ND	1.9	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
2,4-Dimethylphenol	ND	1.5	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
4,6-Dinitro-2-methylphenol	ND	2.1	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
2,4-Dinitrophenol	ND	2.1	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
2,4-Dinitrotoluene	ND	1.8	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
2,6-Dinitrotoluene	ND	2.0	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Fluoranthene	ND	1.9	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Fluorene	ND	1.8	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Hexachlorobenzene	ND	1.6	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Hexachlorobutadiene	ND	1.4	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079

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ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
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Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-16(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 7:25:00 AM
Lab ID: 2308A58-004
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.84	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Hexachloroethane	ND	1.8	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Indeno(1,2,3-cd)pyrene	ND	2.0	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Isophorone	ND	1.6	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
1-Methylnaphthalene	ND	1.5	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
2-Methylnaphthalene	ND	1.6	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
2-Methylphenol	ND	1.3	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
3+4-Methylphenol	ND	1.5	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
N-Nitrosodi-n-propylamine	ND	1.8	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
N-Nitrosodimethylamine	ND	1.4	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
N-Nitrosodiphenylamine	ND	2.0	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Naphthalene	ND	1.4	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
2-Nitroaniline	ND	1.8	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
3-Nitroaniline	ND	1.3	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
4-Nitroaniline	ND	1.1	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Nitrobenzene	ND	1.4	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
2-Nitrophenol	ND	1.5	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
4-Nitrophenol	ND	1.7	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Pentachlorophenol	ND	2.2	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Phenanthrene	ND	1.9	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Phenol	ND	2.2	2.7	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Pyrene	ND	2.0	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Pyridine	ND	1.7	9.1	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
1,2,4-Trichlorobenzene	ND	1.3	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
2,4,5-Trichlorophenol	ND	1.9	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
2,4,6-Trichlorophenol	ND	1.7	2.3	D	mg/Kg	10	9/13/2023 4:57:51 AM	77079
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/13/2023 4:57:51 AM	77079
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/13/2023 4:57:51 AM	77079
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/13/2023 4:57:51 AM	77079
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/13/2023 4:57:51 AM	77079
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/13/2023 4:57:51 AM	77079
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/13/2023 4:57:51 AM	77079
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.013	0.039		mg/Kg	1	8/23/2023 11:07:28 AM	R99180
Toluene	ND	0.014	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R99180
Ethylbenzene	0.71	0.0093	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R99180
Methyl tert-butyl ether (MTBE)	ND	0.044	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R99180
1,2,4-Trimethylbenzene	1.2	0.011	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R99180
1,3,5-Trimethylbenzene	0.30	0.018	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R99180

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PQL	Practical Quanitative Limit
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E	Above Quantitation Range/Estimated Value
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Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-16(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 7:25:00 AM
Lab ID: 2308A58-004
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.018	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
1,2-Dibromoethane (EDB)	ND	0.013	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Naphthalene	0.26	0.029	0.16		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
1-Methylnaphthalene	0.15	0.023	0.31	J	mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
2-Methylnaphthalene	0.31	0.081	0.31	J	mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Acetone	ND	1.2	1.2		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Bromobenzene	ND	0.017	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Bromodichloromethane	ND	0.017	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Bromoform	ND	0.019	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Bromomethane	ND	0.26	0.31		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
2-Butanone	ND	0.44	0.78		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Carbon disulfide	ND	0.019	0.78		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Carbon tetrachloride	ND	0.022	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Chlorobenzene	ND	0.0078	0.16		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Chloroethane	ND	0.011	0.16		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Chloroform	ND	0.011	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Chloromethane	ND	0.077	0.24		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
2-Chlorotoluene	ND	0.021	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
4-Chlorotoluene	ND	0.016	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
cis-1,2-DCE	ND	0.039	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
cis-1,3-Dichloropropene	ND	0.010	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
1,2-Dibromo-3-chloropropane	ND	0.034	0.16		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Dibromochloromethane	ND	0.010	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Dibromomethane	ND	0.012	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
1,2-Dichlorobenzene	ND	0.016	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
1,3-Dichlorobenzene	ND	0.015	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
1,4-Dichlorobenzene	ND	0.021	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Dichlorodifluoromethane	ND	0.031	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
1,1-Dichloroethane	ND	0.0064	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
1,1-Dichloroethene	ND	0.045	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
1,2-Dichloropropane	ND	0.013	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
1,3-Dichloropropane	ND	0.0084	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
2,2-Dichloropropane	ND	0.0092	0.16		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
1,1-Dichloropropene	ND	0.0083	0.16		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Hexachlorobutadiene	ND	0.16	0.16		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
2-Hexanone	ND	0.034	0.78		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Isopropylbenzene	0.14	0.015	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
4-Isopropyltoluene	0.064	0.0079	0.078	J	mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
4-Methyl-2-pentanone	ND	0.092	0.78		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-16(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 7:25:00 AM
Lab ID: 2308A58-004
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.18	0.24		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
n-Butylbenzene	0.18	0.021	0.24	J	mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
n-Propylbenzene	0.43	0.013	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
sec-Butylbenzene	0.079	0.020	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Styrene	ND	0.0099	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
tert-Butylbenzene	ND	0.026	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
1,1,1,2-Tetrachloroethane	ND	0.012	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
1,1,2,2-Tetrachloroethane	ND	0.026	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Tetrachloroethene (PCE)	ND	0.022	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
trans-1,2-DCE	ND	0.028	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
trans-1,3-Dichloropropene	ND	0.016	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
1,2,3-Trichlorobenzene	ND	0.012	0.16		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
1,2,4-Trichlorobenzene	ND	0.027	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
1,1,1-Trichloroethane	ND	0.026	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
1,1,2-Trichloroethane	ND	0.020	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Trichloroethene (TCE)	ND	0.027	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Trichlorofluoromethane	ND	0.018	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
1,2,3-Trichloropropane	ND	0.015	0.16		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Vinyl chloride	ND	0.043	0.078		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Xylenes, Total	0.55	0.027	0.16		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
1,4-Dioxane	ND	0.40	0.78		mg/Kg	1	8/23/2023 11:07:28 AM	R9918C
Surr: Dibromofluoromethane	99.0	0	73-145		%Rec	1	8/23/2023 11:07:28 AM	R9918C
Surr: 1,2-Dichloroethane-d4	109	0	64.8-147		%Rec	1	8/23/2023 11:07:28 AM	R9918C
Surr: Toluene-d8	100	0	70-130		%Rec	1	8/23/2023 11:07:28 AM	R9918C
Surr: 4-Bromofluorobenzene	105	0	62.1-144		%Rec	1	8/23/2023 11:07:28 AM	R9918C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-16(10-15)
Project: AOC 26 27
Collection Date: 8/16/2023 7:40:00 AM
Lab ID: 2308A58-005
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.060	0.097		µg/Kg	1	8/23/2023 10:54:31 PM	76925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	97	8.5	9.9		mg/Kg	1	8/25/2023 6:09:47 AM	77049
Motor Oil Range Organics (MRO)	ND	27	49		mg/Kg	1	8/25/2023 6:09:47 AM	77049
Surr: DNOP	102	0	69-147		%Rec	1	8/25/2023 6:09:47 AM	77049
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	92	1.9	7.3		mg/Kg	1	8/25/2023 1:21:26 AM	GS992(
Surr: BFB	536	0	15-244	S	%Rec	1	8/25/2023 1:21:26 AM	GS992(
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 1:03:50 PM	76974
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.52		mg/Kg	5	9/6/2023 2:49:44 PM	76998
Arsenic	1.1	0.26	0.52		mg/Kg	5	9/6/2023 2:49:44 PM	76998
Lead	11	0.26	0.52		mg/Kg	5	9/6/2023 2:49:44 PM	76998
Nickel	10	0.36	0.52		mg/Kg	5	9/7/2023 4:20:57 PM	76998
Selenium	2.2	0.52	0.52		mg/Kg	5	9/6/2023 2:49:44 PM	76998
Silver	ND	0.26	0.52		mg/Kg	5	9/6/2023 2:49:44 PM	76998
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.071	0.071		mg/Kg	1	8/24/2023 2:15:44 PM	77022
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	410	0.21	0.21		mg/Kg	2	8/28/2023 11:36:42 AM	76998
Beryllium	1.2	0.10	0.31		mg/Kg	2	8/28/2023 11:36:42 AM	76998
Cadmium	ND	0.43	0.52		mg/Kg	2	8/28/2023 11:36:42 AM	76998
Chromium	9.7	0.62	0.62		mg/Kg	2	8/28/2023 11:36:42 AM	76998
Cobalt	4.3	0.31	0.62		mg/Kg	2	8/28/2023 11:36:42 AM	76998
Iron	15000	1000	1000		mg/Kg	100	8/28/2023 1:24:56 PM	76998
Manganese	180	0.42	0.52		mg/Kg	2	8/28/2023 11:36:42 AM	76998
Vanadium	15	0.31	5.2		mg/Kg	2	8/28/2023 11:36:42 AM	76998
Zinc	14	5.2	5.2		mg/Kg	2	8/28/2023 11:36:42 AM	76998
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Aniline	ND	0.12	0.19		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Anthracene	ND	0.19	0.19		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Azobenzene	ND	0.20	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Benz(a)anthracene	ND	0.21	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-16(10-15)
Project: AOC 26 27
Collection Date: 8/16/2023 7:40:00 AM
Lab ID: 2308A58-005
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Benzo(g,h,i)perylene	ND	0.22	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Benzoic acid	ND	0.19	0.49		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Benzyl alcohol	ND	0.18	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Bis(2-ethylhexyl)phthalate	ND	0.30	0.49		mg/Kg	1	9/9/2023 12:36:27 AM	77079
4-Bromophenyl phenyl ether	ND	0.20	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Butyl benzyl phthalate	ND	0.21	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Carbazole	ND	0.22	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Chrysene	ND	0.22	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Di-n-butyl phthalate	ND	0.58	0.97		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Dibenz(a,h)anthracene	ND	0.22	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
1,4-Dichlorobenzene	ND	0.18	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
3,3´-Dichlorobenzidine	ND	0.25	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Dimethyl phthalate	ND	0.22	0.39		mg/Kg	1	9/9/2023 12:36:27 AM	77079
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Fluoranthene	ND	0.20	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Fluorene	ND	0.19	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-16(10-15)
Project: AOC 26 27
Collection Date: 8/16/2023 7:40:00 AM
Lab ID: 2308A58-005
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.089	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Isophorone	ND	0.17	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
2-Methylnaphthalene	ND	0.17	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
N-Nitrosodimethylamine	ND	0.15	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Naphthalene	ND	0.15	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
4-Nitrophenol	ND	0.19	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Phenanthrene	ND	0.20	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Phenol	ND	0.23	0.29		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Pyrene	ND	0.21	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Pyridine	ND	0.18	0.97		mg/Kg	1	9/9/2023 12:36:27 AM	77079
1,2,4-Trichlorobenzene	ND	0.14	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
2,4,5-Trichlorophenol	ND	0.21	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	9/9/2023 12:36:27 AM	77079
Surr: 2-Fluorophenol	59.1		15-123		%Rec	1	9/9/2023 12:36:27 AM	77079
Surr: Phenol-d5	72.6		15-141		%Rec	1	9/9/2023 12:36:27 AM	77079
Surr: 2,4,6-Tribromophenol	77.7		23-118		%Rec	1	9/9/2023 12:36:27 AM	77079
Surr: Nitrobenzene-d5	54.5		15-125		%Rec	1	9/9/2023 12:36:27 AM	77079
Surr: 2-Fluorobiphenyl	54.8		15-129		%Rec	1	9/9/2023 12:36:27 AM	77079
Surr: 4-Terphenyl-d14	76.8		31.1-134		%Rec	1	9/9/2023 12:36:27 AM	77079
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.012	0.036		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Toluene	ND	0.013	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Ethylbenzene	ND	0.0087	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Methyl tert-butyl ether (MTBE)	ND	0.041	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1,2,4-Trimethylbenzene	ND	0.010	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1,3,5-Trimethylbenzene	ND	0.017	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-16(10-15)
Project: AOC 26 27
Collection Date: 8/16/2023 7:40:00 AM
Lab ID: 2308A58-005
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.017	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1,2-Dibromoethane (EDB)	ND	0.012	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Naphthalene	ND	0.027	0.15		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1-Methylnaphthalene	0.26	0.022	0.29	J	mg/Kg	1	8/24/2023 5:01:50 AM	B99180
2-Methylnaphthalene	0.17	0.076	0.29	J	mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Acetone	ND	1.1	1.1		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Bromobenzene	ND	0.015	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Bromodichloromethane	ND	0.016	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Bromoform	ND	0.018	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Bromomethane	ND	0.24	0.29		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
2-Butanone	ND	0.41	0.73		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Carbon disulfide	ND	0.018	0.73		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Carbon tetrachloride	ND	0.021	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Chlorobenzene	ND	0.0072	0.15		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Chloroethane	ND	0.010	0.15		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Chloroform	ND	0.010	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Chloromethane	ND	0.072	0.22		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
2-Chlorotoluene	ND	0.020	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
4-Chlorotoluene	ND	0.015	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
cis-1,2-DCE	ND	0.036	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
cis-1,3-Dichloropropene	ND	0.0096	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1,2-Dibromo-3-chloropropane	ND	0.032	0.15		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Dibromochloromethane	ND	0.0096	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Dibromomethane	ND	0.011	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1,2-Dichlorobenzene	ND	0.015	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1,3-Dichlorobenzene	ND	0.014	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1,4-Dichlorobenzene	ND	0.020	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Dichlorodifluoromethane	ND	0.029	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1,1-Dichloroethane	ND	0.0059	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1,1-Dichloroethene	ND	0.042	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1,2-Dichloropropane	ND	0.013	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1,3-Dichloropropane	ND	0.0078	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
2,2-Dichloropropane	ND	0.0085	0.15		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1,1-Dichloropropene	ND	0.0077	0.15		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Hexachlorobutadiene	ND	0.15	0.15		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
2-Hexanone	ND	0.032	0.73		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Isopropylbenzene	0.15	0.014	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
4-Isopropyltoluene	ND	0.0073	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
4-Methyl-2-pentanone	ND	0.085	0.73		mg/Kg	1	8/24/2023 5:01:50 AM	B99180

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-16(10-15)
Project: AOC 26 27
Collection Date: 8/16/2023 7:40:00 AM
Lab ID: 2308A58-005
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.17	0.22		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
n-Butylbenzene	0.12	0.020	0.22	J	mg/Kg	1	8/24/2023 5:01:50 AM	B99180
n-Propylbenzene	0.34	0.012	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
sec-Butylbenzene	0.19	0.019	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Styrene	ND	0.0092	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
tert-Butylbenzene	ND	0.025	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1,1,1,2-Tetrachloroethane	ND	0.011	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1,1,2,2-Tetrachloroethane	ND	0.024	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Tetrachloroethene (PCE)	ND	0.020	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
trans-1,2-DCE	ND	0.026	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
trans-1,3-Dichloropropene	ND	0.015	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1,2,3-Trichlorobenzene	ND	0.011	0.15		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1,2,4-Trichlorobenzene	ND	0.025	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1,1,1-Trichloroethane	ND	0.024	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1,1,2-Trichloroethane	ND	0.018	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Trichloroethene (TCE)	ND	0.025	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Trichlorofluoromethane	ND	0.017	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1,2,3-Trichloropropane	ND	0.014	0.15		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Vinyl chloride	ND	0.040	0.073		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Xylenes, Total	ND	0.025	0.15		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
1,4-Dioxane	ND	0.37	0.73		mg/Kg	1	8/24/2023 5:01:50 AM	B99180
Surr: Dibromofluoromethane	97.1	0	73-145		%Rec	1	8/24/2023 5:01:50 AM	B99180
Surr: 1,2-Dichloroethane-d4	132	0	64.8-147		%Rec	1	8/24/2023 5:01:50 AM	B99180
Surr: Toluene-d8	99.2	0	70-130		%Rec	1	8/24/2023 5:01:50 AM	B99180
Surr: 4-Bromofluorobenzene	103	0	62.1-144		%Rec	1	8/24/2023 5:01:50 AM	B99180

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-16(14-15)
Project: AOC 26 27
Collection Date: 8/16/2023 7:45:00 AM
Lab ID: 2308A58-006
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.057	0.091		µg/Kg	1	8/23/2023 11:09:26 PM	76925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	240	8.3	9.7		mg/Kg	1	8/25/2023 6:49:39 AM	77049
Motor Oil Range Organics (MRO)	ND	27	48		mg/Kg	1	8/25/2023 6:49:39 AM	77049
Surr: DNOP	98.7	0	69-147		%Rec	1	8/25/2023 6:49:39 AM	77049
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	10	1.4	5.4		mg/Kg	1	8/25/2023 1:44:57 AM	GS992(
Surr: BFB	146	0	15-244		%Rec	1	8/25/2023 1:44:57 AM	GS992(
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 1:41:04 PM	76974
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.49		mg/Kg	5	9/6/2023 2:54:15 PM	76998
Arsenic	1.2	0.24	0.49		mg/Kg	5	9/6/2023 2:54:15 PM	76998
Lead	11	0.24	0.49		mg/Kg	5	9/6/2023 2:54:15 PM	76998
Nickel	9.6	0.34	0.49		mg/Kg	5	9/7/2023 4:25:21 PM	76998
Selenium	2.6	0.49	0.49		mg/Kg	5	9/6/2023 2:54:15 PM	76998
Silver	ND	0.24	0.49		mg/Kg	5	9/6/2023 2:54:15 PM	76998
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.071	0.071		mg/Kg	1	8/24/2023 2:17:52 PM	77022
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	390	0.20	0.20		mg/Kg	2	8/28/2023 11:40:43 AM	76998
Beryllium	1.1	0.095	0.29		mg/Kg	2	8/28/2023 11:40:43 AM	76998
Cadmium	ND	0.41	0.49		mg/Kg	2	8/28/2023 11:40:43 AM	76998
Chromium	9.4	0.59	0.59		mg/Kg	2	8/28/2023 11:40:43 AM	76998
Cobalt	4.2	0.29	0.59		mg/Kg	2	8/28/2023 11:40:43 AM	76998
Iron	14000	980	980		mg/Kg	100	8/28/2023 1:28:53 PM	76998
Manganese	210	0.40	0.49		mg/Kg	2	8/28/2023 11:40:43 AM	76998
Vanadium	14	0.29	4.9		mg/Kg	2	8/28/2023 11:40:43 AM	76998
Zinc	13	4.9	4.9		mg/Kg	2	8/28/2023 11:40:43 AM	76998
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Aniline	ND	0.12	0.19		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Anthracene	ND	0.19	0.19		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Azobenzene	ND	0.20	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Benz(a)anthracene	ND	0.21	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
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J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-16(14-15)
Project: AOC 26 27
Collection Date: 8/16/2023 7:45:00 AM
Lab ID: 2308A58-006
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Benzo(g,h,i)perylene	ND	0.22	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Benzoic acid	ND	0.19	0.49		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Benzyl alcohol	ND	0.17	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Bis(2-ethylhexyl)phthalate	ND	0.30	0.49		mg/Kg	1	9/9/2023 1:19:47 AM	77079
4-Bromophenyl phenyl ether	ND	0.20	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Butyl benzyl phthalate	ND	0.21	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Carbazole	ND	0.22	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Chrysene	ND	0.22	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Di-n-butyl phthalate	ND	0.58	0.97		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Dibenz(a,h)anthracene	ND	0.22	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
3,3´-Dichlorobenzidine	ND	0.24	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Dimethyl phthalate	ND	0.22	0.39		mg/Kg	1	9/9/2023 1:19:47 AM	77079
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Fluoranthene	ND	0.20	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Fluorene	ND	0.19	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-16(14-15)
Project: AOC 26 27
Collection Date: 8/16/2023 7:45:00 AM
Lab ID: 2308A58-006
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.089	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Isophorone	ND	0.17	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
2-Methylnaphthalene	ND	0.17	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
N-Nitrosodimethylamine	ND	0.14	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Naphthalene	ND	0.15	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
4-Nitrophenol	ND	0.18	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Phenanthrene	ND	0.20	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Phenol	ND	0.23	0.29		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Pyrene	ND	0.21	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Pyridine	ND	0.18	0.97		mg/Kg	1	9/9/2023 1:19:47 AM	77079
1,2,4-Trichlorobenzene	ND	0.14	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
2,4,5-Trichlorophenol	ND	0.21	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	9/9/2023 1:19:47 AM	77079
Surr: 2-Fluorophenol	59.3		15-123		%Rec	1	9/9/2023 1:19:47 AM	77079
Surr: Phenol-d5	68.5		15-141		%Rec	1	9/9/2023 1:19:47 AM	77079
Surr: 2,4,6-Tribromophenol	78.9		23-118		%Rec	1	9/9/2023 1:19:47 AM	77079
Surr: Nitrobenzene-d5	54.9		15-125		%Rec	1	9/9/2023 1:19:47 AM	77079
Surr: 2-Fluorobiphenyl	54.1		15-129		%Rec	1	9/9/2023 1:19:47 AM	77079
Surr: 4-Terphenyl-d14	75.2		31.1-134		%Rec	1	9/9/2023 1:19:47 AM	77079
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	0.12	0.0087	0.027		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Toluene	ND	0.0098	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Ethylbenzene	ND	0.0065	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Methyl tert-butyl ether (MTBE)	ND	0.031	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1,2,4-Trimethylbenzene	ND	0.0077	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1,3,5-Trimethylbenzene	ND	0.012	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-16(14-15)
Project: AOC 26 27
Collection Date: 8/16/2023 7:45:00 AM
Lab ID: 2308A58-006
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.012	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1,2-Dibromoethane (EDB)	ND	0.0087	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Naphthalene	ND	0.020	0.11		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1-Methylnaphthalene	0.032	0.016	0.22	J	mg/Kg	1	8/24/2023 5:30:14 AM	B99180
2-Methylnaphthalene	ND	0.056	0.22		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Acetone	ND	0.82	0.82		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Bromobenzene	ND	0.012	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Bromodichloromethane	ND	0.012	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Bromoform	ND	0.013	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Bromomethane	ND	0.18	0.22		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
2-Butanone	ND	0.30	0.54		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Carbon disulfide	ND	0.013	0.54		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Carbon tetrachloride	ND	0.015	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Chlorobenzene	ND	0.0054	0.11		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Chloroethane	ND	0.0075	0.11		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Chloroform	0.016	0.0075	0.054	J	mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Chloromethane	ND	0.054	0.16		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
2-Chlorotoluene	ND	0.015	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
4-Chlorotoluene	ND	0.011	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
cis-1,2-DCE	ND	0.027	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
cis-1,3-Dichloropropene	ND	0.0072	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1,2-Dibromo-3-chloropropane	ND	0.023	0.11		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Dibromochloromethane	ND	0.0071	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Dibromomethane	ND	0.0083	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1,2-Dichlorobenzene	ND	0.011	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1,3-Dichlorobenzene	ND	0.010	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1,4-Dichlorobenzene	ND	0.015	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Dichlorodifluoromethane	ND	0.022	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1,1-Dichloroethane	ND	0.0044	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1,1-Dichloroethene	ND	0.031	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1,2-Dichloropropane	ND	0.0093	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1,3-Dichloropropane	ND	0.0058	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
2,2-Dichloropropane	ND	0.0064	0.11		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1,1-Dichloropropene	ND	0.0057	0.11		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Hexachlorobutadiene	ND	0.11	0.11		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
2-Hexanone	ND	0.024	0.54		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Isopropylbenzene	0.044	0.010	0.054	J	mg/Kg	1	8/24/2023 5:30:14 AM	B99180
4-Isopropyltoluene	ND	0.0055	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
4-Methyl-2-pentanone	ND	0.063	0.54		mg/Kg	1	8/24/2023 5:30:14 AM	B99180

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-16(14-15)
Project: AOC 26 27
Collection Date: 8/16/2023 7:45:00 AM
Lab ID: 2308A58-006
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.13	0.16		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
n-Butylbenzene	0.017	0.015	0.16	J	mg/Kg	1	8/24/2023 5:30:14 AM	B99180
n-Propylbenzene	0.070	0.0088	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
sec-Butylbenzene	0.030	0.014	0.054	J	mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Styrene	ND	0.0068	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
tert-Butylbenzene	ND	0.018	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1,1,1,2-Tetrachloroethane	ND	0.0080	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1,1,2,2-Tetrachloroethane	ND	0.018	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Tetrachloroethene (PCE)	ND	0.015	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
trans-1,2-DCE	ND	0.019	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
trans-1,3-Dichloropropene	ND	0.011	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1,2,3-Trichlorobenzene	ND	0.0084	0.11		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1,2,4-Trichlorobenzene	ND	0.019	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1,1,1-Trichloroethane	ND	0.018	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1,1,2-Trichloroethane	ND	0.014	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Trichloroethene (TCE)	ND	0.018	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Trichlorofluoromethane	ND	0.012	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1,2,3-Trichloropropane	ND	0.010	0.11		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Vinyl chloride	ND	0.030	0.054		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Xylenes, Total	ND	0.018	0.11		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
1,4-Dioxane	ND	0.28	0.54		mg/Kg	1	8/24/2023 5:30:14 AM	B99180
Surr: Dibromofluoromethane	102	0	73-145		%Rec	1	8/24/2023 5:30:14 AM	B99180
Surr: 1,2-Dichloroethane-d4	94.3	0	64.8-147		%Rec	1	8/24/2023 5:30:14 AM	B99180
Surr: Toluene-d8	99.1	0	70-130		%Rec	1	8/24/2023 5:30:14 AM	B99180
Surr: 4-Bromofluorobenzene	103	0	62.1-144		%Rec	1	8/24/2023 5:30:14 AM	B99180

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PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-14(24-25)
Project: AOC 26 27 **Collection Date:** 8/16/2023 12:55:00 PM
Lab ID: 2308A58-007 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.058	0.093		µg/Kg	1	8/23/2023 11:24:20 PM	76925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	390	78	91		mg/Kg	10	8/25/2023 7:29:31 AM	77049
Motor Oil Range Organics (MRO)	ND	250	460	D	mg/Kg	10	8/25/2023 7:29:31 AM	77049
Surr: DNOP	0	0	69-147	S	%Rec	10	8/25/2023 7:29:31 AM	77049
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	4.9	1.5	5.7	J	mg/Kg	1	8/25/2023 2:08:27 AM	GS992(
Surr: BFB	98.4	0	15-244		%Rec	1	8/25/2023 2:08:27 AM	GS992(
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 1:53:28 PM	76974
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.25	0.51		mg/Kg	5	9/6/2023 2:58:39 PM	76998
Arsenic	1.0	0.25	0.51		mg/Kg	5	9/6/2023 2:58:39 PM	76998
Lead	9.4	0.25	0.51		mg/Kg	5	9/6/2023 2:58:39 PM	76998
Nickel	7.6	0.35	0.51		mg/Kg	5	9/7/2023 4:29:46 PM	76998
Selenium	1.5	0.51	0.51		mg/Kg	5	9/6/2023 2:58:39 PM	76998
Silver	ND	0.25	0.51		mg/Kg	5	9/6/2023 2:58:39 PM	76998
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.074	0.074		mg/Kg	1	8/24/2023 2:20:01 PM	77022
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	210	0.20	0.20		mg/Kg	2	8/28/2023 11:44:35 AM	76998
Beryllium	0.85	0.098	0.30		mg/Kg	2	8/28/2023 11:44:35 AM	76998
Cadmium	ND	0.42	0.51		mg/Kg	2	8/28/2023 11:44:35 AM	76998
Chromium	7.1	0.61	0.61		mg/Kg	2	8/28/2023 11:44:35 AM	76998
Cobalt	3.6	0.30	0.61		mg/Kg	2	8/28/2023 11:44:35 AM	76998
Iron	12000	510	510		mg/Kg	50	8/28/2023 1:30:52 PM	76998
Manganese	170	0.41	0.51		mg/Kg	2	8/28/2023 11:44:35 AM	76998
Vanadium	15	0.30	5.1		mg/Kg	2	8/28/2023 11:44:35 AM	76998
Zinc	13	5.1	5.1		mg/Kg	2	8/28/2023 11:44:35 AM	76998
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	1.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Acenaphthylene	ND	1.8	1.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Aniline	ND	1.2	1.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Anthracene	ND	1.9	1.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Azobenzene	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Benz(a)anthracene	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
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E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-14(24-25)
Project: AOC 26 27
Collection Date: 8/16/2023 12:55:00 PM
Lab ID: 2308A58-007
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Benzo(b)fluoranthene	ND	1.9	1.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Benzo(g,h,i)perylene	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Benzo(k)fluoranthene	ND	1.9	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Benzoic acid	ND	1.9	4.8	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Benzyl alcohol	ND	1.7	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Bis(2-chloroethoxy)methane	ND	1.6	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Bis(2-chloroethyl)ether	ND	2.3	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Bis(2-chloroisopropyl)ether	ND	1.6	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Bis(2-ethylhexyl)phthalate	ND	3.0	4.8	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
4-Bromophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Butyl benzyl phthalate	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Carbazole	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
4-Chloro-3-methylphenol	ND	1.9	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
4-Chloroaniline	ND	1.3	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
2-Chloronaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
2-Chlorophenol	ND	1.3	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
4-Chlorophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Chrysene	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Di-n-butyl phthalate	ND	5.7	9.5	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Di-n-octyl phthalate	ND	2.0	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Dibenz(a,h)anthracene	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Dibenzofuran	ND	1.9	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
1,2-Dichlorobenzene	ND	1.6	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
1,3-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
1,4-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
3,3´-Dichlorobenzidine	ND	2.4	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Diethyl phthalate	ND	17	29	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Dimethyl phthalate	ND	2.2	3.8	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
2,4-Dichlorophenol	ND	2.0	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
2,4-Dimethylphenol	ND	1.6	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
4,6-Dinitro-2-methylphenol	ND	2.1	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
2,4-Dinitrophenol	ND	2.2	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
2,4-Dinitrotoluene	ND	1.9	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
2,6-Dinitrotoluene	ND	2.1	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Fluorene	ND	1.8	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Hexachlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Hexachlorobutadiene	ND	1.4	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-14(24-25)
Project: AOC 26 27 **Collection Date:** 8/16/2023 12:55:00 PM
Lab ID: 2308A58-007 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.87	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Hexachloroethane	ND	1.9	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Indeno(1,2,3-cd)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Isophorone	ND	1.6	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
1-Methylnaphthalene	ND	1.6	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
2-Methylnaphthalene	ND	1.6	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
2-Methylphenol	ND	1.4	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
3+4-Methylphenol	ND	1.6	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
N-Nitrosodi-n-propylamine	ND	1.9	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
N-Nitrosodimethylamine	ND	1.4	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
N-Nitrosodiphenylamine	ND	2.1	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Naphthalene	ND	1.4	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
2-Nitroaniline	ND	1.8	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
3-Nitroaniline	ND	1.4	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
4-Nitroaniline	ND	1.2	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Nitrobenzene	ND	1.5	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
2-Nitrophenol	ND	1.6	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
4-Nitrophenol	ND	1.8	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Pentachlorophenol	ND	2.3	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Phenanthrene	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Phenol	ND	2.3	2.9	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Pyrene	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Pyridine	ND	1.8	9.5	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
1,2,4-Trichlorobenzene	ND	1.3	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
2,4,5-Trichlorophenol	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
2,4,6-Trichlorophenol	ND	1.7	2.4	D	mg/Kg	10	9/9/2023 5:39:25 AM	77079
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/9/2023 5:39:25 AM	77079
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/9/2023 5:39:25 AM	77079
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/9/2023 5:39:25 AM	77079
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/9/2023 5:39:25 AM	77079
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/9/2023 5:39:25 AM	77079
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/9/2023 5:39:25 AM	77079
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.046	0.14		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Toluene	ND	0.052	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Ethylbenzene	ND	0.034	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Methyl tert-butyl ether (MTBE)	ND	0.16	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1,2,4-Trimethylbenzene	ND	0.041	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1,3,5-Trimethylbenzene	ND	0.066	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-14(24-25)
Project: AOC 26 27
Collection Date: 8/16/2023 12:55:00 PM
Lab ID: 2308A58-007
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.066	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1,2-Dibromoethane (EDB)	ND	0.046	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Naphthalene	ND	0.11	0.57		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1-Methylnaphthalene	ND	0.085	1.1		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
2-Methylnaphthalene	ND	0.30	1.1		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Acetone	ND	4.3	4.3		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Bromobenzene	ND	0.061	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Bromodichloromethane	ND	0.061	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Bromoform	ND	0.069	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Bromomethane	ND	0.94	1.1		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
2-Butanone	ND	1.6	2.9		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Carbon disulfide	ND	0.070	2.9		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Carbon tetrachloride	ND	0.081	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Chlorobenzene	ND	0.028	0.57		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Chloroethane	ND	0.040	0.57		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Chloroform	0.075	0.040	0.29	J	mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Chloromethane	ND	0.28	0.86		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
2-Chlorotoluene	ND	0.077	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
4-Chlorotoluene	ND	0.060	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
cis-1,2-DCE	ND	0.14	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
cis-1,3-Dichloropropene	ND	0.038	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1,2-Dibromo-3-chloropropane	ND	0.12	0.57		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Dibromochloromethane	ND	0.038	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Dibromomethane	ND	0.044	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1,2-Dichlorobenzene	ND	0.060	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1,3-Dichlorobenzene	ND	0.054	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1,4-Dichlorobenzene	ND	0.077	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Dichlorodifluoromethane	ND	0.11	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1,1-Dichloroethane	ND	0.023	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1,1-Dichloroethene	ND	0.16	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1,2-Dichloropropane	ND	0.049	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1,3-Dichloropropane	ND	0.031	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
2,2-Dichloropropane	ND	0.034	0.57		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1,1-Dichloropropene	ND	0.030	0.57		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Hexachlorobutadiene	ND	0.57	0.57		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
2-Hexanone	ND	0.13	2.9		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Isopropylbenzene	ND	0.053	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
4-Isopropyltoluene	ND	0.029	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
4-Methyl-2-pentanone	ND	0.34	2.9		mg/Kg	5	8/24/2023 5:58:26 AM	B99180

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-14(24-25)
Project: AOC 26 27
Collection Date: 8/16/2023 12:55:00 PM
Lab ID: 2308A58-007
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.67	0.86		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
n-Butylbenzene	ND	0.077	0.86		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
n-Propylbenzene	ND	0.046	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
sec-Butylbenzene	ND	0.074	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Styrene	ND	0.036	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
tert-Butylbenzene	ND	0.097	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1,1,1,2-Tetrachloroethane	ND	0.042	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1,1,2,2-Tetrachloroethane	ND	0.096	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Tetrachloroethene (PCE)	ND	0.079	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
trans-1,2-DCE	ND	0.10	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
trans-1,3-Dichloropropene	ND	0.058	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1,2,3-Trichlorobenzene	ND	0.044	0.57		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1,2,4-Trichlorobenzene	ND	0.10	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1,1,1-Trichloroethane	ND	0.096	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1,1,2-Trichloroethane	ND	0.072	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Trichloroethene (TCE)	ND	0.098	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Trichlorofluoromethane	ND	0.065	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1,2,3-Trichloropropane	ND	0.055	0.57		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Vinyl chloride	ND	0.16	0.29		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Xylenes, Total	ND	0.097	0.57		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
1,4-Dioxane	ND	1.5	2.9		mg/Kg	5	8/24/2023 5:58:26 AM	B99180
Surr: Dibromofluoromethane	97.9	0	73-145		%Rec	5	8/24/2023 5:58:26 AM	B99180
Surr: 1,2-Dichloroethane-d4	99.9	0	64.8-147		%Rec	5	8/24/2023 5:58:26 AM	B99180
Surr: Toluene-d8	100	0	70-130		%Rec	5	8/24/2023 5:58:26 AM	B99180
Surr: 4-Bromofluorobenzene	103	0	62.1-144		%Rec	5	8/24/2023 5:58:26 AM	B99180

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
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B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-17(14-15)
Project: AOC 26 27 **Collection Date:** 8/16/2023 1:20:00 PM
Lab ID: 2308A58-008 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.055	0.088		µg/Kg	1	8/23/2023 11:39:14 PM	76925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	ND	7.9	9.2		mg/Kg	1	8/25/2023 7:41:18 AM	77049
Motor Oil Range Organics (MRO)	ND	25	46		mg/Kg	1	8/25/2023 7:41:18 AM	77049
Surr: DNOP	101	0	69-147		%Rec	1	8/25/2023 7:41:18 AM	77049
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.7	6.7		mg/Kg	1	8/25/2023 2:31:55 AM	GS992(
Surr: BFB	90.4	0	15-244		%Rec	1	8/25/2023 2:31:55 AM	GS992(
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 2:05:52 PM	76974
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.49		mg/Kg	5	9/6/2023 3:03:03 PM	76998
Arsenic	0.89	0.24	0.49		mg/Kg	5	9/6/2023 3:03:03 PM	76998
Lead	8.3	0.24	0.49		mg/Kg	5	9/6/2023 3:03:03 PM	76998
Nickel	6.9	0.34	0.49		mg/Kg	5	9/7/2023 4:34:11 PM	76998
Selenium	1.4	0.49	0.49		mg/Kg	5	9/6/2023 3:03:03 PM	76998
Silver	ND	0.24	0.49		mg/Kg	5	9/6/2023 3:03:03 PM	76998
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.074	0.074		mg/Kg	1	8/24/2023 2:22:10 PM	77022
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	170	0.19	0.19		mg/Kg	2	8/28/2023 11:48:29 AM	76998
Beryllium	0.79	0.094	0.29		mg/Kg	2	8/28/2023 11:48:29 AM	76998
Cadmium	ND	0.41	0.49		mg/Kg	2	8/28/2023 11:48:29 AM	76998
Chromium	5.8	0.58	0.58		mg/Kg	2	8/28/2023 11:48:29 AM	76998
Cobalt	3.1	0.29	0.58		mg/Kg	2	8/28/2023 11:48:29 AM	76998
Iron	9700	490	490		mg/Kg	50	8/28/2023 1:40:21 PM	76998
Manganese	260	0.39	0.49		mg/Kg	2	8/28/2023 11:48:29 AM	76998
Vanadium	11	0.29	4.9		mg/Kg	2	8/28/2023 11:48:29 AM	76998
Zinc	11	4.9	4.9		mg/Kg	2	8/28/2023 11:48:29 AM	76998
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Aniline	ND	0.12	0.19		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Anthracene	ND	0.19	0.19		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Azobenzene	ND	0.20	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Benz(a)anthracene	ND	0.21	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
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B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-17(14-15)
Project: AOC 26 27
Collection Date: 8/16/2023 1:20:00 PM
Lab ID: 2308A58-008
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Benzo(g,h,i)perylene	ND	0.22	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Benzoic acid	ND	0.19	0.48		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Benzyl alcohol	ND	0.17	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Bis(2-ethylhexyl)phthalate	ND	0.30	0.48		mg/Kg	1	9/9/2023 2:03:20 AM	77079
4-Bromophenyl phenyl ether	ND	0.20	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Butyl benzyl phthalate	ND	0.20	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Carbazole	ND	0.22	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Chrysene	ND	0.22	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Di-n-butyl phthalate	ND	0.58	0.97		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Dibenz(a,h)anthracene	ND	0.22	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
3,3´-Dichlorobenzidine	ND	0.24	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Dimethyl phthalate	ND	0.22	0.39		mg/Kg	1	9/9/2023 2:03:20 AM	77079
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Fluoranthene	ND	0.20	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Fluorene	ND	0.19	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-17(14-15)
Project: AOC 26 27
Collection Date: 8/16/2023 1:20:00 PM
Lab ID: 2308A58-008
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.089	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Isophorone	ND	0.17	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
2-Methylnaphthalene	ND	0.17	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
N-Nitrosodimethylamine	ND	0.14	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Naphthalene	ND	0.15	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
4-Nitrophenol	ND	0.18	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Phenanthrene	ND	0.20	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Phenol	ND	0.23	0.29		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Pyrene	ND	0.21	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Pyridine	ND	0.18	0.97		mg/Kg	1	9/9/2023 2:03:20 AM	77079
1,2,4-Trichlorobenzene	ND	0.14	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
2,4,5-Trichlorophenol	ND	0.21	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	9/9/2023 2:03:20 AM	77079
Surr: 2-Fluorophenol	43.5		15-123		%Rec	1	9/9/2023 2:03:20 AM	77079
Surr: Phenol-d5	49.8		15-141		%Rec	1	9/9/2023 2:03:20 AM	77079
Surr: 2,4,6-Tribromophenol	54.2		23-118		%Rec	1	9/9/2023 2:03:20 AM	77079
Surr: Nitrobenzene-d5	41.0		15-125		%Rec	1	9/9/2023 2:03:20 AM	77079
Surr: 2-Fluorobiphenyl	42.4		15-129		%Rec	1	9/9/2023 2:03:20 AM	77079
Surr: 4-Terphenyl-d14	57.9		31.1-134		%Rec	1	9/9/2023 2:03:20 AM	77079
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.011	0.033		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Toluene	ND	0.012	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Ethylbenzene	ND	0.0080	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Methyl tert-butyl ether (MTBE)	ND	0.038	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1,2,4-Trimethylbenzene	ND	0.0094	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1,3,5-Trimethylbenzene	ND	0.015	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223

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Qualifiers:

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B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-17(14-15)
Project: AOC 26 27
Collection Date: 8/16/2023 1:20:00 PM
Lab ID: 2308A58-008
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.015	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1,2-Dibromoethane (EDB)	ND	0.011	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Naphthalene	ND	0.025	0.13		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1-Methylnaphthalene	ND	0.020	0.27		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
2-Methylnaphthalene	ND	0.069	0.27		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Acetone	ND	1.0	1.0		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Bromobenzene	ND	0.014	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Bromodichloromethane	ND	0.014	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Bromoform	ND	0.016	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Bromomethane	ND	0.22	0.27		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
2-Butanone	ND	0.37	0.67		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Carbon disulfide	ND	0.016	0.67		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Carbon tetrachloride	ND	0.019	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Chlorobenzene	ND	0.0066	0.13		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Chloroethane	ND	0.0093	0.13		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Chloroform	0.021	0.0092	0.067	J	mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Chloromethane	ND	0.066	0.20		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
2-Chlorotoluene	ND	0.018	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
4-Chlorotoluene	ND	0.014	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
cis-1,2-DCE	ND	0.033	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
cis-1,3-Dichloropropene	ND	0.0088	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1,2-Dibromo-3-chloropropane	ND	0.029	0.13		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Dibromochloromethane	ND	0.0088	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Dibromomethane	ND	0.010	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1,2-Dichlorobenzene	ND	0.014	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1,3-Dichlorobenzene	ND	0.013	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1,4-Dichlorobenzene	ND	0.018	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Dichlorodifluoromethane	ND	0.027	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1,1-Dichloroethane	ND	0.0054	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1,1-Dichloroethene	ND	0.038	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1,2-Dichloropropane	ND	0.011	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1,3-Dichloropropane	ND	0.0071	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
2,2-Dichloropropane	ND	0.0078	0.13		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1,1-Dichloropropene	ND	0.0071	0.13		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Hexachlorobutadiene	ND	0.13	0.13		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
2-Hexanone	ND	0.029	0.67		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Isopropylbenzene	ND	0.012	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
4-Isopropyltoluene	ND	0.0067	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
4-Methyl-2-pentanone	ND	0.078	0.67		mg/Kg	1	8/24/2023 11:22:56 AM	R99223

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-17(14-15)
Project: AOC 26 27
Collection Date: 8/16/2023 1:20:00 PM
Lab ID: 2308A58-008
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.16	0.20		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
n-Butylbenzene	ND	0.018	0.20		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
n-Propylbenzene	ND	0.011	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
sec-Butylbenzene	ND	0.017	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Styrene	ND	0.0084	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
tert-Butylbenzene	ND	0.023	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1,1,1,2-Tetrachloroethane	ND	0.0098	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1,1,2,2-Tetrachloroethane	ND	0.022	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Tetrachloroethene (PCE)	ND	0.018	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
trans-1,2-DCE	ND	0.024	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
trans-1,3-Dichloropropene	ND	0.014	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1,2,3-Trichlorobenzene	ND	0.010	0.13		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1,2,4-Trichlorobenzene	ND	0.023	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1,1,1-Trichloroethane	ND	0.022	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1,1,2-Trichloroethane	ND	0.017	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Trichloroethene (TCE)	ND	0.023	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Trichlorofluoromethane	ND	0.015	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1,2,3-Trichloropropane	ND	0.013	0.13		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Vinyl chloride	ND	0.036	0.067		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Xylenes, Total	ND	0.023	0.13		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
1,4-Dioxane	ND	0.34	0.67		mg/Kg	1	8/24/2023 11:22:56 AM	R99223
Surr: Dibromofluoromethane	98.4	0	73-145		%Rec	1	8/24/2023 11:22:56 AM	R99223
Surr: 1,2-Dichloroethane-d4	102	0	64.8-147		%Rec	1	8/24/2023 11:22:56 AM	R99223
Surr: Toluene-d8	99.9	0	70-130		%Rec	1	8/24/2023 11:22:56 AM	R99223
Surr: 4-Bromofluorobenzene	102	0	62.1-144		%Rec	1	8/24/2023 11:22:56 AM	R99223

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-17(15-20)
Project: AOC 26 27 **Collection Date:** 8/16/2023 1:30:00 PM
Lab ID: 2308A58-009 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.059	0.095		µg/Kg	1	8/23/2023 11:54:10 PM	76925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	ND	8.0	9.4		mg/Kg	1	8/25/2023 7:52:01 AM	77049
Motor Oil Range Organics (MRO)	ND	26	47		mg/Kg	1	8/25/2023 7:52:01 AM	77049
Surr: DNOP	100	0	69-147		%Rec	1	8/25/2023 7:52:01 AM	77049
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.4	5.3		mg/Kg	1	8/25/2023 2:55:22 AM	GS992(
Surr: BFB	94.4	0	15-244		%Rec	1	8/25/2023 2:55:22 AM	GS992(
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 2:18:17 PM	76974
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.25	0.51		mg/Kg	5	9/6/2023 3:20:43 PM	76998
Arsenic	1.1	0.25	0.51		mg/Kg	5	9/6/2023 3:20:43 PM	76998
Lead	11	0.25	0.51		mg/Kg	5	9/6/2023 3:20:43 PM	76998
Nickel	8.8	0.36	0.51		mg/Kg	5	9/7/2023 4:38:36 PM	76998
Selenium	1.8	0.51	0.51		mg/Kg	5	9/6/2023 3:20:43 PM	76998
Silver	ND	0.25	0.51		mg/Kg	5	9/6/2023 3:20:43 PM	76998
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.069	0.069		mg/Kg	1	8/24/2023 2:28:32 PM	77022
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	870	0.51	0.51		mg/Kg	5	8/28/2023 11:58:26 AM	76998
Beryllium	1.0	0.099	0.30		mg/Kg	2	8/28/2023 11:56:29 AM	76998
Cadmium	ND	0.43	0.51		mg/Kg	2	8/28/2023 11:56:29 AM	76998
Chromium	7.1	0.61	0.61		mg/Kg	2	8/28/2023 11:56:29 AM	76998
Cobalt	3.8	0.30	0.61		mg/Kg	2	8/28/2023 11:56:29 AM	76998
Iron	12000	510	510		mg/Kg	50	8/28/2023 1:44:21 PM	76998
Manganese	300	0.41	0.51		mg/Kg	2	8/28/2023 11:56:29 AM	76998
Vanadium	13	0.30	5.1		mg/Kg	2	8/28/2023 11:56:29 AM	76998
Zinc	14	5.1	5.1		mg/Kg	2	8/28/2023 11:56:29 AM	76998
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Aniline	ND	0.12	0.19		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Anthracene	ND	0.19	0.19		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Azobenzene	ND	0.20	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Benz(a)anthracene	ND	0.20	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-17(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 1:30:00 PM
Lab ID: 2308A58-009
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Benzo(g,h,i)perylene	ND	0.21	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Benzoic acid	ND	0.19	0.48		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Benzyl alcohol	ND	0.17	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Bis(2-ethylhexyl)phthalate	ND	0.30	0.48		mg/Kg	1	9/9/2023 2:46:41 AM	77079
4-Bromophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Butyl benzyl phthalate	ND	0.20	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Carbazole	ND	0.22	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
4-Chloroaniline	ND	0.13	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Chrysene	ND	0.22	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Di-n-butyl phthalate	ND	0.57	0.96		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Dibenz(a,h)anthracene	ND	0.21	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
3,3´-Dichlorobenzidine	ND	0.24	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Dimethyl phthalate	ND	0.22	0.38		mg/Kg	1	9/9/2023 2:46:41 AM	77079
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
2,6-Dinitrotoluene	ND	0.21	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Fluoranthene	ND	0.20	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Fluorene	ND	0.19	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-17(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 1:30:00 PM
Lab ID: 2308A58-009
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.088	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Isophorone	ND	0.16	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
2-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
N-Nitrosodimethylamine	ND	0.14	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Naphthalene	ND	0.14	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
4-Nitrophenol	ND	0.18	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Pentachlorophenol	ND	0.23	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Phenanthrene	ND	0.20	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Phenol	ND	0.23	0.29		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Pyrene	ND	0.21	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Pyridine	ND	0.18	0.96		mg/Kg	1	9/9/2023 2:46:41 AM	77079
1,2,4-Trichlorobenzene	ND	0.13	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
2,4,5-Trichlorophenol	ND	0.20	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
2,4,6-Trichlorophenol	ND	0.17	0.24		mg/Kg	1	9/9/2023 2:46:41 AM	77079
Surr: 2-Fluorophenol	45.7		15-123		%Rec	1	9/9/2023 2:46:41 AM	77079
Surr: Phenol-d5	55.6		15-141		%Rec	1	9/9/2023 2:46:41 AM	77079
Surr: 2,4,6-Tribromophenol	64.6		23-118		%Rec	1	9/9/2023 2:46:41 AM	77079
Surr: Nitrobenzene-d5	43.2		15-125		%Rec	1	9/9/2023 2:46:41 AM	77079
Surr: 2-Fluorobiphenyl	44.5		15-129		%Rec	1	9/9/2023 2:46:41 AM	77079
Surr: 4-Terphenyl-d14	72.5		31.1-134		%Rec	1	9/9/2023 2:46:41 AM	77079
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.0086	0.027		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Toluene	ND	0.0096	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Ethylbenzene	ND	0.0063	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Methyl tert-butyl ether (MTBE)	ND	0.030	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1,2,4-Trimethylbenzene	ND	0.0075	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1,3,5-Trimethylbenzene	ND	0.012	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-17(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 1:30:00 PM
Lab ID: 2308A58-009
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloroethane (EDC)	ND	0.012	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1,2-Dibromoethane (EDB)	ND	0.0085	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Naphthalene	ND	0.020	0.11		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1-Methylnaphthalene	0.036	0.016	0.21	J	mg/Kg	1	8/28/2023 11:31:30 PM	R99297
2-Methylnaphthalene	ND	0.055	0.21		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Acetone	ND	0.80	0.80		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Bromobenzene	ND	0.011	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Bromodichloromethane	ND	0.011	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Bromoform	ND	0.013	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Bromomethane	ND	0.17	0.21		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
2-Butanone	ND	0.30	0.53		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Carbon disulfide	ND	0.013	0.53		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Carbon tetrachloride	ND	0.015	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Chlorobenzene	ND	0.0053	0.11		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Chloroethane	ND	0.0074	0.11		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Chloroform	ND	0.0073	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Chloromethane	ND	0.053	0.16		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
2-Chlorotoluene	ND	0.014	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
4-Chlorotoluene	ND	0.011	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
cis-1,2-DCE	ND	0.026	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
cis-1,3-Dichloropropene	ND	0.0070	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1,2-Dibromo-3-chloropropane	ND	0.023	0.11		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Dibromochloromethane	ND	0.0070	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Dibromomethane	ND	0.0081	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1,2-Dichlorobenzene	ND	0.011	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1,3-Dichlorobenzene	ND	0.010	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1,4-Dichlorobenzene	ND	0.014	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Dichlorodifluoromethane	ND	0.021	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1,1-Dichloroethane	ND	0.0043	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1,1-Dichloroethene	ND	0.030	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1,2-Dichloropropane	ND	0.0091	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1,3-Dichloropropane	ND	0.0057	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
2,2-Dichloropropane	ND	0.0062	0.11		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1,1-Dichloropropene	ND	0.0056	0.11		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Hexachlorobutadiene	ND	0.11	0.11		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
2-Hexanone	ND	0.023	0.53		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Isopropylbenzene	ND	0.0099	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
4-Isopropyltoluene	ND	0.0053	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
4-Methyl-2-pentanone	ND	0.062	0.53		mg/Kg	1	8/28/2023 11:31:30 PM	R99297

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-17(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 1:30:00 PM
Lab ID: 2308A58-009
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Methylene chloride	ND	0.12	0.16		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
n-Butylbenzene	ND	0.014	0.16		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
n-Propylbenzene	ND	0.0086	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
sec-Butylbenzene	ND	0.014	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Styrene	ND	0.0067	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
tert-Butylbenzene	ND	0.018	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1,1,1,2-Tetrachloroethane	ND	0.0078	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1,1,2,2-Tetrachloroethane	ND	0.018	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Tetrachloroethene (PCE)	ND	0.015	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
trans-1,2-DCE	ND	0.019	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
trans-1,3-Dichloropropene	ND	0.011	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1,2,3-Trichlorobenzene	ND	0.0082	0.11		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1,2,4-Trichlorobenzene	ND	0.019	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1,1,1-Trichloroethane	ND	0.018	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1,1,2-Trichloroethane	ND	0.013	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Trichloroethene (TCE)	ND	0.018	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Trichlorofluoromethane	ND	0.012	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1,2,3-Trichloropropane	ND	0.010	0.11		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Vinyl chloride	ND	0.029	0.053		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Xylenes, Total	ND	0.018	0.11		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
1,4-Dioxane	ND	0.27	0.53		mg/Kg	1	8/28/2023 11:31:30 PM	R99297
Surr: Dibromofluoromethane	97.3	0	73-145		%Rec	1	8/28/2023 11:31:30 PM	R99297
Surr: 1,2-Dichloroethane-d4	99.3	0	64.8-147		%Rec	1	8/28/2023 11:31:30 PM	R99297
Surr: Toluene-d8	117	0	70-130		%Rec	1	8/28/2023 11:31:30 PM	R99297
Surr: 4-Bromofluorobenzene	99.6	0	62.1-144		%Rec	1	8/28/2023 11:31:30 PM	R99297

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-17(22.5-23.5)
Project: AOC 26 27
Collection Date: 8/16/2023 1:35:00 PM
Lab ID: 2308A58-010
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.060	0.096		µg/Kg	1	8/24/2023 12:09:02 AM	76925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	ND	8.4	9.8		mg/Kg	1	8/25/2023 1:44:37 PM	77049
Motor Oil Range Organics (MRO)	ND	27	49		mg/Kg	1	8/25/2023 1:44:37 PM	77049
Surr: DNOP	102	0	69-147		%Rec	1	8/25/2023 1:44:37 PM	77049
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.2	4.7		mg/Kg	1	8/25/2023 3:18:46 AM	GS992(
Surr: BFB	91.6	0	15-244		%Rec	1	8/25/2023 3:18:46 AM	GS992(
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 2:30:41 PM	76974
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.25	0.50		mg/Kg	5	9/6/2023 3:25:08 PM	76998
Arsenic	1.2	0.25	0.50		mg/Kg	5	9/6/2023 3:25:08 PM	76998
Lead	8.0	0.25	0.50		mg/Kg	5	9/6/2023 3:25:08 PM	76998
Nickel	8.5	0.35	0.50		mg/Kg	5	9/7/2023 4:43:01 PM	76998
Selenium	1.7	0.50	0.50		mg/Kg	5	9/6/2023 3:25:08 PM	76998
Silver	ND	0.25	0.50		mg/Kg	5	9/6/2023 3:25:08 PM	76998
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.072	0.072		mg/Kg	1	8/24/2023 2:30:41 PM	77022
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	92	0.20	0.20		mg/Kg	2	8/28/2023 12:02:35 PM	76998
Beryllium	0.68	0.098	0.30		mg/Kg	2	8/28/2023 12:02:35 PM	76998
Cadmium	ND	0.42	0.50		mg/Kg	2	8/28/2023 12:02:35 PM	76998
Chromium	8.0	0.60	0.60		mg/Kg	2	8/28/2023 12:02:35 PM	76998
Cobalt	3.7	0.30	0.60		mg/Kg	2	8/28/2023 12:02:35 PM	76998
Iron	11000	500	500		mg/Kg	50	8/28/2023 1:50:32 PM	76998
Manganese	190	0.41	0.50		mg/Kg	2	8/28/2023 12:02:35 PM	76998
Vanadium	16	0.30	5.0		mg/Kg	2	8/28/2023 12:02:35 PM	76998
Zinc	16	5.0	5.0		mg/Kg	2	8/28/2023 12:02:35 PM	76998
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Aniline	ND	0.12	0.19		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Anthracene	ND	0.19	0.19		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Azobenzene	ND	0.20	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Benz(a)anthracene	ND	0.20	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-17(22.5-23.5)
Project: AOC 26 27
Collection Date: 8/16/2023 1:35:00 PM
Lab ID: 2308A58-010
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.20	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Benzo(g,h,i)perylene	ND	0.21	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Benzo(k)fluoranthene	ND	0.19	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Benzoic acid	ND	0.19	0.47		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Benzyl alcohol	ND	0.17	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Bis(2-chloroethyl)ether	ND	0.22	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Bis(2-chloroisopropyl)ether	ND	0.16	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Bis(2-ethylhexyl)phthalate	ND	0.29	0.47		mg/Kg	1	9/9/2023 3:29:55 AM	77079
4-Bromophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Butyl benzyl phthalate	ND	0.20	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Carbazole	ND	0.21	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
4-Chloro-3-methylphenol	ND	0.18	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
4-Chloroaniline	ND	0.13	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Chrysene	ND	0.21	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Di-n-butyl phthalate	ND	0.56	0.95		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Di-n-octyl phthalate	ND	0.20	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Dibenz(a,h)anthracene	ND	0.21	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
3,3´-Dichlorobenzidine	ND	0.24	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Diethyl phthalate	ND	1.7	2.8		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Dimethyl phthalate	ND	0.22	0.38		mg/Kg	1	9/9/2023 3:29:55 AM	77079
2,4-Dichlorophenol	ND	0.20	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
2,4-Dimethylphenol	ND	0.16	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
4,6-Dinitro-2-methylphenol	ND	0.21	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
2,4-Dinitrophenol	ND	0.22	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
2,4-Dinitrotoluene	ND	0.19	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
2,6-Dinitrotoluene	ND	0.21	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Fluoranthene	ND	0.20	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Fluorene	ND	0.18	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Hexachlorobenzene	ND	0.16	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079

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Qualifiers:

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D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
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Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-17(22.5-23.5)
Project: AOC 26 27
Collection Date: 8/16/2023 1:35:00 PM
Lab ID: 2308A58-010
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.087	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Isophorone	ND	0.16	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
2-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
2-Methylphenol	ND	0.14	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
3+4-Methylphenol	ND	0.16	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
N-Nitrosodi-n-propylamine	ND	0.18	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
N-Nitrosodimethylamine	ND	0.14	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
N-Nitrosodiphenylamine	ND	0.21	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Naphthalene	ND	0.14	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
2-Nitroaniline	ND	0.18	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
3-Nitroaniline	ND	0.14	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
4-Nitroaniline	ND	0.12	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Nitrobenzene	ND	0.15	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
2-Nitrophenol	ND	0.16	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
4-Nitrophenol	ND	0.18	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Pentachlorophenol	ND	0.23	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Phenanthrene	ND	0.20	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Phenol	ND	0.23	0.28		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Pyrene	ND	0.20	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Pyridine	ND	0.18	0.95		mg/Kg	1	9/9/2023 3:29:55 AM	77079
1,2,4-Trichlorobenzene	ND	0.13	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
2,4,5-Trichlorophenol	ND	0.20	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
2,4,6-Trichlorophenol	ND	0.17	0.24		mg/Kg	1	9/9/2023 3:29:55 AM	77079
Surr: 2-Fluorophenol	68.4		15-123		%Rec	1	9/9/2023 3:29:55 AM	77079
Surr: Phenol-d5	82.7		15-141		%Rec	1	9/9/2023 3:29:55 AM	77079
Surr: 2,4,6-Tribromophenol	79.2		23-118		%Rec	1	9/9/2023 3:29:55 AM	77079
Surr: Nitrobenzene-d5	65.5		15-125		%Rec	1	9/9/2023 3:29:55 AM	77079
Surr: 2-Fluorobiphenyl	63.0		15-129		%Rec	1	9/9/2023 3:29:55 AM	77079
Surr: 4-Terphenyl-d14	77.1		31.1-134		%Rec	1	9/9/2023 3:29:55 AM	77079
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.0075	0.023		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Toluene	ND	0.0084	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Ethylbenzene	ND	0.0055	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Methyl tert-butyl ether (MTBE)	ND	0.026	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1,2,4-Trimethylbenzene	ND	0.0066	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1,3,5-Trimethylbenzene	ND	0.011	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297

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H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
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S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-17(22.5-23.5)
Project: AOC 26 27
Collection Date: 8/16/2023 1:35:00 PM
Lab ID: 2308A58-010
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloroethane (EDC)	ND	0.011	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1,2-Dibromoethane (EDB)	ND	0.0075	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Naphthalene	ND	0.017	0.093		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1-Methylnaphthalene	ND	0.014	0.19		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
2-Methylnaphthalene	ND	0.048	0.19		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Acetone	ND	0.70	0.70		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Bromobenzene	ND	0.0099	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Bromodichloromethane	ND	0.0099	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Bromoform	ND	0.011	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Bromomethane	ND	0.15	0.19		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
2-Butanone	ND	0.26	0.47		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Carbon disulfide	ND	0.011	0.47		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Carbon tetrachloride	ND	0.013	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Chlorobenzene	ND	0.0046	0.093		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Chloroethane	ND	0.0065	0.093		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Chloroform	ND	0.0064	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Chloromethane	ND	0.046	0.14		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
2-Chlorotoluene	ND	0.012	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
4-Chlorotoluene	ND	0.0097	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
cis-1,2-DCE	ND	0.023	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
cis-1,3-Dichloropropene	ND	0.0061	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1,2-Dibromo-3-chloropropane	ND	0.020	0.093		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Dibromochloromethane	ND	0.0061	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Dibromomethane	ND	0.0071	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1,2-Dichlorobenzene	ND	0.0097	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1,3-Dichlorobenzene	ND	0.0088	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1,4-Dichlorobenzene	ND	0.012	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Dichlorodifluoromethane	ND	0.019	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1,1-Dichloroethane	ND	0.0038	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1,1-Dichloroethene	ND	0.026	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1,2-Dichloropropane	ND	0.0080	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1,3-Dichloropropane	ND	0.0050	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
2,2-Dichloropropane	ND	0.0054	0.093		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1,1-Dichloropropene	ND	0.0049	0.093		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Hexachlorobutadiene	ND	0.093	0.093		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
2-Hexanone	ND	0.020	0.47		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Isopropylbenzene	ND	0.0086	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
4-Isopropyltoluene	ND	0.0047	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
4-Methyl-2-pentanone	ND	0.054	0.47		mg/Kg	1	8/28/2023 11:58:33 PM	R99297

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
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E	Above Quantitation Range/Estimated Value
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P	Sample pH Not In Range
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Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-17(22.5-23.5)
Project: AOC 26 27
Collection Date: 8/16/2023 1:35:00 PM
Lab ID: 2308A58-010
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Methylene chloride	ND	0.11	0.14		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
n-Butylbenzene	ND	0.012	0.14		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
n-Propylbenzene	ND	0.0075	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
sec-Butylbenzene	ND	0.012	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Styrene	ND	0.0058	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
tert-Butylbenzene	ND	0.016	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1,1,1,2-Tetrachloroethane	ND	0.0068	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1,1,2,2-Tetrachloroethane	ND	0.016	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Tetrachloroethene (PCE)	ND	0.013	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
trans-1,2-DCE	ND	0.017	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
trans-1,3-Dichloropropene	ND	0.0094	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1,2,3-Trichlorobenzene	ND	0.0072	0.093		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1,2,4-Trichlorobenzene	ND	0.016	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1,1,1-Trichloroethane	ND	0.016	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1,1,2-Trichloroethane	ND	0.012	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Trichloroethene (TCE)	ND	0.016	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Trichlorofluoromethane	ND	0.011	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1,2,3-Trichloropropane	ND	0.0089	0.093		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Vinyl chloride	ND	0.025	0.047		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Xylenes, Total	ND	0.016	0.093		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
1,4-Dioxane	ND	0.24	0.47		mg/Kg	1	8/28/2023 11:58:33 PM	R99297
Surr: Dibromofluoromethane	104	0	73-145		%Rec	1	8/28/2023 11:58:33 PM	R99297
Surr: 1,2-Dichloroethane-d4	107	0	64.8-147		%Rec	1	8/28/2023 11:58:33 PM	R99297
Surr: Toluene-d8	117	0	70-130		%Rec	1	8/28/2023 11:58:33 PM	R99297
Surr: 4-Bromofluorobenzene	98.1	0	62.1-144		%Rec	1	8/28/2023 11:58:33 PM	R99297

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-05(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/16/2023 9:40:00 AM
Lab ID: 2308A58-011 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.055	0.089		µg/Kg	1	8/24/2023 12:23:56 AM	76925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	8.0	7.9	9.2	J	mg/Kg	1	8/28/2023 10:59:23 PM	77049
Motor Oil Range Organics (MRO)	50	25	46		mg/Kg	1	8/28/2023 10:59:23 PM	77049
Surr: DNOP	105	0	69-147		%Rec	1	8/28/2023 10:59:23 PM	77049
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.8	7.1		mg/Kg	1	8/25/2023 3:42:18 AM	GS992(
Surr: BFB	93.7	0	15-244		%Rec	1	8/25/2023 3:42:18 AM	GS992(
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	220	60	60		mg/Kg	20	8/22/2023 3:07:55 PM	76974
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.48		mg/Kg	5	9/6/2023 3:29:32 PM	76998
Arsenic	1.6	0.24	0.48		mg/Kg	5	9/6/2023 3:29:32 PM	76998
Lead	8.7	0.24	0.48		mg/Kg	5	9/6/2023 3:29:32 PM	76998
Nickel	7.2	0.34	0.48		mg/Kg	5	9/7/2023 4:47:26 PM	76998
Selenium	1.4	0.48	0.48		mg/Kg	5	9/6/2023 3:29:32 PM	76998
Silver	ND	0.24	0.48		mg/Kg	5	9/6/2023 3:29:32 PM	76998
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.072	0.072		mg/Kg	1	8/24/2023 2:32:51 PM	77022
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	1000	0.48	0.48		mg/Kg	5	8/28/2023 12:08:24 PM	76998
Beryllium	0.70	0.094	0.29		mg/Kg	2	8/28/2023 12:06:21 PM	76998
Cadmium	ND	0.41	0.48		mg/Kg	2	8/28/2023 12:06:21 PM	76998
Chromium	8.6	0.58	0.58		mg/Kg	2	8/28/2023 12:06:21 PM	76998
Cobalt	3.6	0.29	0.58		mg/Kg	2	8/28/2023 12:06:21 PM	76998
Iron	11000	480	480		mg/Kg	50	8/28/2023 1:54:29 PM	76998
Manganese	530	0.98	1.2		mg/Kg	5	8/28/2023 12:08:24 PM	76998
Vanadium	20	0.29	4.8		mg/Kg	2	8/28/2023 12:06:21 PM	76998
Zinc	12	4.8	4.8		mg/Kg	2	8/28/2023 12:06:21 PM	76998
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	2.0	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Acenaphthylene	ND	1.8	2.0	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Aniline	ND	1.2	2.0	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Anthracene	ND	1.9	2.0	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Azobenzene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Benz(a)anthracene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-05(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/16/2023 9:40:00 AM
Lab ID: 2308A58-011 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Benzo(b)fluoranthene	ND	1.9	2.0	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Benzo(g,h,i)perylene	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Benzo(k)fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Benzoic acid	ND	1.9	4.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Benzyl alcohol	ND	1.8	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Bis(2-chloroethoxy)methane	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Bis(2-chloroethyl)ether	ND	2.3	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Bis(2-chloroisopropyl)ether	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Bis(2-ethylhexyl)phthalate	ND	3.0	4.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
4-Bromophenyl phenyl ether	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Butyl benzyl phthalate	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Carbazole	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
4-Chloro-3-methylphenol	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
4-Chloroaniline	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
2-Chloronaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
2-Chlorophenol	ND	1.3	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
4-Chlorophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Chrysene	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Di-n-butyl phthalate	ND	5.8	9.8	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Di-n-octyl phthalate	ND	2.0	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Dibenz(a,h)anthracene	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Dibenzofuran	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
1,2-Dichlorobenzene	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
1,3-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
1,4-Dichlorobenzene	ND	1.8	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
3,3´-Dichlorobenzidine	ND	2.5	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Diethyl phthalate	ND	18	29	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Dimethyl phthalate	ND	2.3	3.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
2,4-Dichlorophenol	ND	2.0	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
2,4-Dimethylphenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
4,6-Dinitro-2-methylphenol	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
2,4-Dinitrophenol	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
2,4-Dinitrotoluene	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
2,6-Dinitrotoluene	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Fluorene	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Hexachlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Hexachlorobutadiene	ND	1.4	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-05(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/16/2023 9:40:00 AM
Lab ID: 2308A58-011 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.90	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Hexachloroethane	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Indeno(1,2,3-cd)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Isophorone	ND	1.7	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
1-Methylnaphthalene	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
2-Methylnaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
2-Methylphenol	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
3+4-Methylphenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
N-Nitrosodi-n-propylamine	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
N-Nitrosodimethylamine	ND	1.5	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
N-Nitrosodiphenylamine	ND	2.1	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Naphthalene	ND	1.5	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
2-Nitroaniline	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
3-Nitroaniline	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
4-Nitroaniline	ND	1.2	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Nitrobenzene	ND	1.5	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
2-Nitrophenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
4-Nitrophenol	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Pentachlorophenol	ND	2.4	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Phenanthrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Phenol	ND	2.3	2.9	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Pyridine	ND	1.8	9.8	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
1,2,4-Trichlorobenzene	ND	1.4	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
2,4,5-Trichlorophenol	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
2,4,6-Trichlorophenol	ND	1.8	2.4	D	mg/Kg	10	9/11/2023 6:23:42 PM	77079
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/11/2023 6:23:42 PM	77079
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/11/2023 6:23:42 PM	77079
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/11/2023 6:23:42 PM	77079
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/11/2023 6:23:42 PM	77079
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/11/2023 6:23:42 PM	77079
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/11/2023 6:23:42 PM	77079
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.011	0.035		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Toluene	ND	0.013	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Ethylbenzene	ND	0.0084	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Methyl tert-butyl ether (MTBE)	ND	0.040	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1,2,4-Trimethylbenzene	0.035	0.010	0.071	J	mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1,3,5-Trimethylbenzene	ND	0.016	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-05(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 9:40:00 AM
Lab ID: 2308A58-011
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloroethane (EDC)	ND	0.016	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1,2-Dibromoethane (EDB)	ND	0.011	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Naphthalene	0.042	0.026	0.14	J	mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1-Methylnaphthalene	0.037	0.021	0.28	J	mg/Kg	1	8/29/2023 12:25:35 AM	R99297
2-Methylnaphthalene	ND	0.073	0.28		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Acetone	ND	1.1	1.1		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Bromobenzene	ND	0.015	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Bromodichloromethane	ND	0.015	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Bromoform	ND	0.017	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Bromomethane	ND	0.23	0.28		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
2-Butanone	ND	0.39	0.71		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Carbon disulfide	ND	0.017	0.71		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Carbon tetrachloride	ND	0.020	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Chlorobenzene	ND	0.0070	0.14		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Chloroethane	ND	0.0098	0.14		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Chloroform	ND	0.0097	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Chloromethane	ND	0.070	0.21		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
2-Chlorotoluene	ND	0.019	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
4-Chlorotoluene	ND	0.015	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
cis-1,2-DCE	ND	0.035	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
cis-1,3-Dichloropropene	ND	0.0093	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1,2-Dibromo-3-chloropropane	ND	0.030	0.14		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Dibromochloromethane	ND	0.0093	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Dibromomethane	ND	0.011	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1,2-Dichlorobenzene	ND	0.015	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1,3-Dichlorobenzene	ND	0.013	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1,4-Dichlorobenzene	ND	0.019	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Dichlorodifluoromethane	ND	0.028	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1,1-Dichloroethane	ND	0.0057	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1,1-Dichloroethene	ND	0.040	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1,2-Dichloropropane	ND	0.012	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1,3-Dichloropropane	ND	0.0075	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
2,2-Dichloropropane	ND	0.0083	0.14		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1,1-Dichloropropene	ND	0.0075	0.14		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Hexachlorobutadiene	ND	0.14	0.14		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
2-Hexanone	ND	0.031	0.71		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Isopropylbenzene	ND	0.013	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
4-Isopropyltoluene	ND	0.0071	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
4-Methyl-2-pentanone	ND	0.082	0.71		mg/Kg	1	8/29/2023 12:25:35 AM	R99297

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-05(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 9:40:00 AM
Lab ID: 2308A58-011
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Methylene chloride	ND	0.16	0.21		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
n-Butylbenzene	ND	0.019	0.21		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
n-Propylbenzene	ND	0.011	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
sec-Butylbenzene	ND	0.018	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Styrene	ND	0.0089	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
tert-Butylbenzene	ND	0.024	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1,1,1,2-Tetrachloroethane	ND	0.010	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1,1,2,2-Tetrachloroethane	ND	0.024	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Tetrachloroethene (PCE)	ND	0.019	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
trans-1,2-DCE	ND	0.025	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
trans-1,3-Dichloropropene	ND	0.014	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1,2,3-Trichlorobenzene	ND	0.011	0.14		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1,2,4-Trichlorobenzene	ND	0.025	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1,1,1-Trichloroethane	ND	0.024	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1,1,2-Trichloroethane	ND	0.018	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Trichloroethene (TCE)	ND	0.024	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Trichlorofluoromethane	ND	0.016	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1,2,3-Trichloropropane	ND	0.013	0.14		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Vinyl chloride	ND	0.038	0.071		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Xylenes, Total	0.030	0.024	0.14	J	mg/Kg	1	8/29/2023 12:25:35 AM	R99297
1,4-Dioxane	ND	0.36	0.71		mg/Kg	1	8/29/2023 12:25:35 AM	R99297
Surr: Dibromofluoromethane	97.3	0	73-145		%Rec	1	8/29/2023 12:25:35 AM	R99297
Surr: 1,2-Dichloroethane-d4	100	0	64.8-147		%Rec	1	8/29/2023 12:25:35 AM	R99297
Surr: Toluene-d8	119	0	70-130		%Rec	1	8/29/2023 12:25:35 AM	R99297
Surr: 4-Bromofluorobenzene	93.0	0	62.1-144		%Rec	1	8/29/2023 12:25:35 AM	R99297

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-05(20-25)
Project: AOC 26 27
Collection Date: 8/16/2023 9:50:00 AM
Lab ID: 2308A58-012
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.055	0.089		µg/Kg	1	8/24/2023 12:38:48 AM	76925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	ND	8.0	9.3		mg/Kg	1	8/25/2023 1:55:12 PM	77049
Motor Oil Range Organics (MRO)	ND	26	47		mg/Kg	1	8/25/2023 1:55:12 PM	77049
Surr: DNOP	107	0	69-147		%Rec	1	8/25/2023 1:55:12 PM	77049
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	4.1	1.2	4.8	J	mg/Kg	1	8/25/2023 4:05:43 AM	GS992(
Surr: BFB	98.0	0	15-244		%Rec	1	8/25/2023 4:05:43 AM	GS992(
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 3:20:19 PM	76974
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.52		mg/Kg	5	9/6/2023 3:33:57 PM	76998
Arsenic	1.0	0.26	0.52		mg/Kg	5	9/6/2023 3:33:57 PM	76998
Lead	11	0.26	0.52		mg/Kg	5	9/6/2023 3:33:57 PM	76998
Nickel	9.2	0.37	0.52		mg/Kg	5	9/7/2023 4:51:51 PM	76998
Selenium	1.8	0.52	0.52		mg/Kg	5	9/6/2023 3:33:57 PM	76998
Silver	ND	0.26	0.52		mg/Kg	5	9/6/2023 3:33:57 PM	76998
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.069	0.069		mg/Kg	1	8/24/2023 2:34:59 PM	77022
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	240	0.21	0.21		mg/Kg	2	8/28/2023 12:10:18 PM	76998
Beryllium	0.97	0.10	0.31		mg/Kg	2	8/28/2023 12:10:18 PM	76998
Cadmium	ND	0.44	0.52		mg/Kg	2	8/28/2023 12:10:18 PM	76998
Chromium	13	0.63	0.63		mg/Kg	2	8/28/2023 12:10:18 PM	76998
Cobalt	4.2	0.31	0.63		mg/Kg	2	8/28/2023 12:10:18 PM	76998
Iron	13000	1000	1000		mg/Kg	100	8/28/2023 2:00:25 PM	76998
Manganese	310	0.42	0.52		mg/Kg	2	8/28/2023 12:10:18 PM	76998
Vanadium	15	0.31	5.2		mg/Kg	2	8/28/2023 12:10:18 PM	76998
Zinc	13	5.2	5.2		mg/Kg	2	8/28/2023 12:10:18 PM	76998
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Aniline	ND	0.12	0.19		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Anthracene	ND	0.19	0.19		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Azobenzene	ND	0.20	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Benz(a)anthracene	ND	0.21	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-05(20-25)
Project: AOC 26 27
Collection Date: 8/16/2023 9:50:00 AM
Lab ID: 2308A58-012
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Benzo(g,h,i)perylene	ND	0.22	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Benzoic acid	ND	0.19	0.48		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Benzyl alcohol	ND	0.17	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Bis(2-ethylhexyl)phthalate	ND	0.30	0.48		mg/Kg	1	9/9/2023 4:13:04 AM	77079
4-Bromophenyl phenyl ether	ND	0.20	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Butyl benzyl phthalate	ND	0.21	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Carbazole	ND	0.22	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Chrysene	ND	0.22	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Di-n-butyl phthalate	ND	0.58	0.97		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Dibenz(a,h)anthracene	ND	0.22	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
3,3´-Dichlorobenzidine	ND	0.24	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Dimethyl phthalate	ND	0.22	0.39		mg/Kg	1	9/9/2023 4:13:04 AM	77079
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Fluoranthene	ND	0.20	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Fluorene	ND	0.19	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-05(20-25)
Project: AOC 26 27
Collection Date: 8/16/2023 9:50:00 AM
Lab ID: 2308A58-012
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.089	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Isophorone	ND	0.17	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
2-Methylnaphthalene	ND	0.17	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
N-Nitrosodimethylamine	ND	0.14	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Naphthalene	ND	0.15	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
4-Nitrophenol	ND	0.18	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Phenanthrene	ND	0.20	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Phenol	ND	0.23	0.29		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Pyrene	ND	0.21	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Pyridine	ND	0.18	0.97		mg/Kg	1	9/9/2023 4:13:04 AM	77079
1,2,4-Trichlorobenzene	ND	0.14	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
2,4,5-Trichlorophenol	ND	0.21	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	9/9/2023 4:13:04 AM	77079
Surr: 2-Fluorophenol	58.1		15-123		%Rec	1	9/9/2023 4:13:04 AM	77079
Surr: Phenol-d5	69.9		15-141		%Rec	1	9/9/2023 4:13:04 AM	77079
Surr: 2,4,6-Tribromophenol	80.8		23-118		%Rec	1	9/9/2023 4:13:04 AM	77079
Surr: Nitrobenzene-d5	53.8		15-125		%Rec	1	9/9/2023 4:13:04 AM	77079
Surr: 2-Fluorobiphenyl	57.0		15-129		%Rec	1	9/9/2023 4:13:04 AM	77079
Surr: 4-Terphenyl-d14	80.2		31.1-134		%Rec	1	9/9/2023 4:13:04 AM	77079
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.0078	0.024		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Toluene	ND	0.0088	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Ethylbenzene	ND	0.0058	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Methyl tert-butyl ether (MTBE)	ND	0.027	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1,2,4-Trimethylbenzene	ND	0.0068	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1,3,5-Trimethylbenzene	ND	0.011	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297

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Qualifiers:

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B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
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ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
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Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-05(20-25)
Project: AOC 26 27
Collection Date: 8/16/2023 9:50:00 AM
Lab ID: 2308A58-012
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloroethane (EDC)	ND	0.011	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1,2-Dibromoethane (EDB)	ND	0.0078	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Naphthalene	ND	0.018	0.097		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1-Methylnaphthalene	ND	0.014	0.19		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
2-Methylnaphthalene	ND	0.050	0.19		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Acetone	ND	0.73	0.73		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Bromobenzene	ND	0.010	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Bromodichloromethane	ND	0.010	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Bromoform	ND	0.012	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Bromomethane	ND	0.16	0.19		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
2-Butanone	ND	0.27	0.48		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Carbon disulfide	ND	0.012	0.48		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Carbon tetrachloride	ND	0.014	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Chlorobenzene	ND	0.0048	0.097		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Chloroethane	ND	0.0067	0.097		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Chloroform	ND	0.0067	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Chloromethane	ND	0.048	0.15		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
2-Chlorotoluene	ND	0.013	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
4-Chlorotoluene	ND	0.010	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
cis-1,2-DCE	ND	0.024	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
cis-1,3-Dichloropropene	ND	0.0064	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1,2-Dibromo-3-chloropropane	ND	0.021	0.097		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Dibromochloromethane	ND	0.0064	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Dibromomethane	ND	0.0074	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1,2-Dichlorobenzene	ND	0.010	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1,3-Dichlorobenzene	ND	0.0092	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1,4-Dichlorobenzene	ND	0.013	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Dichlorodifluoromethane	ND	0.019	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1,1-Dichloroethane	ND	0.0039	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1,1-Dichloroethene	ND	0.028	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1,2-Dichloropropane	ND	0.0083	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1,3-Dichloropropane	ND	0.0052	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
2,2-Dichloropropane	ND	0.0057	0.097		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1,1-Dichloropropene	ND	0.0051	0.097		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Hexachlorobutadiene	ND	0.097	0.097		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
2-Hexanone	0.043	0.021	0.48	J	mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Isopropylbenzene	ND	0.0090	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
4-Isopropyltoluene	ND	0.0049	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
4-Methyl-2-pentanone	ND	0.056	0.48		mg/Kg	1	8/29/2023 12:52:38 AM	R99297

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-05(20-25)
Project: AOC 26 27
Collection Date: 8/16/2023 9:50:00 AM
Lab ID: 2308A58-012
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Methylene chloride	ND	0.11	0.15		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
n-Butylbenzene	ND	0.013	0.15		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
n-Propylbenzene	ND	0.0078	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
sec-Butylbenzene	ND	0.013	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Styrene	ND	0.0061	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
tert-Butylbenzene	ND	0.016	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1,1,1,2-Tetrachloroethane	ND	0.0071	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1,1,2,2-Tetrachloroethane	0.019	0.016	0.048	J	mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Tetrachloroethene (PCE)	ND	0.013	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
trans-1,2-DCE	ND	0.017	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
trans-1,3-Dichloropropene	ND	0.0098	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1,2,3-Trichlorobenzene	ND	0.0075	0.097		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1,2,4-Trichlorobenzene	ND	0.017	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1,1,1-Trichloroethane	ND	0.016	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1,1,2-Trichloroethane	0.013	0.012	0.048	J	mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Trichloroethene (TCE)	ND	0.016	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Trichlorofluoromethane	ND	0.011	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1,2,3-Trichloropropane	ND	0.0092	0.097		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Vinyl chloride	ND	0.026	0.048		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Xylenes, Total	ND	0.016	0.097		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
1,4-Dioxane	ND	0.25	0.48		mg/Kg	1	8/29/2023 12:52:38 AM	R99297
Surr: Dibromofluoromethane	98.8	0	73-145		%Rec	1	8/29/2023 12:52:38 AM	R99297
Surr: 1,2-Dichloroethane-d4	95.7	0	64.8-147		%Rec	1	8/29/2023 12:52:38 AM	R99297
Surr: Toluene-d8	108	0	70-130		%Rec	1	8/29/2023 12:52:38 AM	R99297
Surr: 4-Bromofluorobenzene	97.1	0	62.1-144		%Rec	1	8/29/2023 12:52:38 AM	R99297

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-05(24-25)
Project: AOC 26 27
Collection Date: 8/16/2023 10:00:00 AM
Lab ID: 2308A58-013
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.056	0.090		µg/Kg	1	8/24/2023 1:08:34 AM	76925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	18	8.2	9.5		mg/Kg	1	8/25/2023 2:05:49 PM	77049
Motor Oil Range Organics (MRO)	ND	26	48		mg/Kg	1	8/25/2023 2:05:49 PM	77049
Surr: DNOP	93.0	0	69-147		%Rec	1	8/25/2023 2:05:49 PM	77049
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	80	1.3	5.0		mg/Kg	1	8/25/2023 4:29:08 AM	GS992(
Surr: BFB	187	0	15-244		%Rec	1	8/25/2023 4:29:08 AM	GS992(
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 3:32:44 PM	76974
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.49		mg/Kg	5	9/6/2023 3:38:21 PM	76998
Arsenic	0.91	0.24	0.49		mg/Kg	5	9/6/2023 3:38:21 PM	76998
Lead	10	0.24	0.49		mg/Kg	5	9/6/2023 3:38:21 PM	76998
Nickel	7.8	0.34	0.49		mg/Kg	5	9/7/2023 4:56:16 PM	76998
Selenium	1.8	0.49	0.49		mg/Kg	5	9/6/2023 3:38:21 PM	76998
Silver	ND	0.24	0.49		mg/Kg	5	9/6/2023 3:38:21 PM	76998
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.070	0.070		mg/Kg	1	8/24/2023 2:37:07 PM	77022
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	290	0.19	0.19		mg/Kg	2	8/28/2023 12:14:10 PM	76998
Beryllium	1.0	0.095	0.29		mg/Kg	2	8/28/2023 12:14:10 PM	76998
Cadmium	ND	0.41	0.49		mg/Kg	2	8/28/2023 12:14:10 PM	76998
Chromium	7.9	0.58	0.58		mg/Kg	2	8/28/2023 12:14:10 PM	76998
Cobalt	3.9	0.29	0.58		mg/Kg	2	8/28/2023 12:14:10 PM	76998
Iron	12000	490	490		mg/Kg	50	8/28/2023 3:29:37 PM	76998
Manganese	380	0.39	0.49		mg/Kg	2	8/28/2023 12:14:10 PM	76998
Vanadium	14	0.29	4.9		mg/Kg	2	8/28/2023 12:14:10 PM	76998
Zinc	14	4.9	4.9		mg/Kg	2	8/28/2023 12:14:10 PM	76998
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.19	0.20		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Acenaphthylene	ND	0.19	0.20		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Aniline	ND	0.12	0.20		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Anthracene	ND	0.20	0.20		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Azobenzene	ND	0.21	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Benz(a)anthracene	ND	0.21	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-05(24-25)
Project: AOC 26 27
Collection Date: 8/16/2023 10:00:00 AM
Lab ID: 2308A58-013
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.22	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Benzo(b)fluoranthene	ND	0.20	0.20		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Benzo(g,h,i)perylene	ND	0.22	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Benzo(k)fluoranthene	ND	0.20	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Benzoic acid	ND	0.20	0.50		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Benzyl alcohol	ND	0.18	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Bis(2-chloroethoxy)methane	ND	0.17	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Bis(2-chloroethyl)ether	ND	0.24	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Bis(2-chloroisopropyl)ether	ND	0.17	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Bis(2-ethylhexyl)phthalate	ND	0.31	0.50		mg/Kg	1	9/9/2023 4:56:21 AM	77079
4-Bromophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Butyl benzyl phthalate	ND	0.21	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Carbazole	ND	0.23	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
4-Chloro-3-methylphenol	ND	0.20	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
4-Chloroaniline	ND	0.14	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
2-Chloronaphthalene	ND	0.18	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
2-Chlorophenol	ND	0.14	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
4-Chlorophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Chrysene	ND	0.22	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Di-n-butyl phthalate	ND	0.60	1.0		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Di-n-octyl phthalate	ND	0.21	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Dibenz(a,h)anthracene	ND	0.22	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Dibenzofuran	ND	0.20	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
1,2-Dichlorobenzene	ND	0.16	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
1,3-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
1,4-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
3,3´-Dichlorobenzidine	ND	0.25	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Diethyl phthalate	ND	1.8	3.0		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Dimethyl phthalate	ND	0.23	0.40		mg/Kg	1	9/9/2023 4:56:21 AM	77079
2,4-Dichlorophenol	ND	0.21	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
2,4-Dimethylphenol	ND	0.17	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
4,6-Dinitro-2-methylphenol	ND	0.22	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
2,4-Dinitrophenol	ND	0.23	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
2,4-Dinitrotoluene	ND	0.20	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
2,6-Dinitrotoluene	ND	0.22	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Fluoranthene	ND	0.21	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Fluorene	ND	0.19	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Hexachlorobenzene	ND	0.17	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Hexachlorobutadiene	ND	0.15	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-05(24-25)
Project: AOC 26 27
Collection Date: 8/16/2023 10:00:00 AM
Lab ID: 2308A58-013
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.092	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Hexachloroethane	ND	0.20	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Indeno(1,2,3-cd)pyrene	ND	0.22	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Isophorone	ND	0.17	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
1-Methylnaphthalene	ND	0.16	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
2-Methylnaphthalene	ND	0.17	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
2-Methylphenol	ND	0.15	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
3+4-Methylphenol	ND	0.17	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
N-Nitrosodi-n-propylamine	ND	0.19	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
N-Nitrosodimethylamine	ND	0.15	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
N-Nitrosodiphenylamine	ND	0.22	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Naphthalene	ND	0.15	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
2-Nitroaniline	ND	0.19	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
3-Nitroaniline	ND	0.14	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
4-Nitroaniline	ND	0.12	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Nitrobenzene	ND	0.16	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
2-Nitrophenol	ND	0.16	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
4-Nitrophenol	ND	0.19	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Pentachlorophenol	ND	0.24	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Phenanthrene	ND	0.21	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Phenol	ND	0.24	0.30		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Pyrene	ND	0.21	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Pyridine	ND	0.19	1.0		mg/Kg	1	9/9/2023 4:56:21 AM	77079
1,2,4-Trichlorobenzene	ND	0.14	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
2,4,5-Trichlorophenol	ND	0.21	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
2,4,6-Trichlorophenol	ND	0.18	0.25		mg/Kg	1	9/9/2023 4:56:21 AM	77079
Surr: 2-Fluorophenol	72.7		15-123		%Rec	1	9/9/2023 4:56:21 AM	77079
Surr: Phenol-d5	81.9		15-141		%Rec	1	9/9/2023 4:56:21 AM	77079
Surr: 2,4,6-Tribromophenol	77.5		23-118		%Rec	1	9/9/2023 4:56:21 AM	77079
Surr: Nitrobenzene-d5	57.3		15-125		%Rec	1	9/9/2023 4:56:21 AM	77079
Surr: 2-Fluorobiphenyl	60.9		15-129		%Rec	1	9/9/2023 4:56:21 AM	77079
Surr: 4-Terphenyl-d14	73.3		31.1-134		%Rec	1	9/9/2023 4:56:21 AM	77079
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.016	0.050	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Toluene	ND	0.018	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Ethylbenzene	ND	0.012	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Methyl tert-butyl ether (MTBE)	ND	0.056	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1,2,4-Trimethylbenzene	ND	0.014	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1,3,5-Trimethylbenzene	ND	0.023	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-05(24-25)
Project: AOC 26 27
Collection Date: 8/16/2023 10:00:00 AM
Lab ID: 2308A58-013
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloroethane (EDC)	ND	0.023	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1,2-Dibromoethane (EDB)	ND	0.016	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Naphthalene	ND	0.037	0.20	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1-Methylnaphthalene	ND	0.030	0.40	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
2-Methylnaphthalene	ND	0.10	0.40	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Acetone	ND	1.5	1.5	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Bromobenzene	ND	0.021	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Bromodichloromethane	0.028	0.021	0.10	JD	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Bromoform	ND	0.024	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Bromomethane	ND	0.32	0.40	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
2-Butanone	ND	0.56	1.0	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Carbon disulfide	ND	0.024	1.0	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Carbon tetrachloride	ND	0.028	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Chlorobenzene	ND	0.0099	0.20	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Chloroethane	ND	0.014	0.20	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Chloroform	0.062	0.014	0.10	JD	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Chloromethane	ND	0.098	0.30	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
2-Chlorotoluene	ND	0.027	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
4-Chlorotoluene	ND	0.021	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
cis-1,2-DCE	ND	0.049	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
cis-1,3-Dichloropropene	ND	0.013	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1,2-Dibromo-3-chloropropane	ND	0.043	0.20	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Dibromochloromethane	ND	0.013	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Dibromomethane	ND	0.015	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1,2-Dichlorobenzene	ND	0.021	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1,3-Dichlorobenzene	ND	0.019	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1,4-Dichlorobenzene	ND	0.027	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Dichlorodifluoromethane	ND	0.040	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1,1-Dichloroethane	ND	0.0081	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1,1-Dichloroethene	ND	0.057	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1,2-Dichloropropane	ND	0.017	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1,3-Dichloropropane	ND	0.011	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
2,2-Dichloropropane	ND	0.012	0.20	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1,1-Dichloropropene	ND	0.011	0.20	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Hexachlorobutadiene	ND	0.20	0.20	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
2-Hexanone	0.35	0.044	1.0	JD	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Isopropylbenzene	ND	0.018	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
4-Isopropyltoluene	ND	0.010	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
4-Methyl-2-pentanone	ND	0.12	1.0	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-05(24-25)
Project: AOC 26 27
Collection Date: 8/16/2023 10:00:00 AM
Lab ID: 2308A58-013
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Methylene chloride	ND	0.23	0.30	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
n-Butylbenzene	ND	0.027	0.30	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
n-Propylbenzene	ND	0.016	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
sec-Butylbenzene	ND	0.026	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Styrene	ND	0.013	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
tert-Butylbenzene	ND	0.034	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1,1,1,2-Tetrachloroethane	ND	0.015	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1,1,2,2-Tetrachloroethane	ND	0.033	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Tetrachloroethene (PCE)	ND	0.027	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
trans-1,2-DCE	ND	0.036	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
trans-1,3-Dichloropropene	ND	0.020	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1,2,3-Trichlorobenzene	ND	0.015	0.20	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1,2,4-Trichlorobenzene	ND	0.035	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1,1,1-Trichloroethane	ND	0.033	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1,1,2-Trichloroethane	ND	0.025	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Trichloroethene (TCE)	ND	0.034	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Trichlorofluoromethane	ND	0.023	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1,2,3-Trichloropropane	ND	0.019	0.20	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Vinyl chloride	ND	0.054	0.10	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Xylenes, Total	ND	0.034	0.20	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
1,4-Dioxane	ND	0.50	1.0	D	mg/Kg	2	8/29/2023 1:19:40 AM	R99297
Surr: Dibromofluoromethane	99.7	0	73-145	D	%Rec	2	8/29/2023 1:19:40 AM	R99297
Surr: 1,2-Dichloroethane-d4	105	0	64.8-147	D	%Rec	2	8/29/2023 1:19:40 AM	R99297
Surr: Toluene-d8	121	0	70-130	D	%Rec	2	8/29/2023 1:19:40 AM	R99297
Surr: 4-Bromofluorobenzene	113	0	62.1-144	D	%Rec	2	8/29/2023 1:19:40 AM	R99297

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-02(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/16/2023 7:50:00 AM
Lab ID: 2308A58-014 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.061	0.098		µg/Kg	1	8/24/2023 1:23:31 AM	76925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	13	7.9	9.2		mg/Kg	1	8/28/2023 11:10:21 PM	77049
Motor Oil Range Organics (MRO)	41	25	46	J	mg/Kg	1	8/28/2023 11:10:21 PM	77049
Surr: DNOP	109	0	69-147		%Rec	1	8/28/2023 11:10:21 PM	77049
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	43	1.6	6.3		mg/Kg	1	8/25/2023 4:52:38 AM	GS992(
Surr: BFB	168	0	15-244		%Rec	1	8/25/2023 4:52:38 AM	GS992(
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	130	60	60		mg/Kg	20	8/22/2023 3:45:09 PM	76974
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.51		mg/Kg	5	9/6/2023 3:42:45 PM	76998
Arsenic	1.9	0.26	0.51		mg/Kg	5	9/6/2023 3:42:45 PM	76998
Lead	8.9	0.26	0.51		mg/Kg	5	9/7/2023 5:13:59 PM	76998
Nickel	12	0.36	0.51		mg/Kg	5	9/7/2023 5:13:59 PM	76998
Selenium	2.1	0.51	0.51		mg/Kg	5	9/6/2023 3:42:45 PM	76998
Silver	ND	0.26	0.51		mg/Kg	5	9/6/2023 3:42:45 PM	76998
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.072	0.072		mg/Kg	1	8/24/2023 2:39:15 PM	77022
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	530	0.51	0.51		mg/Kg	5	8/28/2023 12:24:28 PM	76998
Beryllium	1.1	0.10	0.31		mg/Kg	2	8/28/2023 12:22:25 PM	76998
Cadmium	ND	0.43	0.51		mg/Kg	2	8/28/2023 12:22:25 PM	76998
Chromium	11	0.62	0.62		mg/Kg	2	8/28/2023 12:22:25 PM	76998
Cobalt	4.6	0.31	0.62		mg/Kg	2	8/28/2023 12:22:25 PM	76998
Iron	13000	1000	1000		mg/Kg	100	8/28/2023 3:35:34 PM	76998
Manganese	510	0.42	0.51		mg/Kg	2	8/28/2023 12:22:25 PM	76998
Vanadium	23	0.31	5.1		mg/Kg	2	8/28/2023 12:22:25 PM	76998
Zinc	28	5.1	5.1		mg/Kg	2	8/28/2023 12:22:25 PM	76998
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	1.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Acenaphthylene	ND	1.8	1.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Aniline	ND	1.2	1.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Anthracene	ND	1.9	1.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Azobenzene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Benz(a)anthracene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-02(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/16/2023 7:50:00 AM
Lab ID: 2308A58-014 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Benzo(b)fluoranthene	ND	1.9	1.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Benzo(g,h,i)perylene	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Benzo(k)fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Benzoic acid	ND	1.9	4.8	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Benzyl alcohol	ND	1.7	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Bis(2-chloroethoxy)methane	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Bis(2-chloroethyl)ether	ND	2.3	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Bis(2-chloroisopropyl)ether	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Bis(2-ethylhexyl)phthalate	ND	3.0	4.8	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
4-Bromophenyl phenyl ether	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Butyl benzyl phthalate	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Carbazole	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
4-Chloro-3-methylphenol	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
4-Chloroaniline	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
2-Chloronaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
2-Chlorophenol	ND	1.3	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
4-Chlorophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Chrysene	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Di-n-butyl phthalate	ND	5.8	9.7	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Di-n-octyl phthalate	ND	2.0	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Dibenz(a,h)anthracene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Dibenzofuran	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
1,2-Dichlorobenzene	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
1,3-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
1,4-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
3,3´-Dichlorobenzidine	ND	2.4	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Diethyl phthalate	ND	17	29	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Dimethyl phthalate	ND	2.2	3.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
2,4-Dichlorophenol	ND	2.0	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
2,4-Dimethylphenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
4,6-Dinitro-2-methylphenol	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
2,4-Dinitrophenol	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
2,4-Dinitrotoluene	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
2,6-Dinitrotoluene	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Fluorene	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Hexachlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Hexachlorobutadiene	ND	1.4	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-02(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 7:50:00 AM
Lab ID: 2308A58-014
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.89	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Hexachloroethane	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Indeno(1,2,3-cd)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Isophorone	ND	1.7	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
1-Methylnaphthalene	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
2-Methylnaphthalene	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
2-Methylphenol	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
3+4-Methylphenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
N-Nitrosodi-n-propylamine	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
N-Nitrosodimethylamine	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
N-Nitrosodiphenylamine	ND	2.1	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Naphthalene	ND	1.5	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
2-Nitroaniline	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
3-Nitroaniline	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
4-Nitroaniline	ND	1.2	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Nitrobenzene	ND	1.5	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
2-Nitrophenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
4-Nitrophenol	ND	1.8	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Pentachlorophenol	ND	2.4	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Phenanthrene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Phenol	ND	2.3	2.9	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Pyridine	ND	1.8	9.7	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
1,2,4-Trichlorobenzene	ND	1.3	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
2,4,5-Trichlorophenol	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
2,4,6-Trichlorophenol	ND	1.8	2.4	D	mg/Kg	10	9/11/2023 7:06:21 PM	77079
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/11/2023 7:06:21 PM	77079
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/11/2023 7:06:21 PM	77079
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/11/2023 7:06:21 PM	77079
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/11/2023 7:06:21 PM	77079
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/11/2023 7:06:21 PM	77079
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/11/2023 7:06:21 PM	77079
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.29	0.020	0.063	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Toluene	0.029	0.023	0.13	JD	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Ethylbenzene	0.21	0.015	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Methyl tert-butyl ether (MTBE)	ND	0.071	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1,2,4-Trimethylbenzene	0.093	0.018	0.13	JD	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1,3,5-Trimethylbenzene	0.036	0.029	0.13	JD	mg/Kg	2	8/29/2023 1:46:43 AM	R99297

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ND	Not Detected at the Reporting Limit
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S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-02(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/16/2023 7:50:00 AM
Lab ID: 2308A58-014 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloroethane (EDC)	ND	0.029	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1,2-Dibromoethane (EDB)	ND	0.020	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Naphthalene	0.092	0.047	0.25	JD	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1-Methylnaphthalene	0.13	0.037	0.50	JD	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
2-Methylnaphthalene	0.20	0.13	0.50	JD	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Acetone	ND	1.9	1.9	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Bromobenzene	ND	0.027	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Bromodichloromethane	0.10	0.027	0.13	JD	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Bromoform	ND	0.030	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Bromomethane	ND	0.41	0.50	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
2-Butanone	ND	0.70	1.3	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Carbon disulfide	ND	0.031	1.3	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Carbon tetrachloride	ND	0.035	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Chlorobenzene	ND	0.012	0.25	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Chloroethane	ND	0.017	0.25	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Chloroform	ND	0.017	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Chloromethane	ND	0.12	0.38	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
2-Chlorotoluene	ND	0.034	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
4-Chlorotoluene	ND	0.026	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
cis-1,2-DCE	ND	0.062	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
cis-1,3-Dichloropropene	ND	0.016	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1,2-Dibromo-3-chloropropane	ND	0.054	0.25	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Dibromochloromethane	ND	0.016	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Dibromomethane	ND	0.019	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1,2-Dichlorobenzene	ND	0.026	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1,3-Dichlorobenzene	ND	0.024	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1,4-Dichlorobenzene	ND	0.034	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Dichlorodifluoromethane	ND	0.050	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1,1-Dichloroethane	ND	0.010	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1,1-Dichloroethene	ND	0.071	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1,2-Dichloropropane	ND	0.021	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1,3-Dichloropropane	ND	0.013	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
2,2-Dichloropropane	ND	0.015	0.25	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1,1-Dichloropropene	ND	0.013	0.25	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Hexachlorobutadiene	ND	0.25	0.25	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
2-Hexanone	0.58	0.055	1.3	JD	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Isopropylbenzene	0.081	0.023	0.13	JD	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
4-Isopropyltoluene	ND	0.013	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
4-Methyl-2-pentanone	0.24	0.15	1.3	JD	mg/Kg	2	8/29/2023 1:46:43 AM	R99297

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J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
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Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-02(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 7:50:00 AM
Lab ID: 2308A58-014
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Methylene chloride	ND	0.29	0.38	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
n-Butylbenzene	0.038	0.033	0.38	JD	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
n-Propylbenzene	0.092	0.020	0.13	JD	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
sec-Butylbenzene	ND	0.032	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Styrene	ND	0.016	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
tert-Butylbenzene	ND	0.042	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1,1,1,2-Tetrachloroethane	ND	0.018	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1,1,2,2-Tetrachloroethane	ND	0.042	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Tetrachloroethene (PCE)	ND	0.034	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
trans-1,2-DCE	ND	0.045	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
trans-1,3-Dichloropropene	ND	0.025	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1,2,3-Trichlorobenzene	ND	0.019	0.25	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1,2,4-Trichlorobenzene	ND	0.044	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1,1,1-Trichloroethane	ND	0.042	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1,1,2-Trichloroethane	ND	0.031	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Trichloroethene (TCE)	ND	0.043	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Trichlorofluoromethane	ND	0.028	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1,2,3-Trichloropropane	ND	0.024	0.25	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Vinyl chloride	ND	0.068	0.13	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Xylenes, Total	0.096	0.042	0.25	JD	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
1,4-Dioxane	ND	0.63	1.3	D	mg/Kg	2	8/29/2023 1:46:43 AM	R99297
Surr: Dibromofluoromethane	88.7	0	73-145	D	%Rec	2	8/29/2023 1:46:43 AM	R99297
Surr: 1,2-Dichloroethane-d4	96.2	0	64.8-147	D	%Rec	2	8/29/2023 1:46:43 AM	R99297
Surr: Toluene-d8	115	0	70-130	D	%Rec	2	8/29/2023 1:46:43 AM	R99297
Surr: 4-Bromofluorobenzene	102	0	62.1-144	D	%Rec	2	8/29/2023 1:46:43 AM	R99297

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
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Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-02(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 8:00:00 AM
Lab ID: 2308A58-015
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.061	0.098		µg/Kg	1	8/24/2023 1:38:25 AM	76925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	360	8.2	9.6		mg/Kg	1	8/25/2023 2:16:24 PM	77049
Motor Oil Range Organics (MRO)	ND	26	48		mg/Kg	1	8/25/2023 2:16:24 PM	77049
Surr: DNOP	99.6	0	69-147		%Rec	1	8/25/2023 2:16:24 PM	77049
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	640	8.7	34		mg/Kg	5	8/25/2023 5:16:03 AM	GS992(
Surr: BFB	480	0	15-244	S	%Rec	5	8/25/2023 5:16:03 AM	GS992(
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 3:57:33 PM	76974
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.25	0.49		mg/Kg	5	9/6/2023 3:47:09 PM	76998
Arsenic	4.4	0.25	0.49		mg/Kg	5	9/6/2023 3:47:09 PM	76998
Lead	13	0.25	0.49		mg/Kg	5	9/7/2023 5:18:24 PM	76998
Nickel	6.4	0.34	0.49		mg/Kg	5	9/7/2023 5:18:24 PM	76998
Selenium	19	0.49	0.49		mg/Kg	5	9/6/2023 3:47:09 PM	76998
Silver	ND	0.25	0.49		mg/Kg	5	9/6/2023 3:47:09 PM	76998
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.069	0.069		mg/Kg	1	8/24/2023 2:41:23 PM	77022
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	690	4.9	4.9		mg/Kg	50	8/28/2023 3:39:08 PM	76998
Beryllium	ND	2.4	7.4		mg/Kg	50	8/28/2023 3:39:08 PM	76998
Cadmium	ND	10	12		mg/Kg	50	8/28/2023 3:39:08 PM	76998
Chromium	ND	15	15		mg/Kg	50	8/28/2023 3:39:08 PM	76998
Cobalt	ND	7.3	15		mg/Kg	50	8/28/2023 3:39:08 PM	76998
Iron	13000	980	980		mg/Kg	100	8/28/2023 3:40:58 PM	76998
Manganese	2400	10	12		mg/Kg	50	8/28/2023 3:39:08 PM	76998
Vanadium	30	7.3	120	J	mg/Kg	50	8/28/2023 3:39:08 PM	76998
Zinc	ND	120	120		mg/Kg	50	8/28/2023 3:39:08 PM	76998
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	2.0	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Acenaphthylene	ND	1.8	2.0	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Aniline	ND	1.2	2.0	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Anthracene	ND	1.9	2.0	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Azobenzene	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Benz(a)anthracene	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079

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Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Benzo(b)fluoranthene	ND	1.9	2.0	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Benzo(g,h,i)perylene	ND	2.2	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Benzo(k)fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Benzoic acid	ND	1.9	4.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Benzyl alcohol	ND	1.8	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Bis(2-chloroethoxy)methane	ND	1.6	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Bis(2-chloroethyl)ether	ND	2.3	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Bis(2-chloroisopropyl)ether	ND	1.6	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Bis(2-ethylhexyl)phthalate	ND	3.0	4.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
4-Bromophenyl phenyl ether	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Butyl benzyl phthalate	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Carbazole	ND	2.2	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
4-Chloro-3-methylphenol	ND	1.9	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
4-Chloroaniline	ND	1.4	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
2-Chloronaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
2-Chlorophenol	ND	1.3	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
4-Chlorophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Chrysene	ND	2.2	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Di-n-butyl phthalate	ND	5.8	9.8	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Di-n-octyl phthalate	ND	2.0	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Dibenz(a,h)anthracene	ND	2.2	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Dibenzofuran	ND	1.9	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
1,2-Dichlorobenzene	ND	1.6	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
1,3-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
1,4-Dichlorobenzene	ND	1.8	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
3,3´-Dichlorobenzidine	ND	2.5	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Diethyl phthalate	ND	18	29	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Dimethyl phthalate	ND	2.3	3.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
2,4-Dichlorophenol	ND	2.0	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
2,4-Dimethylphenol	ND	1.6	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
4,6-Dinitro-2-methylphenol	ND	2.2	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
2,4-Dinitrophenol	ND	2.3	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
2,4-Dinitrotoluene	ND	1.9	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
2,6-Dinitrotoluene	ND	2.2	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Fluorene	ND	1.9	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Hexachlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Hexachlorobutadiene	ND	1.4	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-02(15-20)
Project: AOC 26 27 **Collection Date:** 8/16/2023 8:00:00 AM
Lab ID: 2308A58-015 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.90	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Hexachloroethane	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Indeno(1,2,3-cd)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Isophorone	ND	1.7	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
1-Methylnaphthalene	ND	1.6	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
2-Methylnaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
2-Methylphenol	ND	1.4	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
3+4-Methylphenol	ND	1.6	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
N-Nitrosodi-n-propylamine	ND	1.9	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
N-Nitrosodimethylamine	ND	1.5	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
N-Nitrosodiphenylamine	ND	2.2	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Naphthalene	ND	1.5	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
2-Nitroaniline	ND	1.9	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
3-Nitroaniline	ND	1.4	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
4-Nitroaniline	ND	1.2	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Nitrobenzene	ND	1.5	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
2-Nitrophenol	ND	1.6	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
4-Nitrophenol	ND	1.9	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Pentachlorophenol	ND	2.4	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Phenanthrene	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Phenol	ND	2.3	2.9	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Pyrene	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Pyridine	ND	1.8	9.8	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
1,2,4-Trichlorobenzene	ND	1.4	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
2,4,5-Trichlorophenol	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
2,4,6-Trichlorophenol	ND	1.8	2.4	D	mg/Kg	10	9/9/2023 6:21:12 AM	77079
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/9/2023 6:21:12 AM	77079
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/9/2023 6:21:12 AM	77079
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/9/2023 6:21:12 AM	77079
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/9/2023 6:21:12 AM	77079
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/9/2023 6:21:12 AM	77079
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/9/2023 6:21:12 AM	77079
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.17	0.11	0.28	JD	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Toluene	0.14	0.12	0.69	JD	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Ethylbenzene	3.5	0.082	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Methyl tert-butyl ether (MTBE)	ND	0.39	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1,2,4-Trimethylbenzene	0.95	0.097	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1,3,5-Trimethylbenzene	0.81	0.16	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-02(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 8:00:00 AM
Lab ID: 2308A58-015
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloroethane (EDC)	ND	0.16	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1,2-Dibromoethane (EDB)	ND	0.11	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Naphthalene	1.1	0.26	1.4	JD	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1-Methylnaphthalene	1.7	0.20	2.8	JD	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
2-Methylnaphthalene	2.9	0.72	2.8	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Acetone	ND	10	10	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Bromobenzene	ND	0.15	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Bromodichloromethane	ND	0.15	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Bromoform	ND	0.17	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Bromomethane	ND	2.2	2.8	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
2-Butanone	ND	3.9	6.9	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Carbon disulfide	ND	0.17	6.9	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Carbon tetrachloride	ND	0.19	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Chlorobenzene	0.46	0.068	1.4	JD	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Chloroethane	ND	0.096	1.4	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Chloroform	ND	0.095	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Chloromethane	ND	0.68	2.1	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
2-Chlorotoluene	ND	0.18	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
4-Chlorotoluene	ND	0.14	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
cis-1,2-DCE	ND	0.34	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
cis-1,3-Dichloropropene	ND	0.091	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1,2-Dibromo-3-chloropropane	ND	0.30	1.4	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Dibromochloromethane	ND	0.091	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Dibromomethane	ND	0.10	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1,2-Dichlorobenzene	ND	0.14	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1,3-Dichlorobenzene	ND	0.13	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1,4-Dichlorobenzene	ND	0.18	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Dichlorodifluoromethane	ND	0.27	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1,1-Dichloroethane	ND	0.056	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1,1-Dichloroethene	ND	0.39	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1,2-Dichloropropane	ND	0.12	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1,3-Dichloropropane	ND	0.073	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
2,2-Dichloropropane	ND	0.081	1.4	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1,1-Dichloropropene	ND	0.073	1.4	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Hexachlorobutadiene	ND	1.4	1.4	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
2-Hexanone	ND	0.30	6.9	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Isopropylbenzene	1.2	0.13	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
4-Isopropyltoluene	0.18	0.069	0.69	JD	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
4-Methyl-2-pentanone	ND	0.80	6.9	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-02(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 8:00:00 AM
Lab ID: 2308A58-015
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Methylene chloride	ND	1.6	2.1	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
n-Butylbenzene	1.8	0.18	2.1	JD	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
n-Propylbenzene	2.8	0.11	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
sec-Butylbenzene	1.1	0.18	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Styrene	ND	0.087	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
tert-Butylbenzene	ND	0.23	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1,1,1,2-Tetrachloroethane	ND	0.10	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1,1,2,2-Tetrachloroethane	ND	0.23	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Tetrachloroethene (PCE)	ND	0.19	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
trans-1,2-DCE	ND	0.25	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
trans-1,3-Dichloropropene	ND	0.14	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1,2,3-Trichlorobenzene	ND	0.11	1.4	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1,2,4-Trichlorobenzene	ND	0.24	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1,1,1-Trichloroethane	ND	0.23	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1,1,2-Trichloroethane	ND	0.17	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Trichloroethene (TCE)	ND	0.23	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Trichlorofluoromethane	ND	0.16	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1,2,3-Trichloropropane	ND	0.13	1.4	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Vinyl chloride	ND	0.38	0.69	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Xylenes, Total	0.72	0.23	1.4	JD	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
1,4-Dioxane	ND	3.5	6.9	D	mg/Kg	10	8/29/2023 2:13:47 AM	R99297
Surr: Dibromofluoromethane	85.2	0	73-145	D	%Rec	10	8/29/2023 2:13:47 AM	R99297
Surr: 1,2-Dichloroethane-d4	98.0	0	64.8-147	D	%Rec	10	8/29/2023 2:13:47 AM	R99297
Surr: Toluene-d8	106	0	70-130	D	%Rec	10	8/29/2023 2:13:47 AM	R99297
Surr: 4-Bromofluorobenzene	121	0	62.1-144	D	%Rec	10	8/29/2023 2:13:47 AM	R99297

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-02(19.7-20.7)
Project: AOC 26 27
Collection Date: 8/16/2023 8:10:00 AM
Lab ID: 2308A58-016
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.061	0.099		µg/Kg	1	8/24/2023 1:53:16 AM	76925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	660	8.2	9.5		mg/Kg	1	8/25/2023 2:27:01 PM	77049
Motor Oil Range Organics (MRO)	ND	26	48		mg/Kg	1	8/25/2023 2:27:01 PM	77049
Surr: DNOP	93.4	0	69-147		%Rec	1	8/25/2023 2:27:01 PM	77049
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	420	11	45		mg/Kg	5	8/25/2023 5:39:34 AM	GS992(
Surr: BFB	243	0	15-244		%Rec	5	8/25/2023 5:39:34 AM	GS992(
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 4:09:58 PM	76974
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.48		mg/Kg	5	9/6/2023 3:51:33 PM	76998
Arsenic	2.2	0.48	0.96		mg/Kg	10	9/7/2023 5:22:50 PM	76998
Lead	6.8	0.48	0.96		mg/Kg	10	9/7/2023 5:22:50 PM	76998
Nickel	5.0	0.67	0.96		mg/Kg	10	9/7/2023 5:22:50 PM	76998
Selenium	1.8	0.96	0.96		mg/Kg	10	9/7/2023 5:22:50 PM	76998
Silver	ND	0.48	0.96		mg/Kg	10	9/7/2023 5:22:50 PM	76998
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.075	0.075		mg/Kg	1	8/24/2023 2:43:32 PM	77022
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	700	0.48	0.48		mg/Kg	5	8/28/2023 12:34:28 PM	76998
Beryllium	0.54	0.093	0.29		mg/Kg	2	8/28/2023 12:32:29 PM	76998
Cadmium	ND	0.40	0.48		mg/Kg	2	8/28/2023 12:32:29 PM	76998
Chromium	4.9	0.57	0.57		mg/Kg	2	8/28/2023 12:32:29 PM	76998
Cobalt	2.6	0.28	0.57		mg/Kg	2	8/28/2023 12:32:29 PM	76998
Iron	8600	480	480		mg/Kg	50	8/28/2023 3:42:57 PM	76998
Manganese	860	0.97	1.2		mg/Kg	5	8/28/2023 12:34:28 PM	76998
Vanadium	14	0.28	4.8		mg/Kg	2	8/28/2023 12:32:29 PM	76998
Zinc	8.7	4.8	4.8		mg/Kg	2	8/28/2023 12:32:29 PM	76998
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.9	2.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Acenaphthylene	ND	1.9	2.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Aniline	ND	1.2	2.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Anthracene	ND	2.0	2.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Azobenzene	ND	2.1	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Benz(a)anthracene	ND	2.1	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-02(19.7-20.7)
Project: AOC 26 27
Collection Date: 8/16/2023 8:10:00 AM
Lab ID: 2308A58-016
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Benzo(b)fluoranthene	ND	2.0	2.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Benzo(g,h,i)perylene	ND	2.2	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Benzo(k)fluoranthene	ND	2.0	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Benzoic acid	ND	2.0	5.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Benzyl alcohol	ND	1.8	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Bis(2-chloroethoxy)methane	ND	1.7	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Bis(2-chloroethyl)ether	ND	2.4	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Bis(2-chloroisopropyl)ether	ND	1.7	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Bis(2-ethylhexyl)phthalate	ND	3.1	5.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
4-Bromophenyl phenyl ether	ND	2.0	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Butyl benzyl phthalate	ND	2.1	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Carbazole	ND	2.2	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
4-Chloro-3-methylphenol	ND	1.9	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
4-Chloroaniline	ND	1.4	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
2-Chloronaphthalene	ND	1.8	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
2-Chlorophenol	ND	1.4	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
4-Chlorophenyl phenyl ether	ND	2.0	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Chrysene	ND	2.2	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Di-n-butyl phthalate	ND	5.9	10	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Di-n-octyl phthalate	ND	2.1	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Dibenz(a,h)anthracene	ND	2.2	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Dibenzofuran	ND	2.0	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
1,2-Dichlorobenzene	ND	1.6	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
1,3-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
1,4-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
3,3´-Dichlorobenzidine	ND	2.5	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Diethyl phthalate	ND	18	30	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Dimethyl phthalate	ND	2.3	4.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
2,4-Dichlorophenol	ND	2.1	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
2,4-Dimethylphenol	ND	1.6	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
4,6-Dinitro-2-methylphenol	ND	2.2	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
2,4-Dinitrophenol	ND	2.3	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
2,4-Dinitrotoluene	ND	2.0	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
2,6-Dinitrotoluene	ND	2.2	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Fluoranthene	ND	2.1	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Fluorene	ND	1.9	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Hexachlorobenzene	ND	1.7	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Hexachlorobutadiene	ND	1.5	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-02(19.7-20.7)
Project: AOC 26 27
Collection Date: 8/16/2023 8:10:00 AM
Lab ID: 2308A58-016
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.91	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Hexachloroethane	ND	2.0	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Indeno(1,2,3-cd)pyrene	ND	2.2	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Isophorone	ND	1.7	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
1-Methylnaphthalene	1.9	1.6	2.5	JD	mg/Kg	10	9/9/2023 7:02:41 AM	77079
2-Methylnaphthalene	2.8	1.7	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
2-Methylphenol	ND	1.5	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
3+4-Methylphenol	ND	1.7	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
N-Nitrosodi-n-propylamine	ND	1.9	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
N-Nitrosodimethylamine	ND	1.5	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
N-Nitrosodiphenylamine	ND	2.2	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Naphthalene	ND	1.5	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
2-Nitroaniline	ND	1.9	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
3-Nitroaniline	ND	1.4	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
4-Nitroaniline	ND	1.2	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Nitrobenzene	ND	1.6	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
2-Nitrophenol	ND	1.6	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
4-Nitrophenol	ND	1.9	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Pentachlorophenol	ND	2.4	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Phenanthrene	ND	2.1	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Phenol	ND	2.4	3.0	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Pyrene	ND	2.1	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Pyridine	ND	1.9	10	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
1,2,4-Trichlorobenzene	ND	1.4	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
2,4,5-Trichlorophenol	ND	2.1	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
2,4,6-Trichlorophenol	ND	1.8	2.5	D	mg/Kg	10	9/9/2023 7:02:41 AM	77079
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/9/2023 7:02:41 AM	77079
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/9/2023 7:02:41 AM	77079
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/9/2023 7:02:41 AM	77079
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/9/2023 7:02:41 AM	77079
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/9/2023 7:02:41 AM	77079
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/9/2023 7:02:41 AM	77079
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.13	0.072	0.22	JD	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Toluene	ND	0.081	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Ethylbenzene	1.8	0.053	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Methyl tert-butyl ether (MTBE)	ND	0.25	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1,2,4-Trimethylbenzene	4.1	0.063	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1,3,5-Trimethylbenzene	1.7	0.10	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-02(19.7-20.7)
Project: AOC 26 27
Collection Date: 8/16/2023 8:10:00 AM
Lab ID: 2308A58-016
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloroethane (EDC)	ND	0.10	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1,2-Dibromoethane (EDB)	0.090	0.072	0.45	JD	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Naphthalene	1.5	0.17	0.89	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1-Methylnaphthalene	3.4	0.13	1.8	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
2-Methylnaphthalene	5.8	0.46	1.8	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Acetone	ND	6.7	6.7	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Bromobenzene	ND	0.095	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Bromodichloromethane	ND	0.095	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Bromoform	ND	0.11	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Bromomethane	ND	1.5	1.8	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
2-Butanone	ND	2.5	4.5	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Carbon disulfide	ND	0.11	4.5	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Carbon tetrachloride	ND	0.13	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Chlorobenzene	0.26	0.044	0.89	JD	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Chloroethane	ND	0.062	0.89	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Chloroform	ND	0.062	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Chloromethane	ND	0.44	1.3	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
2-Chlorotoluene	ND	0.12	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
4-Chlorotoluene	ND	0.094	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
cis-1,2-DCE	ND	0.22	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
cis-1,3-Dichloropropene	ND	0.059	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1,2-Dibromo-3-chloropropane	ND	0.19	0.89	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Dibromochloromethane	ND	0.059	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Dibromomethane	ND	0.068	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1,2-Dichlorobenzene	ND	0.093	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1,3-Dichlorobenzene	ND	0.084	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1,4-Dichlorobenzene	ND	0.12	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Dichlorodifluoromethane	ND	0.18	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1,1-Dichloroethane	ND	0.036	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1,1-Dichloroethene	ND	0.25	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1,2-Dichloropropane	ND	0.077	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1,3-Dichloropropane	ND	0.048	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
2,2-Dichloropropane	ND	0.052	0.89	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1,1-Dichloropropene	ND	0.047	0.89	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Hexachlorobutadiene	ND	0.89	0.89	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
2-Hexanone	ND	0.20	4.5	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Isopropylbenzene	0.66	0.083	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
4-Isopropyltoluene	0.41	0.045	0.45	JD	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
4-Methyl-2-pentanone	ND	0.52	4.5	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-02(19.7-20.7)
Project: AOC 26 27
Collection Date: 8/16/2023 8:10:00 AM
Lab ID: 2308A58-016
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Methylene chloride	ND	1.0	1.3	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
n-Butylbenzene	1.8	0.12	1.3	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
n-Propylbenzene	1.9	0.072	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
sec-Butylbenzene	1.0	0.12	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Styrene	ND	0.056	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
tert-Butylbenzene	ND	0.15	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1,1,1,2-Tetrachloroethane	ND	0.066	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1,1,2,2-Tetrachloroethane	ND	0.15	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Tetrachloroethene (PCE)	ND	0.12	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
trans-1,2-DCE	ND	0.16	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
trans-1,3-Dichloropropene	ND	0.091	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1,2,3-Trichlorobenzene	ND	0.069	0.89	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1,2,4-Trichlorobenzene	ND	0.16	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1,1,1-Trichloroethane	ND	0.15	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1,1,2-Trichloroethane	ND	0.11	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Trichloroethene (TCE)	ND	0.15	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Trichlorofluoromethane	ND	0.10	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1,2,3-Trichloropropane	ND	0.085	0.89	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Vinyl chloride	ND	0.24	0.45	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Xylenes, Total	1.3	0.15	0.89	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
1,4-Dioxane	ND	2.3	4.5	D	mg/Kg	5	8/29/2023 2:40:49 AM	R99297
Surr: Dibromofluoromethane	87.3	0	73-145	D	%Rec	5	8/29/2023 2:40:49 AM	R99297
Surr: 1,2-Dichloroethane-d4	94.6	0	64.8-147	D	%Rec	5	8/29/2023 2:40:49 AM	R99297
Surr: Toluene-d8	104	0	70-130	D	%Rec	5	8/29/2023 2:40:49 AM	R99297
Surr: 4-Bromofluorobenzene	149	0	62.1-144	SD	%Rec	5	8/29/2023 2:40:49 AM	R99297

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-02(33.5-34.5)
Project: AOC 26 27
Collection Date: 8/16/2023 8:25:00 AM
Lab ID: 2308A58-017
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.058	0.093		µg/Kg	1	8/24/2023 2:08:09 AM	76925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	ND	8.4	9.9		mg/Kg	1	8/25/2023 2:37:38 PM	77049
Motor Oil Range Organics (MRO)	ND	27	49		mg/Kg	1	8/25/2023 2:37:38 PM	77049
Surr: DNOP	95.1	0	69-147		%Rec	1	8/25/2023 2:37:38 PM	77049
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	8.2	1.7	6.9		mg/Kg	1	8/25/2023 6:03:02 AM	GS992(
Surr: BFB	105	0	15-244		%Rec	1	8/25/2023 6:03:02 AM	GS992(
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 4:22:22 PM	76974
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.25	0.50		mg/Kg	5	9/6/2023 3:55:57 PM	76998
Arsenic	0.43	0.25	0.50	J	mg/Kg	5	9/6/2023 3:55:57 PM	76998
Lead	5.1	0.25	0.50		mg/Kg	5	9/6/2023 3:55:57 PM	76998
Nickel	13	0.35	0.50		mg/Kg	5	9/6/2023 3:55:57 PM	76998
Selenium	2.0	0.50	0.50		mg/Kg	5	9/6/2023 3:55:57 PM	76998
Silver	ND	0.25	0.50		mg/Kg	5	9/6/2023 3:55:57 PM	76998
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.072	0.072		mg/Kg	1	8/24/2023 2:45:40 PM	77022
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	100	0.20	0.20		mg/Kg	2	8/28/2023 12:36:21 PM	76998
Beryllium	1.1	0.096	0.30		mg/Kg	2	8/28/2023 12:36:21 PM	76998
Cadmium	ND	0.42	0.50		mg/Kg	2	8/28/2023 12:36:21 PM	76998
Chromium	11	0.59	0.59		mg/Kg	2	8/28/2023 12:36:21 PM	76998
Cobalt	3.9	0.30	0.59		mg/Kg	2	8/28/2023 12:36:21 PM	76998
Iron	8800	500	500		mg/Kg	50	8/28/2023 3:46:49 PM	76998
Manganese	210	0.40	0.50		mg/Kg	2	8/28/2023 12:36:21 PM	76998
Vanadium	16	0.30	5.0		mg/Kg	2	8/28/2023 12:36:21 PM	76998
Zinc	12	5.0	5.0		mg/Kg	2	8/28/2023 12:36:21 PM	76998
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.17	0.19		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Acenaphthylene	ND	0.17	0.19		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Aniline	ND	0.11	0.19		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Anthracene	ND	0.18	0.19		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Azobenzene	ND	0.20	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Benz(a)anthracene	ND	0.20	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-02(33.5-34.5)
Project: AOC 26 27
Collection Date: 8/16/2023 8:25:00 AM
Lab ID: 2308A58-017
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.20	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Benzo(g,h,i)perylene	ND	0.21	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Benzo(k)fluoranthene	ND	0.19	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Benzoic acid	ND	0.18	0.47		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Benzyl alcohol	ND	0.17	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Bis(2-chloroethoxy)methane	ND	0.16	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Bis(2-chloroethyl)ether	ND	0.22	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Bis(2-chloroisopropyl)ether	ND	0.15	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Bis(2-ethylhexyl)phthalate	ND	0.29	0.47		mg/Kg	1	9/7/2023 9:59:49 PM	77104
4-Bromophenyl phenyl ether	ND	0.19	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Butyl benzyl phthalate	ND	0.20	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Carbazole	ND	0.21	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
4-Chloro-3-methylphenol	ND	0.18	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
4-Chloroaniline	ND	0.13	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
2-Chloronaphthalene	ND	0.17	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
2-Chlorophenol	ND	0.13	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
4-Chlorophenyl phenyl ether	ND	0.18	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Chrysene	ND	0.21	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Di-n-butyl phthalate	ND	0.56	0.93		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Di-n-octyl phthalate	ND	0.20	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Dibenz(a,h)anthracene	ND	0.21	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Dibenzofuran	ND	0.18	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
1,2-Dichlorobenzene	ND	0.15	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
1,3-Dichlorobenzene	ND	0.17	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
1,4-Dichlorobenzene	ND	0.17	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
3,3´-Dichlorobenzidine	ND	0.23	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Diethyl phthalate	ND	1.7	2.8		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Dimethyl phthalate	ND	0.21	0.37		mg/Kg	1	9/7/2023 9:59:49 PM	77104
2,4-Dichlorophenol	ND	0.19	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
2,4-Dimethylphenol	ND	0.15	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
4,6-Dinitro-2-methylphenol	ND	0.21	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
2,4-Dinitrophenol	ND	0.21	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
2,4-Dinitrotoluene	ND	0.18	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
2,6-Dinitrotoluene	ND	0.21	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Fluoranthene	ND	0.19	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Fluorene	ND	0.18	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Hexachlorobenzene	ND	0.16	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Hexachlorobutadiene	ND	0.14	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-02(33.5-34.5)
Project: AOC 26 27
Collection Date: 8/16/2023 8:25:00 AM
Lab ID: 2308A58-017
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.085	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Hexachloroethane	ND	0.19	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Indeno(1,2,3-cd)pyrene	ND	0.20	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Isophorone	ND	0.16	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
1-Methylnaphthalene	ND	0.15	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
2-Methylnaphthalene	ND	0.16	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
2-Methylphenol	ND	0.14	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
3+4-Methylphenol	ND	0.16	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
N-Nitrosodi-n-propylamine	ND	0.18	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
N-Nitrosodimethylamine	ND	0.14	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
N-Nitrosodiphenylamine	ND	0.20	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Naphthalene	ND	0.14	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
2-Nitroaniline	ND	0.18	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
3-Nitroaniline	ND	0.13	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
4-Nitroaniline	ND	0.12	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Nitrobenzene	ND	0.15	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
2-Nitrophenol	ND	0.15	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
4-Nitrophenol	ND	0.18	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Pentachlorophenol	ND	0.23	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Phenanthrene	ND	0.20	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Phenol	ND	0.22	0.28		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Pyrene	ND	0.20	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Pyridine	ND	0.17	0.93		mg/Kg	1	9/7/2023 9:59:49 PM	77104
1,2,4-Trichlorobenzene	ND	0.13	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
2,4,5-Trichlorophenol	ND	0.20	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
2,4,6-Trichlorophenol	ND	0.17	0.23		mg/Kg	1	9/7/2023 9:59:49 PM	77104
Surr: 2-Fluorophenol	45.2		15-123		%Rec	1	9/7/2023 9:59:49 PM	77104
Surr: Phenol-d5	52.7		15-141		%Rec	1	9/7/2023 9:59:49 PM	77104
Surr: 2,4,6-Tribromophenol	62.0		23-118		%Rec	1	9/7/2023 9:59:49 PM	77104
Surr: Nitrobenzene-d5	41.4		15-125		%Rec	1	9/7/2023 9:59:49 PM	77104
Surr: 2-Fluorobiphenyl	42.1		15-129		%Rec	1	9/7/2023 9:59:49 PM	77104
Surr: 4-Terphenyl-d14	66.0		31.1-134		%Rec	1	9/7/2023 9:59:49 PM	77104
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.011	0.034		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Toluene	ND	0.012	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Ethylbenzene	ND	0.0082	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Methyl tert-butyl ether (MTBE)	ND	0.039	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1,2,4-Trimethylbenzene	0.014	0.0097	0.069	J	mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1,3,5-Trimethylbenzene	ND	0.016	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-02(33.5-34.5)
Project: AOC 26 27
Collection Date: 8/16/2023 8:25:00 AM
Lab ID: 2308A58-017
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloroethane (EDC)	ND	0.016	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1,2-Dibromoethane (EDB)	ND	0.011	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Naphthalene	0.070	0.026	0.14	J	mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1-Methylnaphthalene	0.20	0.020	0.28	J	mg/Kg	1	8/29/2023 3:07:52 AM	R99297
2-Methylnaphthalene	0.20	0.071	0.28	J	mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Acetone	ND	1.0	1.0		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Bromobenzene	ND	0.015	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Bromodichloromethane	0.023	0.015	0.069	J	mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Bromoform	ND	0.017	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Bromomethane	ND	0.22	0.28		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
2-Butanone	ND	0.38	0.69		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Carbon disulfide	ND	0.017	0.69		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Carbon tetrachloride	ND	0.019	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Chlorobenzene	ND	0.0068	0.14		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Chloroethane	ND	0.0095	0.14		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Chloroform	0.031	0.0095	0.069	J	mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Chloromethane	ND	0.068	0.21		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
2-Chlorotoluene	ND	0.018	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
4-Chlorotoluene	ND	0.014	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
cis-1,2-DCE	ND	0.034	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
cis-1,3-Dichloropropene	ND	0.0091	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1,2-Dibromo-3-chloropropane	ND	0.030	0.14		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Dibromochloromethane	ND	0.0090	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Dibromomethane	ND	0.010	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1,2-Dichlorobenzene	ND	0.014	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1,3-Dichlorobenzene	ND	0.013	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1,4-Dichlorobenzene	ND	0.018	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Dichlorodifluoromethane	ND	0.027	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1,1-Dichloroethane	ND	0.0056	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1,1-Dichloroethene	ND	0.039	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1,2-Dichloropropane	ND	0.012	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1,3-Dichloropropane	ND	0.0073	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
2,2-Dichloropropane	ND	0.0081	0.14		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1,1-Dichloropropene	ND	0.0073	0.14		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Hexachlorobutadiene	ND	0.14	0.14		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
2-Hexanone	0.12	0.030	0.69	J	mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Isopropylbenzene	0.019	0.013	0.069	J	mg/Kg	1	8/29/2023 3:07:52 AM	R99297
4-Isopropyltoluene	ND	0.0069	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
4-Methyl-2-pentanone	ND	0.080	0.69		mg/Kg	1	8/29/2023 3:07:52 AM	R99297

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-02(33.5-34.5)
Project: AOC 26 27
Collection Date: 8/16/2023 8:25:00 AM
Lab ID: 2308A58-017
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Methylene chloride	ND	0.16	0.21		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
n-Butylbenzene	0.033	0.018	0.21	J	mg/Kg	1	8/29/2023 3:07:52 AM	R99297
n-Propylbenzene	0.047	0.011	0.069	J	mg/Kg	1	8/29/2023 3:07:52 AM	R99297
sec-Butylbenzene	ND	0.018	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Styrene	ND	0.0086	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
tert-Butylbenzene	ND	0.023	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1,1,1,2-Tetrachloroethane	ND	0.010	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1,1,2,2-Tetrachloroethane	ND	0.023	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Tetrachloroethene (PCE)	ND	0.019	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
trans-1,2-DCE	ND	0.025	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
trans-1,3-Dichloropropene	ND	0.014	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1,2,3-Trichlorobenzene	ND	0.011	0.14		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1,2,4-Trichlorobenzene	ND	0.024	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1,1,1-Trichloroethane	ND	0.023	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1,1,2-Trichloroethane	0.030	0.017	0.069	J	mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Trichloroethene (TCE)	ND	0.023	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Trichlorofluoromethane	ND	0.016	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1,2,3-Trichloropropane	ND	0.013	0.14		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Vinyl chloride	ND	0.038	0.069		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Xylenes, Total	0.024	0.023	0.14	J	mg/Kg	1	8/29/2023 3:07:52 AM	R99297
1,4-Dioxane	ND	0.35	0.69		mg/Kg	1	8/29/2023 3:07:52 AM	R99297
Surr: Dibromofluoromethane	93.6	0	73-145		%Rec	1	8/29/2023 3:07:52 AM	R99297
Surr: 1,2-Dichloroethane-d4	94.9	0	64.8-147		%Rec	1	8/29/2023 3:07:52 AM	R99297
Surr: Toluene-d8	117	0	70-130		%Rec	1	8/29/2023 3:07:52 AM	R99297
Surr: 4-Bromofluorobenzene	109	0	62.1-144		%Rec	1	8/29/2023 3:07:52 AM	R99297

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-03(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/16/2023 8:35:00 AM
Lab ID: 2308A58-018 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.057	0.093		µg/Kg	1	8/24/2023 2:23:02 AM	76925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	ND	7.9	9.3		mg/Kg	1	8/25/2023 2:48:16 PM	77049
Motor Oil Range Organics (MRO)	ND	26	46		mg/Kg	1	8/25/2023 2:48:16 PM	77049
Surr: DNOP	111	0	69-147		%Rec	1	8/25/2023 2:48:16 PM	77049
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	0.77	3.0		mg/Kg	1	8/25/2023 6:26:32 AM	GS992(
Surr: BFB	95.1	0	15-244		%Rec	1	8/25/2023 6:26:32 AM	GS992(
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 4:34:46 PM	76974
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.51		mg/Kg	5	9/6/2023 4:00:21 PM	76998
Arsenic	1.5	0.26	0.51		mg/Kg	5	9/6/2023 4:00:21 PM	76998
Lead	12	0.26	0.51		mg/Kg	5	9/6/2023 4:00:21 PM	76998
Nickel	11	0.36	0.51		mg/Kg	5	9/7/2023 5:27:15 PM	76998
Selenium	2.0	0.51	0.51		mg/Kg	5	9/6/2023 4:00:21 PM	76998
Silver	ND	0.26	0.51		mg/Kg	5	9/6/2023 4:00:21 PM	76998
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.070	0.070		mg/Kg	1	8/24/2023 2:47:49 PM	77022
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	200	0.21	0.21		mg/Kg	2	8/28/2023 12:40:07 PM	76998
Beryllium	0.77	0.10	0.31		mg/Kg	2	8/28/2023 12:40:07 PM	76998
Cadmium	ND	0.43	0.51		mg/Kg	2	8/28/2023 12:40:07 PM	76998
Chromium	14	0.62	0.62		mg/Kg	2	8/28/2023 12:40:07 PM	76998
Cobalt	6.2	0.31	0.62		mg/Kg	2	8/28/2023 12:40:07 PM	76998
Iron	15000	1000	1000		mg/Kg	100	8/28/2023 3:58:45 PM	76998
Manganese	970	1.0	1.3		mg/Kg	5	8/28/2023 12:46:18 PM	76998
Vanadium	21	0.31	5.1		mg/Kg	2	8/28/2023 12:40:07 PM	76998
Zinc	27	5.1	5.1		mg/Kg	2	8/28/2023 12:40:07 PM	76998
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Aniline	ND	0.12	0.19		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Anthracene	ND	0.19	0.19		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Azobenzene	ND	0.20	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Benz(a)anthracene	ND	0.21	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-03(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 8:35:00 AM
Lab ID: 2308A58-018
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Benzo(g,h,i)perylene	ND	0.22	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Benzoic acid	ND	0.19	0.49		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Benzyl alcohol	ND	0.17	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Bis(2-ethylhexyl)phthalate	ND	0.30	0.49		mg/Kg	1	9/8/2023 12:09:15 AM	77104
4-Bromophenyl phenyl ether	ND	0.20	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Butyl benzyl phthalate	ND	0.21	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Carbazole	ND	0.22	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Chrysene	ND	0.22	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Di-n-butyl phthalate	ND	0.58	0.97		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Dibenz(a,h)anthracene	ND	0.22	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
3,3´-Dichlorobenzidine	ND	0.24	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Dimethyl phthalate	ND	0.22	0.39		mg/Kg	1	9/8/2023 12:09:15 AM	77104
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Fluoranthene	ND	0.20	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Fluorene	ND	0.19	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104

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Qualifiers:

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B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-03(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 8:35:00 AM
Lab ID: 2308A58-018
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.089	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Isophorone	ND	0.17	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
2-Methylnaphthalene	ND	0.17	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
N-Nitrosodimethylamine	ND	0.14	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Naphthalene	ND	0.15	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
4-Nitrophenol	ND	0.18	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Phenanthrene	ND	0.20	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Phenol	ND	0.23	0.29		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Pyridine	ND	0.18	0.97		mg/Kg	1	9/8/2023 12:09:15 AM	77104
1,2,4-Trichlorobenzene	ND	0.14	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
2,4,5-Trichlorophenol	ND	0.21	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	9/8/2023 12:09:15 AM	77104
Surr: 2-Fluorophenol	50.5		15-123		%Rec	1	9/8/2023 12:09:15 AM	77104
Surr: Phenol-d5	59.4		15-141		%Rec	1	9/8/2023 12:09:15 AM	77104
Surr: 2,4,6-Tribromophenol	68.6		23-118		%Rec	1	9/8/2023 12:09:15 AM	77104
Surr: Nitrobenzene-d5	40.5		15-125		%Rec	1	9/8/2023 12:09:15 AM	77104
Surr: 2-Fluorobiphenyl	42.7		15-129		%Rec	1	9/8/2023 12:09:15 AM	77104
Surr: 4-Terphenyl-d14	67.5		31.1-134		%Rec	1	9/8/2023 12:09:15 AM	77104
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.0049	0.015		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Toluene	ND	0.0055	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Ethylbenzene	0.013	0.0036	0.030	J	mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Methyl tert-butyl ether (MTBE)	ND	0.017	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1,2,4-Trimethylbenzene	0.023	0.0043	0.030	J	mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1,3,5-Trimethylbenzene	0.0071	0.0069	0.030	J	mg/Kg	1	8/29/2023 3:34:56 AM	R99297

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
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E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-03(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 8:35:00 AM
Lab ID: 2308A58-018
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloroethane (EDC)	ND	0.0069	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1,2-Dibromoethane (EDB)	ND	0.0049	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Naphthalene	0.021	0.011	0.061	J	mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1-Methylnaphthalene	0.037	0.0090	0.12	J	mg/Kg	1	8/29/2023 3:34:56 AM	R99297
2-Methylnaphthalene	0.049	0.031	0.12	J	mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Acetone	ND	0.45	0.45		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Bromobenzene	ND	0.0064	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Bromodichloromethane	ND	0.0065	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Bromoform	ND	0.0073	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Bromomethane	ND	0.099	0.12		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
2-Butanone	ND	0.17	0.30		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Carbon disulfide	ND	0.0074	0.30		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Carbon tetrachloride	ND	0.0086	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Chlorobenzene	ND	0.0030	0.061		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Chloroethane	ND	0.0042	0.061		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Chloroform	ND	0.0042	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Chloromethane	ND	0.030	0.091		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
2-Chlorotoluene	ND	0.0081	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
4-Chlorotoluene	ND	0.0064	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
cis-1,2-DCE	ND	0.015	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
cis-1,3-Dichloropropene	ND	0.0040	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1,2-Dibromo-3-chloropropane	ND	0.013	0.061		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Dibromochloromethane	ND	0.0040	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Dibromomethane	ND	0.0046	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1,2-Dichlorobenzene	ND	0.0063	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1,3-Dichlorobenzene	ND	0.0057	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1,4-Dichlorobenzene	ND	0.0081	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Dichlorodifluoromethane	ND	0.012	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1,1-Dichloroethane	ND	0.0025	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1,1-Dichloroethene	ND	0.017	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1,2-Dichloropropane	ND	0.0052	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1,3-Dichloropropane	ND	0.0032	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
2,2-Dichloropropane	ND	0.0036	0.061		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1,1-Dichloropropene	ND	0.0032	0.061		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Hexachlorobutadiene	ND	0.061	0.061		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
2-Hexanone	0.027	0.013	0.30	J	mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Isopropylbenzene	ND	0.0056	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
4-Isopropyltoluene	ND	0.0030	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
4-Methyl-2-pentanone	ND	0.035	0.30		mg/Kg	1	8/29/2023 3:34:56 AM	R99297

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-03(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 8:35:00 AM
Lab ID: 2308A58-018
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Methylene chloride	ND	0.070	0.091		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
n-Butylbenzene	ND	0.0081	0.091		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
n-Propylbenzene	ND	0.0049	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
sec-Butylbenzene	ND	0.0078	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Styrene	ND	0.0038	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
tert-Butylbenzene	ND	0.010	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1,1,1,2-Tetrachloroethane	ND	0.0045	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1,1,2,2-Tetrachloroethane	ND	0.010	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Tetrachloroethene (PCE)	ND	0.0083	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
trans-1,2-DCE	ND	0.011	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
trans-1,3-Dichloropropene	ND	0.0061	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1,2,3-Trichlorobenzene	ND	0.0047	0.061		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1,2,4-Trichlorobenzene	ND	0.011	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1,1,1-Trichloroethane	ND	0.010	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1,1,2-Trichloroethane	ND	0.0076	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Trichloroethene (TCE)	ND	0.010	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Trichlorofluoromethane	ND	0.0069	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1,2,3-Trichloropropane	ND	0.0058	0.061		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Vinyl chloride	ND	0.017	0.030		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Xylenes, Total	0.017	0.010	0.061	J	mg/Kg	1	8/29/2023 3:34:56 AM	R99297
1,4-Dioxane	ND	0.15	0.30		mg/Kg	1	8/29/2023 3:34:56 AM	R99297
Surr: Dibromofluoromethane	98.5	0	73-145		%Rec	1	8/29/2023 3:34:56 AM	R99297
Surr: 1,2-Dichloroethane-d4	95.5	0	64.8-147		%Rec	1	8/29/2023 3:34:56 AM	R99297
Surr: Toluene-d8	121	0	70-130		%Rec	1	8/29/2023 3:34:56 AM	R99297
Surr: 4-Bromofluorobenzene	108	0	62.1-144		%Rec	1	8/29/2023 3:34:56 AM	R99297

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-03(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 8:40:00 AM
Lab ID: 2308A58-019
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.062	0.099		µg/Kg	1	8/24/2023 2:37:54 AM	76925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	590	7.9	9.2		mg/Kg	1	8/25/2023 2:58:55 PM	77049
Motor Oil Range Organics (MRO)	ND	25	46		mg/Kg	1	8/25/2023 2:58:55 PM	77049
Surr: DNOP	97.6	0	69-147		%Rec	1	8/25/2023 2:58:55 PM	77049
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	350	7.6	30		mg/Kg	5	8/25/2023 6:50:01 AM	GS992(
Surr: BFB	191	0	15-244		%Rec	5	8/25/2023 6:50:01 AM	GS992(
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 4:47:11 PM	76974
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.49		mg/Kg	5	9/6/2023 4:13:37 PM	76998
Arsenic	0.99	0.24	0.49		mg/Kg	5	9/6/2023 4:13:37 PM	76998
Lead	8.7	0.24	0.49		mg/Kg	5	9/6/2023 4:13:37 PM	76998
Nickel	6.4	0.34	0.49		mg/Kg	5	9/7/2023 5:31:40 PM	76998
Selenium	1.7	0.49	0.49		mg/Kg	5	9/6/2023 4:13:37 PM	76998
Silver	ND	0.24	0.49		mg/Kg	5	9/6/2023 4:13:37 PM	76998
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.068	0.068		mg/Kg	1	8/24/2023 2:54:09 PM	77022
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	350	0.20	0.20		mg/Kg	2	8/28/2023 12:48:21 PM	76998
Beryllium	0.80	0.095	0.29		mg/Kg	2	8/28/2023 12:48:21 PM	76998
Cadmium	ND	0.41	0.49		mg/Kg	2	8/28/2023 12:48:21 PM	76998
Chromium	5.5	0.59	0.59		mg/Kg	2	8/28/2023 12:48:21 PM	76998
Cobalt	3.6	0.29	0.59		mg/Kg	2	8/28/2023 12:48:21 PM	76998
Iron	9900	490	490		mg/Kg	50	8/28/2023 4:00:36 PM	76998
Manganese	410	0.40	0.49		mg/Kg	2	8/28/2023 12:48:21 PM	76998
Vanadium	13	0.29	4.9		mg/Kg	2	8/28/2023 12:48:21 PM	76998
Zinc	12	4.9	4.9		mg/Kg	2	8/28/2023 12:48:21 PM	76998
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.19	0.20		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Acenaphthylene	ND	0.19	0.20		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Aniline	ND	0.12	0.20		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Anthracene	ND	0.20	0.20		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Azobenzene	ND	0.21	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Benz(a)anthracene	ND	0.21	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104

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Qualifiers:

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B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-03(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 8:40:00 AM
Lab ID: 2308A58-019
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Benzo(b)fluoranthene	ND	0.20	0.20		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Benzo(g,h,i)perylene	ND	0.22	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Benzo(k)fluoranthene	ND	0.20	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Benzoic acid	ND	0.20	0.50		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Benzyl alcohol	ND	0.18	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Bis(2-chloroethoxy)methane	ND	0.17	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Bis(2-chloroethyl)ether	ND	0.23	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Bis(2-chloroisopropyl)ether	ND	0.16	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Bis(2-ethylhexyl)phthalate	ND	0.31	0.50		mg/Kg	1	9/11/2023 2:13:50 PM	77104
4-Bromophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Butyl benzyl phthalate	ND	0.21	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Carbazole	ND	0.22	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
4-Chloro-3-methylphenol	ND	0.19	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
4-Chloroaniline	ND	0.14	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
2-Chloronaphthalene	ND	0.18	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
2-Chlorophenol	ND	0.14	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
4-Chlorophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Chrysene	ND	0.22	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Di-n-butyl phthalate	ND	0.59	0.99		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Di-n-octyl phthalate	ND	0.21	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Dibenz(a,h)anthracene	ND	0.22	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Dibenzofuran	ND	0.19	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
1,2-Dichlorobenzene	ND	0.16	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
1,3-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
1,4-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
3,3´-Dichlorobenzidine	ND	0.25	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Diethyl phthalate	ND	1.8	3.0		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Dimethyl phthalate	ND	0.23	0.40		mg/Kg	1	9/11/2023 2:13:50 PM	77104
2,4-Dichlorophenol	ND	0.20	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
2,4-Dimethylphenol	ND	0.16	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
4,6-Dinitro-2-methylphenol	ND	0.22	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
2,4-Dinitrophenol	ND	0.23	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
2,4-Dinitrotoluene	ND	0.20	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
2,6-Dinitrotoluene	ND	0.22	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Fluoranthene	ND	0.21	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Fluorene	0.50	0.19	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Hexachlorobenzene	ND	0.17	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Hexachlorobutadiene	ND	0.15	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-03(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 8:40:00 AM
Lab ID: 2308A58-019
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.091	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Hexachloroethane	ND	0.20	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Indeno(1,2,3-cd)pyrene	ND	0.22	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Isophorone	ND	0.17	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
1-Methylnaphthalene	3.6	0.16	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
2-Methylnaphthalene	6.9	1.7	2.5	D	mg/Kg	10	9/13/2023 5:39:16 AM	77104
2-Methylphenol	ND	0.15	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
3+4-Methylphenol	ND	0.17	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
N-Nitrosodi-n-propylamine	ND	0.19	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
N-Nitrosodimethylamine	ND	0.15	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
N-Nitrosodiphenylamine	ND	0.22	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Naphthalene	2.1	0.15	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
2-Nitroaniline	ND	0.19	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
3-Nitroaniline	ND	0.14	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
4-Nitroaniline	ND	0.12	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Nitrobenzene	ND	0.16	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
2-Nitrophenol	ND	0.16	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
4-Nitrophenol	ND	0.19	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Pentachlorophenol	ND	0.24	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Phenanthrene	1.7	0.21	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Phenol	ND	0.24	0.30		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Pyrene	0.23	0.21	0.25	J	mg/Kg	1	9/11/2023 2:13:50 PM	77104
Pyridine	ND	0.19	0.99		mg/Kg	1	9/11/2023 2:13:50 PM	77104
1,2,4-Trichlorobenzene	ND	0.14	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
2,4,5-Trichlorophenol	ND	0.21	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
2,4,6-Trichlorophenol	ND	0.18	0.25		mg/Kg	1	9/11/2023 2:13:50 PM	77104
Surr: 2-Fluorophenol	55.3		15-123		%Rec	1	9/11/2023 2:13:50 PM	77104
Surr: Phenol-d5	60.5		15-141		%Rec	1	9/11/2023 2:13:50 PM	77104
Surr: 2,4,6-Tribromophenol	65.9		23-118		%Rec	1	9/11/2023 2:13:50 PM	77104
Surr: Nitrobenzene-d5	48.2		15-125		%Rec	1	9/11/2023 2:13:50 PM	77104
Surr: 2-Fluorobiphenyl	45.9		15-129		%Rec	1	9/11/2023 2:13:50 PM	77104
Surr: 4-Terphenyl-d14	69.7		31.1-134		%Rec	1	9/11/2023 2:13:50 PM	77104
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.56	0.097	0.30	D	mg/Kg	10	8/29/2023 3:49:46 PM	R99330
Toluene	0.16	0.11	0.60	JD	mg/Kg	10	8/29/2023 3:49:46 PM	R99330
Ethylbenzene	1.1	0.071	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R99330
Methyl tert-butyl ether (MTBE)	ND	0.34	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R99330
1,2,4-Trimethylbenzene	3.4	0.085	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R99330
1,3,5-Trimethylbenzene	0.98	0.14	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R99330

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-03(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 8:40:00 AM
Lab ID: 2308A58-019
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloroethane (EDC)	ND	0.14	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
1,2-Dibromoethane (EDB)	ND	0.096	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Naphthalene	2.2	0.22	1.2	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
1-Methylnaphthalene	3.9	0.18	2.4	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
2-Methylnaphthalene	7.4	0.62	2.4	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Acetone	ND	9.0	9.0	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Bromobenzene	ND	0.13	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Bromodichloromethane	0.17	0.13	0.60	JD	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Bromoform	ND	0.14	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Bromomethane	ND	2.0	2.4	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
2-Butanone	ND	3.4	6.0	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Carbon disulfide	ND	0.15	6.0	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Carbon tetrachloride	ND	0.17	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Chlorobenzene	ND	0.059	1.2	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Chloroethane	ND	0.083	1.2	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Chloroform	0.16	0.083	0.60	JD	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Chloromethane	ND	0.59	1.8	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
2-Chlorotoluene	ND	0.16	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
4-Chlorotoluene	ND	0.13	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
cis-1,2-DCE	ND	0.30	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
cis-1,3-Dichloropropene	ND	0.079	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
1,2-Dibromo-3-chloropropane	ND	0.26	1.2	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Dibromochloromethane	ND	0.079	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Dibromomethane	ND	0.091	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
1,2-Dichlorobenzene	ND	0.12	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
1,3-Dichlorobenzene	ND	0.11	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
1,4-Dichlorobenzene	ND	0.16	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Dichlorodifluoromethane	ND	0.24	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
1,1-Dichloroethane	ND	0.049	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
1,1-Dichloroethene	ND	0.34	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
1,2-Dichloropropane	ND	0.10	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
1,3-Dichloropropane	ND	0.064	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
2,2-Dichloropropane	ND	0.070	1.2	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
1,1-Dichloropropene	ND	0.063	1.2	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Hexachlorobutadiene	ND	1.2	1.2	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
2-Hexanone	4.0	0.26	6.0	JD	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Isopropylbenzene	0.24	0.11	0.60	JD	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
4-Isopropyltoluene	0.13	0.060	0.60	JD	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
4-Methyl-2-pentanone	5.8	0.70	6.0	JD	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-03(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 8:40:00 AM
Lab ID: 2308A58-019
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Methylene chloride	ND	1.4	1.8	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
n-Butylbenzene	0.46	0.16	1.8	JD	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
n-Propylbenzene	0.66	0.097	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
sec-Butylbenzene	ND	0.16	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Styrene	ND	0.075	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
tert-Butylbenzene	ND	0.20	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
1,1,1,2-Tetrachloroethane	ND	0.088	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
1,1,2,2-Tetrachloroethane	ND	0.20	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Tetrachloroethene (PCE)	ND	0.16	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
trans-1,2-DCE	ND	0.21	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
trans-1,3-Dichloropropene	ND	0.12	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
1,2,3-Trichlorobenzene	ND	0.093	1.2	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
1,2,4-Trichlorobenzene	ND	0.21	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
1,1,1-Trichloroethane	ND	0.20	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
1,1,2-Trichloroethane	ND	0.15	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Trichloroethene (TCE)	ND	0.20	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Trichlorofluoromethane	ND	0.14	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
1,2,3-Trichloropropane	ND	0.11	1.2	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Vinyl chloride	ND	0.33	0.60	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Xylenes, Total	2.1	0.20	1.2	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
1,4-Dioxane	ND	3.0	6.0	D	mg/Kg	10	8/29/2023 3:49:46 PM	R9933C
Surr: Dibromofluoromethane	104	0	73-145	D	%Rec	10	8/29/2023 3:49:46 PM	R9933C
Surr: 1,2-Dichloroethane-d4	116	0	64.8-147	D	%Rec	10	8/29/2023 3:49:46 PM	R9933C
Surr: Toluene-d8	103	0	70-130	D	%Rec	10	8/29/2023 3:49:46 PM	R9933C
Surr: 4-Bromofluorobenzene	105	0	62.1-144	D	%Rec	10	8/29/2023 3:49:46 PM	R9933C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-03(18-19)
Project: AOC 26 27
Collection Date: 8/16/2023 8:45:00 AM
Lab ID: 2308A58-020
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.058	0.094		µg/Kg	1	8/24/2023 2:52:48 AM	76952
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	82	8.5	9.9		mg/Kg	1	8/28/2023 7:07:12 PM	77051
Motor Oil Range Organics (MRO)	ND	27	49		mg/Kg	1	8/28/2023 7:07:12 PM	77051
Surr: DNOP	120	0	69-147		%Rec	1	8/28/2023 7:07:12 PM	77051
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	140	1.4	5.6		mg/Kg	1	8/25/2023 7:13:35 AM	GS992(
Surr: BFB	257	0	15-244	S	%Rec	1	8/25/2023 7:13:35 AM	GS992(
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 4:59:35 PM	76974
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.25	0.49		mg/Kg	5	9/6/2023 4:18:02 PM	76998
Arsenic	1.1	0.25	0.49		mg/Kg	5	9/6/2023 4:18:02 PM	76998
Lead	11	0.25	0.49		mg/Kg	5	9/6/2023 4:18:02 PM	76998
Nickel	8.5	0.34	0.49		mg/Kg	5	9/7/2023 5:36:07 PM	76998
Selenium	1.7	0.49	0.49		mg/Kg	5	9/6/2023 4:18:02 PM	76998
Silver	ND	0.25	0.49		mg/Kg	5	9/6/2023 4:18:02 PM	76998
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.073	0.073		mg/Kg	1	8/24/2023 1:30:52 PM	77022
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	350	0.20	0.20		mg/Kg	2	8/28/2023 12:54:32 PM	76998
Beryllium	1.2	0.095	0.29		mg/Kg	2	8/28/2023 12:54:32 PM	76998
Cadmium	ND	0.41	0.49		mg/Kg	2	8/28/2023 12:54:32 PM	76998
Chromium	8.0	0.59	0.59		mg/Kg	2	8/28/2023 12:54:32 PM	76998
Cobalt	4.4	0.29	0.59		mg/Kg	2	8/28/2023 12:54:32 PM	76998
Iron	12000	490	490		mg/Kg	50	8/28/2023 4:04:18 PM	76998
Manganese	330	0.40	0.49		mg/Kg	2	8/28/2023 12:54:32 PM	76998
Vanadium	14	0.29	4.9		mg/Kg	2	8/28/2023 12:54:32 PM	76998
Zinc	14	4.9	4.9		mg/Kg	2	8/28/2023 12:54:32 PM	76998
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.20		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Aniline	ND	0.12	0.20		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Anthracene	ND	0.19	0.20		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Azobenzene	ND	0.21	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Benz(a)anthracene	ND	0.21	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-03(18-19)
Project: AOC 26 27
Collection Date: 8/16/2023 8:45:00 AM
Lab ID: 2308A58-020
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Benzo(b)fluoranthene	ND	0.20	0.20		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Benzo(g,h,i)perylene	ND	0.22	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Benzo(k)fluoranthene	ND	0.20	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Benzoic acid	ND	0.20	0.49		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Benzyl alcohol	ND	0.18	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Bis(2-chloroethoxy)methane	ND	0.17	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Bis(2-chloroethyl)ether	ND	0.23	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Bis(2-chloroisopropyl)ether	ND	0.16	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Bis(2-ethylhexyl)phthalate	ND	0.31	0.49		mg/Kg	1	9/8/2023 12:52:28 AM	77104
4-Bromophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Butyl benzyl phthalate	ND	0.21	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Carbazole	ND	0.22	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
4-Chloro-3-methylphenol	ND	0.19	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
4-Chloroaniline	ND	0.14	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
2-Chloronaphthalene	ND	0.17	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
2-Chlorophenol	ND	0.14	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
4-Chlorophenyl phenyl ether	ND	0.19	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Chrysene	ND	0.22	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Di-n-butyl phthalate	ND	0.59	0.99		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Di-n-octyl phthalate	ND	0.21	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Dibenz(a,h)anthracene	ND	0.22	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Dibenzofuran	ND	0.19	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
1,2-Dichlorobenzene	ND	0.16	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
1,3-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
1,4-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
3,3´-Dichlorobenzidine	ND	0.25	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Diethyl phthalate	ND	1.8	3.0		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Dimethyl phthalate	ND	0.23	0.39		mg/Kg	1	9/8/2023 12:52:28 AM	77104
2,4-Dichlorophenol	ND	0.20	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
2,4-Dimethylphenol	ND	0.16	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
4,6-Dinitro-2-methylphenol	ND	0.22	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
2,4-Dinitrophenol	ND	0.23	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
2,4-Dinitrotoluene	ND	0.20	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
2,6-Dinitrotoluene	ND	0.22	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Fluoranthene	ND	0.21	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Fluorene	ND	0.19	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Hexachlorobenzene	ND	0.17	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Hexachlorobutadiene	ND	0.15	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-03(18-19)
Project: AOC 26 27
Collection Date: 8/16/2023 8:45:00 AM
Lab ID: 2308A58-020
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.090	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Hexachloroethane	ND	0.20	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Indeno(1,2,3-cd)pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Isophorone	ND	0.17	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
1-Methylnaphthalene	0.28	0.16	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
2-Methylnaphthalene	0.50	0.17	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
2-Methylphenol	ND	0.15	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
3+4-Methylphenol	ND	0.16	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
N-Nitrosodi-n-propylamine	ND	0.19	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
N-Nitrosodimethylamine	ND	0.15	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
N-Nitrosodiphenylamine	ND	0.22	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Naphthalene	ND	0.15	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
2-Nitroaniline	ND	0.19	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
3-Nitroaniline	ND	0.14	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
4-Nitroaniline	ND	0.12	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Nitrobenzene	ND	0.15	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
2-Nitrophenol	ND	0.16	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
4-Nitrophenol	ND	0.19	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Pentachlorophenol	ND	0.24	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Phenanthrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Phenol	ND	0.24	0.30		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Pyridine	ND	0.19	0.99		mg/Kg	1	9/8/2023 12:52:28 AM	77104
1,2,4-Trichlorobenzene	ND	0.14	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
2,4,5-Trichlorophenol	ND	0.21	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
2,4,6-Trichlorophenol	ND	0.18	0.25		mg/Kg	1	9/8/2023 12:52:28 AM	77104
Surr: 2-Fluorophenol	44.9		15-123		%Rec	1	9/8/2023 12:52:28 AM	77104
Surr: Phenol-d5	48.9		15-141		%Rec	1	9/8/2023 12:52:28 AM	77104
Surr: 2,4,6-Tribromophenol	59.6		23-118		%Rec	1	9/8/2023 12:52:28 AM	77104
Surr: Nitrobenzene-d5	32.7		15-125		%Rec	1	9/8/2023 12:52:28 AM	77104
Surr: 2-Fluorobiphenyl	38.7		15-129		%Rec	1	9/8/2023 12:52:28 AM	77104
Surr: 4-Terphenyl-d14	62.4		31.1-134		%Rec	1	9/8/2023 12:52:28 AM	77104
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.63	0.045	0.14	D	mg/Kg	5	8/29/2023 4:17:13 PM	R99330
Toluene	0.071	0.051	0.28	JD	mg/Kg	5	8/29/2023 4:17:13 PM	R99330
Ethylbenzene	0.49	0.034	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R99330
Methyl tert-butyl ether (MTBE)	ND	0.16	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R99330
1,2,4-Trimethylbenzene	0.58	0.040	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R99330
1,3,5-Trimethylbenzene	0.12	0.064	0.28	JD	mg/Kg	5	8/29/2023 4:17:13 PM	R99330

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-03(18-19)
Project: AOC 26 27
Collection Date: 8/16/2023 8:45:00 AM
Lab ID: 2308A58-020
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloroethane (EDC)	ND	0.064	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
1,2-Dibromoethane (EDB)	ND	0.045	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Naphthalene	0.56	0.10	0.56	JD	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
1-Methylnaphthalene	0.99	0.083	1.1	JD	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
2-Methylnaphthalene	1.8	0.29	1.1	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Acetone	ND	4.2	4.2	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Bromobenzene	ND	0.060	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Bromodichloromethane	0.069	0.060	0.28	JD	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Bromoform	ND	0.068	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Bromomethane	ND	0.92	1.1	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
2-Butanone	ND	1.6	2.8	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Carbon disulfide	ND	0.069	2.8	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Carbon tetrachloride	ND	0.080	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Chlorobenzene	ND	0.028	0.56	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Chloroethane	ND	0.039	0.56	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Chloroform	0.089	0.039	0.28	JD	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Chloromethane	ND	0.28	0.85	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
2-Chlorotoluene	ND	0.075	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
4-Chlorotoluene	ND	0.059	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
cis-1,2-DCE	ND	0.14	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
cis-1,3-Dichloropropene	ND	0.037	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
1,2-Dibromo-3-chloropropane	ND	0.12	0.56	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Dibromochloromethane	ND	0.037	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Dibromomethane	ND	0.043	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
1,2-Dichlorobenzene	ND	0.059	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
1,3-Dichlorobenzene	ND	0.053	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
1,4-Dichlorobenzene	ND	0.075	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Dichlorodifluoromethane	ND	0.11	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
1,1-Dichloroethane	ND	0.023	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
1,1-Dichloroethene	ND	0.16	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
1,2-Dichloropropane	ND	0.048	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
1,3-Dichloropropane	ND	0.030	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
2,2-Dichloropropane	ND	0.033	0.56	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
1,1-Dichloropropene	ND	0.030	0.56	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Hexachlorobutadiene	ND	0.56	0.56	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
2-Hexanone	0.45	0.12	2.8	JD	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Isopropylbenzene	0.084	0.052	0.28	JD	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
4-Isopropyltoluene	0.035	0.028	0.28	JD	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
4-Methyl-2-pentanone	1.4	0.33	2.8	JD	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-03(18-19)
Project: AOC 26 27
Collection Date: 8/16/2023 8:45:00 AM
Lab ID: 2308A58-020
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Methylene chloride	ND	0.66	0.85	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
n-Butylbenzene	0.12	0.075	0.85	JD	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
n-Propylbenzene	0.21	0.046	0.28	JD	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
sec-Butylbenzene	ND	0.073	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Styrene	ND	0.035	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
tert-Butylbenzene	ND	0.095	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
1,1,1,2-Tetrachloroethane	ND	0.041	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
1,1,2,2-Tetrachloroethane	ND	0.094	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Tetrachloroethene (PCE)	ND	0.077	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
trans-1,2-DCE	ND	0.10	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
trans-1,3-Dichloropropene	ND	0.057	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
1,2,3-Trichlorobenzene	ND	0.044	0.56	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
1,2,4-Trichlorobenzene	ND	0.098	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
1,1,1-Trichloroethane	ND	0.094	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
1,1,2-Trichloroethane	ND	0.071	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Trichloroethene (TCE)	ND	0.096	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Trichlorofluoromethane	ND	0.064	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
1,2,3-Trichloropropane	ND	0.054	0.56	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Vinyl chloride	ND	0.15	0.28	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Xylenes, Total	0.44	0.095	0.56	JD	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
1,4-Dioxane	ND	1.4	2.8	D	mg/Kg	5	8/29/2023 4:17:13 PM	R9933C
Surr: Dibromofluoromethane	103	0	73-145	D	%Rec	5	8/29/2023 4:17:13 PM	R9933C
Surr: 1,2-Dichloroethane-d4	111	0	64.8-147	D	%Rec	5	8/29/2023 4:17:13 PM	R9933C
Surr: Toluene-d8	98.9	0	70-130	D	%Rec	5	8/29/2023 4:17:13 PM	R9933C
Surr: 4-Bromofluorobenzene	106	0	62.1-144	D	%Rec	5	8/29/2023 4:17:13 PM	R9933C

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-03(29-30)
Project: AOC 26 27
Collection Date: 8/16/2023 8:50:00 AM
Lab ID: 2308A58-021
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.056	0.090		µg/Kg	1	8/24/2023 3:52:30 AM	76952
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	500	8.0	9.4		mg/Kg	1	8/28/2023 7:18:16 PM	77051
Motor Oil Range Organics (MRO)	29	26	47	J	mg/Kg	1	8/28/2023 7:18:16 PM	77051
Surr: DNOP	118	0	69-147		%Rec	1	8/28/2023 7:18:16 PM	77051
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	1600	30	120		mg/Kg	20	8/28/2023 9:32:32 PM	GS992
Surr: BFB	188	0	15-244		%Rec	20	8/28/2023 9:32:32 PM	GS992
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 5:36:49 PM	76980
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.48		mg/Kg	5	9/6/2023 4:22:26 PM	76999
Arsenic	1.3	0.24	0.48		mg/Kg	5	9/6/2023 4:22:26 PM	76999
Lead	8.6	0.24	0.48		mg/Kg	5	9/7/2023 5:40:33 PM	76999
Nickel	7.7	0.33	0.48		mg/Kg	5	9/7/2023 5:40:33 PM	76999
Selenium	1.8	0.48	0.48		mg/Kg	5	9/6/2023 4:22:26 PM	76999
Silver	ND	0.24	0.48		mg/Kg	5	9/6/2023 4:22:26 PM	76999
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.069	0.069		mg/Kg	1	8/24/2023 2:56:18 PM	77023
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	340	0.19	0.19		mg/Kg	2	8/24/2023 3:31:48 PM	76999
Beryllium	0.92	0.093	0.29		mg/Kg	2	8/24/2023 3:31:48 PM	76999
Cadmium	ND	0.40	0.48		mg/Kg	2	8/24/2023 3:31:48 PM	76999
Chromium	6.9	0.57	0.57		mg/Kg	2	8/24/2023 3:31:48 PM	76999
Cobalt	4.1	0.28	0.57		mg/Kg	2	8/24/2023 3:31:48 PM	76999
Iron	11000	960	960		mg/Kg	100	8/28/2023 10:13:38 AM	76999
Manganese	620	0.97	1.2		mg/Kg	5	8/28/2023 10:01:51 AM	76999
Vanadium	15	0.28	4.8		mg/Kg	2	8/24/2023 3:31:48 PM	76999
Zinc	14	4.8	4.8		mg/Kg	2	8/24/2023 3:31:48 PM	76999
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.20		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Aniline	ND	0.12	0.20		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Anthracene	ND	0.19	0.20		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Azobenzene	ND	0.21	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Benz(a)anthracene	ND	0.21	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-03(29-30)
Project: AOC 26 27
Collection Date: 8/16/2023 8:50:00 AM
Lab ID: 2308A58-021
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Benzo(b)fluoranthene	ND	0.19	0.20		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Benzo(g,h,i)perylene	ND	0.22	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Benzo(k)fluoranthene	ND	0.20	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Benzoic acid	ND	0.19	0.49		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Benzyl alcohol	ND	0.18	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Bis(2-chloroethoxy)methane	ND	0.17	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Bis(2-ethylhexyl)phthalate	ND	0.31	0.49		mg/Kg	1	9/11/2023 11:27:15 AM	77104
4-Bromophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Butyl benzyl phthalate	ND	0.21	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Carbazole	ND	0.22	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
2-Chloronaphthalene	ND	0.17	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
2-Chlorophenol	ND	0.13	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
4-Chlorophenyl phenyl ether	ND	0.19	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Chrysene	ND	0.22	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Di-n-butyl phthalate	ND	0.58	0.98		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Di-n-octyl phthalate	ND	0.21	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Dibenz(a,h)anthracene	ND	0.22	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Dibenzofuran	ND	0.19	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
1,2-Dichlorobenzene	ND	0.16	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
1,3-Dichlorobenzene	ND	0.17	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
1,4-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
3,3´-Dichlorobenzidine	ND	0.25	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Diethyl phthalate	ND	1.8	2.9		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Dimethyl phthalate	ND	0.23	0.39		mg/Kg	1	9/11/2023 11:27:15 AM	77104
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
2,4-Dinitrophenol	ND	0.23	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Fluoranthene	ND	0.20	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Fluorene	0.21	0.19	0.25	J	mg/Kg	1	9/11/2023 11:27:15 AM	77104
Hexachlorobenzene	ND	0.17	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Hexachlorobutadiene	ND	0.15	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-03(29-30)
Project: AOC 26 27 **Collection Date:** 8/16/2023 8:50:00 AM
Lab ID: 2308A58-021 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.090	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Hexachloroethane	ND	0.20	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Indeno(1,2,3-cd)pyrene	ND	0.21	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Isophorone	ND	0.17	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
1-Methylnaphthalene	1.1	0.16	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
2-Methylnaphthalene	1.9	0.17	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
N-Nitrosodimethylamine	ND	0.15	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
N-Nitrosodiphenylamine	ND	0.22	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Naphthalene	0.51	0.15	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
4-Nitrophenol	ND	0.19	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Phenanthrene	0.70	0.21	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Phenol	ND	0.23	0.29		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Pyrene	ND	0.21	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Pyridine	ND	0.18	0.98		mg/Kg	1	9/11/2023 11:27:15 AM	77104
1,2,4-Trichlorobenzene	ND	0.14	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
2,4,5-Trichlorophenol	ND	0.21	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
2,4,6-Trichlorophenol	ND	0.18	0.25		mg/Kg	1	9/11/2023 11:27:15 AM	77104
Surr: 2-Fluorophenol	40.3		15-123		%Rec	1	9/11/2023 11:27:15 AM	77104
Surr: Phenol-d5	41.7		15-141		%Rec	1	9/11/2023 11:27:15 AM	77104
Surr: 2,4,6-Tribromophenol	52.9		23-118		%Rec	1	9/11/2023 11:27:15 AM	77104
Surr: Nitrobenzene-d5	34.9		15-125		%Rec	1	9/11/2023 11:27:15 AM	77104
Surr: 2-Fluorobiphenyl	36.4		15-129		%Rec	1	9/11/2023 11:27:15 AM	77104
Surr: 4-Terphenyl-d14	60.0		31.1-134		%Rec	1	9/11/2023 11:27:15 AM	77104
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	4.5	0.094	0.29	D	mg/Kg	10	8/29/2023 4:44:36 PM	R99330
Toluene	0.69	0.11	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R99330
Ethylbenzene	7.2	0.070	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R99330
Methyl tert-butyl ether (MTBE)	ND	0.33	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R99330
1,2,4-Trimethylbenzene	20	0.083	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R99330
1,3,5-Trimethylbenzene	5.0	0.13	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R99330

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Qualifiers:

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D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-03(29-30)
Project: AOC 26 27
Collection Date: 8/16/2023 8:50:00 AM
Lab ID: 2308A58-021
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloroethane (EDC)	ND	0.13	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
1,2-Dibromoethane (EDB)	0.12	0.094	0.58	JD	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Naphthalene	11	0.22	1.2	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
1-Methylnaphthalene	14	0.17	2.3	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
2-Methylnaphthalene	28	0.61	2.3	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Acetone	ND	8.8	8.8	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Bromobenzene	ND	0.12	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Bromodichloromethane	ND	0.12	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Bromoform	ND	0.14	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Bromomethane	ND	1.9	2.3	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
2-Butanone	ND	3.3	5.8	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Carbon disulfide	ND	0.14	5.8	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Carbon tetrachloride	ND	0.17	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Chlorobenzene	0.27	0.058	1.2	JD	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Chloroethane	ND	0.081	1.2	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Chloroform	ND	0.081	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Chloromethane	ND	0.58	1.8	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
2-Chlorotoluene	ND	0.16	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
4-Chlorotoluene	ND	0.12	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
cis-1,2-DCE	ND	0.29	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
cis-1,3-Dichloropropene	ND	0.077	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
1,2-Dibromo-3-chloropropane	ND	0.25	1.2	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Dibromochloromethane	ND	0.077	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Dibromomethane	ND	0.089	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
1,2-Dichlorobenzene	ND	0.12	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
1,3-Dichlorobenzene	ND	0.11	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
1,4-Dichlorobenzene	ND	0.16	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Dichlorodifluoromethane	ND	0.23	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
1,1-Dichloroethane	ND	0.048	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
1,1-Dichloroethene	ND	0.33	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
1,2-Dichloropropane	ND	0.10	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
1,3-Dichloropropane	ND	0.062	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
2,2-Dichloropropane	ND	0.068	1.2	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
1,1-Dichloropropene	ND	0.062	1.2	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Hexachlorobutadiene	ND	1.2	1.2	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
2-Hexanone	ND	0.26	5.8	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Isopropylbenzene	1.2	0.11	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
4-Isopropyltoluene	0.58	0.059	0.58	JD	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
4-Methyl-2-pentanone	ND	0.68	5.8	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C

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Qualifiers:

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B	Analyte detected in the associated Method Blank
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H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
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S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-03(29-30)
Project: AOC 26 27
Collection Date: 8/16/2023 8:50:00 AM
Lab ID: 2308A58-021
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Methylene chloride	ND	1.4	1.8	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
n-Butylbenzene	1.9	0.16	1.8	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
n-Propylbenzene	3.4	0.094	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
sec-Butylbenzene	0.85	0.15	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Styrene	ND	0.074	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
tert-Butylbenzene	ND	0.20	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
1,1,1,2-Tetrachloroethane	ND	0.086	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
1,1,2,2-Tetrachloroethane	ND	0.20	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Tetrachloroethene (PCE)	ND	0.16	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
trans-1,2-DCE	ND	0.21	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
trans-1,3-Dichloropropene	ND	0.12	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
1,2,3-Trichlorobenzene	ND	0.090	1.2	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
1,2,4-Trichlorobenzene	ND	0.20	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
1,1,1-Trichloroethane	ND	0.20	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
1,1,2-Trichloroethane	ND	0.15	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Trichloroethene (TCE)	ND	0.20	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Trichlorofluoromethane	ND	0.13	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
1,2,3-Trichloropropane	ND	0.11	1.2	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Vinyl chloride	ND	0.32	0.58	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Xylenes, Total	13	0.20	1.2	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
1,4-Dioxane	ND	3.0	5.8	D	mg/Kg	10	8/29/2023 4:44:36 PM	R9933C
Surr: Dibromofluoromethane	82.4	0	73-145	D	%Rec	10	8/29/2023 4:44:36 PM	R9933C
Surr: 1,2-Dichloroethane-d4	87.9	0	64.8-147	D	%Rec	10	8/29/2023 4:44:36 PM	R9933C
Surr: Toluene-d8	107	0	70-130	D	%Rec	10	8/29/2023 4:44:36 PM	R9933C
Surr: 4-Bromofluorobenzene	127	0	62.1-144	D	%Rec	10	8/29/2023 4:44:36 PM	R9933C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-04(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 10:15:00 AM
Lab ID: 2308A58-022
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.060	0.096		µg/Kg	1	8/24/2023 4:07:19 AM	76952
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	16	8.3	9.7		mg/Kg	1	8/28/2023 7:51:19 PM	77051
Motor Oil Range Organics (MRO)	ND	27	48		mg/Kg	1	8/28/2023 7:51:19 PM	77051
Surr: DNOP	117	0	69-147		%Rec	1	8/28/2023 7:51:19 PM	77051
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	57	1.3	5.2		mg/Kg	1	8/28/2023 10:43:01 PM	GS992
Surr: BFB	146	0	15-244		%Rec	1	8/28/2023 10:43:01 PM	GS992
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	61	61		mg/Kg	20	8/22/2023 5:49:14 PM	76980
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.48		mg/Kg	5	9/6/2023 4:26:51 PM	76999
Arsenic	1.1	0.24	0.48		mg/Kg	5	9/6/2023 4:26:51 PM	76999
Lead	10	0.24	0.48		mg/Kg	5	9/6/2023 4:26:51 PM	76999
Nickel	7.6	0.33	0.48		mg/Kg	5	9/7/2023 5:44:59 PM	76999
Selenium	1.9	0.48	0.48		mg/Kg	5	9/6/2023 4:26:51 PM	76999
Silver	ND	0.24	0.48		mg/Kg	5	9/6/2023 4:26:51 PM	76999
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.074	0.074		mg/Kg	1	8/24/2023 3:00:37 PM	77023
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	160	0.19	0.19		mg/Kg	2	8/24/2023 3:40:42 PM	76999
Beryllium	0.91	0.093	0.29		mg/Kg	2	8/24/2023 3:40:42 PM	76999
Cadmium	ND	0.40	0.48		mg/Kg	2	8/24/2023 3:40:42 PM	76999
Chromium	10	0.57	0.57		mg/Kg	2	8/24/2023 3:40:42 PM	76999
Cobalt	4.1	0.29	0.57		mg/Kg	2	8/24/2023 3:40:42 PM	76999
Iron	11000	480	480		mg/Kg	50	8/28/2023 10:17:54 AM	76999
Manganese	360	0.39	0.48		mg/Kg	2	8/24/2023 3:40:42 PM	76999
Vanadium	14	0.28	4.8		mg/Kg	2	8/24/2023 3:40:42 PM	76999
Zinc	11	4.8	4.8		mg/Kg	2	8/24/2023 3:40:42 PM	76999
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.20		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Aniline	ND	0.12	0.20		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Anthracene	ND	0.19	0.20		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Azobenzene	ND	0.21	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Benz(a)anthracene	ND	0.21	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-04(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 10:15:00 AM
Lab ID: 2308A58-022
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Benzo(b)fluoranthene	ND	0.20	0.20		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Benzo(g,h,i)perylene	ND	0.22	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Benzo(k)fluoranthene	ND	0.20	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Benzoic acid	ND	0.20	0.49		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Benzyl alcohol	ND	0.18	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Bis(2-chloroethoxy)methane	ND	0.17	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Bis(2-chloroethyl)ether	ND	0.23	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Bis(2-chloroisopropyl)ether	ND	0.16	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Bis(2-ethylhexyl)phthalate	ND	0.31	0.49		mg/Kg	1	9/8/2023 1:35:22 AM	77104
4-Bromophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Butyl benzyl phthalate	ND	0.21	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Carbazole	ND	0.22	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
4-Chloro-3-methylphenol	ND	0.19	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
4-Chloroaniline	ND	0.14	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
2-Chloronaphthalene	ND	0.17	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
2-Chlorophenol	ND	0.13	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
4-Chlorophenyl phenyl ether	ND	0.19	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Chrysene	ND	0.22	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Di-n-butyl phthalate	ND	0.59	0.99		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Di-n-octyl phthalate	ND	0.21	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Dibenz(a,h)anthracene	ND	0.22	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Dibenzofuran	ND	0.19	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
1,2-Dichlorobenzene	ND	0.16	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
1,3-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
1,4-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
3,3´-Dichlorobenzidine	ND	0.25	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Diethyl phthalate	ND	1.8	3.0		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Dimethyl phthalate	ND	0.23	0.39		mg/Kg	1	9/8/2023 1:35:22 AM	77104
2,4-Dichlorophenol	ND	0.20	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
2,4-Dimethylphenol	ND	0.16	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
4,6-Dinitro-2-methylphenol	ND	0.22	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
2,4-Dinitrophenol	ND	0.23	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
2,4-Dinitrotoluene	ND	0.20	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
2,6-Dinitrotoluene	ND	0.22	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Fluoranthene	ND	0.21	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Fluorene	ND	0.19	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Hexachlorobenzene	ND	0.17	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Hexachlorobutadiene	ND	0.15	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-04(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 10:15:00 AM
Lab ID: 2308A58-022
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.090	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Hexachloroethane	ND	0.20	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Indeno(1,2,3-cd)pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Isophorone	ND	0.17	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
1-Methylnaphthalene	ND	0.16	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
2-Methylnaphthalene	ND	0.17	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
2-Methylphenol	ND	0.15	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
3+4-Methylphenol	ND	0.16	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
N-Nitrosodi-n-propylamine	ND	0.19	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
N-Nitrosodimethylamine	ND	0.15	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
N-Nitrosodiphenylamine	ND	0.22	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Naphthalene	ND	0.15	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
2-Nitroaniline	ND	0.19	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
3-Nitroaniline	ND	0.14	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
4-Nitroaniline	ND	0.12	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Nitrobenzene	ND	0.15	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
2-Nitrophenol	ND	0.16	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
4-Nitrophenol	ND	0.19	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Pentachlorophenol	ND	0.24	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Phenanthrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Phenol	ND	0.24	0.30		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Pyridine	ND	0.19	0.99		mg/Kg	1	9/8/2023 1:35:22 AM	77104
1,2,4-Trichlorobenzene	ND	0.14	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
2,4,5-Trichlorophenol	ND	0.21	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
2,4,6-Trichlorophenol	ND	0.18	0.25		mg/Kg	1	9/8/2023 1:35:22 AM	77104
Surr: 2-Fluorophenol	45.8		15-123		%Rec	1	9/8/2023 1:35:22 AM	77104
Surr: Phenol-d5	51.2		15-141		%Rec	1	9/8/2023 1:35:22 AM	77104
Surr: 2,4,6-Tribromophenol	55.1		23-118		%Rec	1	9/8/2023 1:35:22 AM	77104
Surr: Nitrobenzene-d5	40.7		15-125		%Rec	1	9/8/2023 1:35:22 AM	77104
Surr: 2-Fluorobiphenyl	38.6		15-129		%Rec	1	9/8/2023 1:35:22 AM	77104
Surr: 4-Terphenyl-d14	64.4		31.1-134		%Rec	1	9/8/2023 1:35:22 AM	77104
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.29	0.017	0.052	D	mg/Kg	2	8/29/2023 5:12:01 PM	R99330
Toluene	ND	0.019	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R99330
Ethylbenzene	0.18	0.012	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R99330
Methyl tert-butyl ether (MTBE)	ND	0.059	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R99330
1,2,4-Trimethylbenzene	0.095	0.015	0.10	JD	mg/Kg	2	8/29/2023 5:12:01 PM	R99330
1,3,5-Trimethylbenzene	ND	0.024	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R99330

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Qualifiers:

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-04(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 10:15:00 AM
Lab ID: 2308A58-022
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloroethane (EDC)	ND	0.024	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
1,2-Dibromoethane (EDB)	ND	0.017	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Naphthalene	0.14	0.039	0.21	JD	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
1-Methylnaphthalene	0.31	0.031	0.41	JD	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
2-Methylnaphthalene	0.18	0.11	0.41	JD	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Acetone	ND	1.6	1.6	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Bromobenzene	ND	0.022	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Bromodichloromethane	0.030	0.022	0.10	JD	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Bromoform	ND	0.025	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Bromomethane	ND	0.34	0.41	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
2-Butanone	ND	0.58	1.0	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Carbon disulfide	ND	0.025	1.0	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Carbon tetrachloride	ND	0.029	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Chlorobenzene	ND	0.010	0.21	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Chloroethane	ND	0.014	0.21	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Chloroform	0.029	0.014	0.10	JD	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Chloromethane	ND	0.10	0.31	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
2-Chlorotoluene	ND	0.028	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
4-Chlorotoluene	ND	0.022	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
cis-1,2-DCE	ND	0.051	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
cis-1,3-Dichloropropene	ND	0.014	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
1,2-Dibromo-3-chloropropane	ND	0.045	0.21	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Dibromochloromethane	ND	0.014	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Dibromomethane	ND	0.016	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
1,2-Dichlorobenzene	ND	0.022	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
1,3-Dichlorobenzene	ND	0.020	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
1,4-Dichlorobenzene	ND	0.028	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Dichlorodifluoromethane	ND	0.041	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
1,1-Dichloroethane	ND	0.0084	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
1,1-Dichloroethene	ND	0.059	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
1,2-Dichloropropane	ND	0.018	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
1,3-Dichloropropane	ND	0.011	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
2,2-Dichloropropane	ND	0.012	0.21	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
1,1-Dichloropropene	ND	0.011	0.21	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Hexachlorobutadiene	ND	0.21	0.21	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
2-Hexanone	0.35	0.045	1.0	JD	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Isopropylbenzene	0.032	0.019	0.10	JD	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
4-Isopropyltoluene	ND	0.010	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
4-Methyl-2-pentanone	0.37	0.12	1.0	JD	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C

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Qualifiers:

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B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-04(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 10:15:00 AM
Lab ID: 2308A58-022
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Methylene chloride	ND	0.24	0.31	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
n-Butylbenzene	0.034	0.028	0.31	JD	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
n-Propylbenzene	0.083	0.017	0.10	JD	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
sec-Butylbenzene	ND	0.027	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Styrene	ND	0.013	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
tert-Butylbenzene	ND	0.035	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
1,1,1,2-Tetrachloroethane	ND	0.015	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
1,1,2,2-Tetrachloroethane	0.082	0.035	0.10	JD	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Tetrachloroethene (PCE)	ND	0.028	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
trans-1,2-DCE	ND	0.037	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
trans-1,3-Dichloropropene	ND	0.021	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
1,2,3-Trichlorobenzene	ND	0.016	0.21	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
1,2,4-Trichlorobenzene	ND	0.036	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
1,1,1-Trichloroethane	ND	0.035	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
1,1,2-Trichloroethane	ND	0.026	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Trichloroethene (TCE)	ND	0.035	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Trichlorofluoromethane	ND	0.024	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
1,2,3-Trichloropropane	ND	0.020	0.21	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Vinyl chloride	ND	0.057	0.10	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Xylenes, Total	0.077	0.035	0.21	JD	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
1,4-Dioxane	ND	0.53	1.0	D	mg/Kg	2	8/29/2023 5:12:01 PM	R9933C
Surr: Dibromofluoromethane	95.6	0	73-145	D	%Rec	2	8/29/2023 5:12:01 PM	R9933C
Surr: 1,2-Dichloroethane-d4	101	0	64.8-147	D	%Rec	2	8/29/2023 5:12:01 PM	R9933C
Surr: Toluene-d8	102	0	70-130	D	%Rec	2	8/29/2023 5:12:01 PM	R9933C
Surr: 4-Bromofluorobenzene	98.5	0	62.1-144	D	%Rec	2	8/29/2023 5:12:01 PM	R9933C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-04(19.5-20.5)
Project: AOC 26 27
Collection Date: 8/16/2023 10:20:00 AM
Lab ID: 2308A58-023
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.060	0.097		µg/Kg	1	8/24/2023 4:22:07 AM	76952
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	28	8.2	9.6		mg/Kg	1	8/28/2023 8:02:26 PM	77051
Motor Oil Range Organics (MRO)	ND	27	48		mg/Kg	1	8/28/2023 8:02:26 PM	77051
Surr: DNOP	118	0	69-147		%Rec	1	8/28/2023 8:02:26 PM	77051
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	16	1.4	5.4		mg/Kg	1	8/28/2023 11:06:22 PM	GS992
Surr: BFB	108	0	15-244		%Rec	1	8/28/2023 11:06:22 PM	GS992
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 6:26:28 PM	76980
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.51		mg/Kg	5	9/6/2023 4:31:16 PM	76999
Arsenic	1.1	0.26	0.51		mg/Kg	5	9/6/2023 4:31:16 PM	76999
Lead	12	0.26	0.51		mg/Kg	5	9/6/2023 4:31:16 PM	76999
Nickel	10	0.36	0.51		mg/Kg	5	9/7/2023 5:49:25 PM	76999
Selenium	1.6	0.51	0.51		mg/Kg	5	9/6/2023 4:31:16 PM	76999
Silver	ND	0.26	0.51		mg/Kg	5	9/6/2023 4:31:16 PM	76999
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.073	0.073		mg/Kg	1	8/24/2023 3:02:46 PM	77023
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	250	0.20	0.20		mg/Kg	2	8/24/2023 3:51:45 PM	76999
Beryllium	1.2	0.099	0.31		mg/Kg	2	8/24/2023 3:51:45 PM	76999
Cadmium	ND	0.43	0.51		mg/Kg	2	8/24/2023 3:51:45 PM	76999
Chromium	11	0.61	0.61		mg/Kg	2	8/24/2023 3:51:45 PM	76999
Cobalt	5.3	0.30	0.61		mg/Kg	2	8/24/2023 3:51:45 PM	76999
Iron	14000	1000	1000		mg/Kg	100	8/28/2023 10:23:52 AM	76999
Manganese	250	0.41	0.51		mg/Kg	2	8/24/2023 3:51:45 PM	76999
Vanadium	15	0.30	5.1		mg/Kg	2	8/24/2023 3:51:45 PM	76999
Zinc	14	5.1	5.1		mg/Kg	2	8/24/2023 3:51:45 PM	76999
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Aniline	ND	0.12	0.19		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Anthracene	ND	0.19	0.19		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Azobenzene	ND	0.20	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Benz(a)anthracene	ND	0.21	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-04(19.5-20.5)
Project: AOC 26 27
Collection Date: 8/16/2023 10:20:00 AM
Lab ID: 2308A58-023
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Benzo(g,h,i)perylene	ND	0.22	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Benzoic acid	ND	0.19	0.49		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Benzyl alcohol	ND	0.17	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Bis(2-ethylhexyl)phthalate	ND	0.30	0.49		mg/Kg	1	9/8/2023 2:18:28 AM	77104
4-Bromophenyl phenyl ether	ND	0.20	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Butyl benzyl phthalate	ND	0.21	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Carbazole	ND	0.22	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Chrysene	ND	0.22	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Di-n-butyl phthalate	ND	0.58	0.97		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Dibenz(a,h)anthracene	ND	0.22	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
3,3´-Dichlorobenzidine	ND	0.24	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Dimethyl phthalate	ND	0.22	0.39		mg/Kg	1	9/8/2023 2:18:28 AM	77104
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Fluoranthene	ND	0.20	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Fluorene	ND	0.19	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-04(19.5-20.5)
Project: AOC 26 27
Collection Date: 8/16/2023 10:20:00 AM
Lab ID: 2308A58-023
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.089	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Isophorone	ND	0.17	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
2-Methylnaphthalene	ND	0.17	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
N-Nitrosodimethylamine	ND	0.14	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Naphthalene	ND	0.15	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
4-Nitrophenol	ND	0.18	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Phenanthrene	ND	0.20	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Phenol	ND	0.23	0.29		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Pyridine	ND	0.18	0.97		mg/Kg	1	9/8/2023 2:18:28 AM	77104
1,2,4-Trichlorobenzene	ND	0.14	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
2,4,5-Trichlorophenol	ND	0.21	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	9/8/2023 2:18:28 AM	77104
Surr: 2-Fluorophenol	43.1		15-123		%Rec	1	9/8/2023 2:18:28 AM	77104
Surr: Phenol-d5	46.8		15-141		%Rec	1	9/8/2023 2:18:28 AM	77104
Surr: 2,4,6-Tribromophenol	52.2		23-118		%Rec	1	9/8/2023 2:18:28 AM	77104
Surr: Nitrobenzene-d5	37.4		15-125		%Rec	1	9/8/2023 2:18:28 AM	77104
Surr: 2-Fluorobiphenyl	36.1		15-129		%Rec	1	9/8/2023 2:18:28 AM	77104
Surr: 4-Terphenyl-d14	57.8		31.1-134		%Rec	1	9/8/2023 2:18:28 AM	77104
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.10	0.0087	0.027		mg/Kg	1	8/29/2023 5:39:21 PM	R99330
Toluene	ND	0.0098	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R99330
Ethylbenzene	0.051	0.0064	0.054	J	mg/Kg	1	8/29/2023 5:39:21 PM	R99330
Methyl tert-butyl ether (MTBE)	ND	0.031	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R99330
1,2,4-Trimethylbenzene	0.016	0.0076	0.054	J	mg/Kg	1	8/29/2023 5:39:21 PM	R99330
1,3,5-Trimethylbenzene	ND	0.012	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R99330

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ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-04(19.5-20.5)
Project: AOC 26 27
Collection Date: 8/16/2023 10:20:00 AM
Lab ID: 2308A58-023
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloroethane (EDC)	ND	0.012	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
1,2-Dibromoethane (EDB)	ND	0.0087	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Naphthalene	ND	0.020	0.11		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
1-Methylnaphthalene	0.037	0.016	0.22	J	mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
2-Methylnaphthalene	ND	0.056	0.22		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Acetone	ND	0.81	0.81		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Bromobenzene	ND	0.011	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Bromodichloromethane	0.016	0.012	0.054	J	mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Bromoform	ND	0.013	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Bromomethane	ND	0.18	0.22		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
2-Butanone	ND	0.30	0.54		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Carbon disulfide	ND	0.013	0.54		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Carbon tetrachloride	ND	0.015	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Chlorobenzene	ND	0.0054	0.11		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Chloroethane	ND	0.0075	0.11		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Chloroform	0.019	0.0075	0.054	J	mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Chloromethane	ND	0.053	0.16		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
2-Chlorotoluene	ND	0.014	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
4-Chlorotoluene	ND	0.011	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
cis-1,2-DCE	ND	0.027	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
cis-1,3-Dichloropropene	ND	0.0071	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
1,2-Dibromo-3-chloropropane	ND	0.023	0.11		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Dibromochloromethane	ND	0.0071	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Dibromomethane	ND	0.0082	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
1,2-Dichlorobenzene	ND	0.011	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
1,3-Dichlorobenzene	ND	0.010	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
1,4-Dichlorobenzene	ND	0.014	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Dichlorodifluoromethane	ND	0.022	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
1,1-Dichloroethane	ND	0.0044	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
1,1-Dichloroethene	ND	0.031	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
1,2-Dichloropropane	ND	0.0093	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
1,3-Dichloropropane	ND	0.0058	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
2,2-Dichloropropane	ND	0.0063	0.11		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
1,1-Dichloropropene	ND	0.0057	0.11		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Hexachlorobutadiene	ND	0.11	0.11		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
2-Hexanone	0.11	0.024	0.54	J	mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Isopropylbenzene	0.011	0.010	0.054	J	mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
4-Isopropyltoluene	ND	0.0054	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
4-Methyl-2-pentanone	ND	0.063	0.54		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
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J	Analyte detected below quantitation limits
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Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-04(19.5-20.5)
Project: AOC 26 27
Collection Date: 8/16/2023 10:20:00 AM
Lab ID: 2308A58-023
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Methylene chloride	ND	0.13	0.16		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
n-Butylbenzene	ND	0.014	0.16		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
n-Propylbenzene	0.022	0.0087	0.054	J	mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
sec-Butylbenzene	ND	0.014	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Styrene	ND	0.0068	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
tert-Butylbenzene	ND	0.018	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
1,1,1,2-Tetrachloroethane	ND	0.0079	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
1,1,2,2-Tetrachloroethane	ND	0.018	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Tetrachloroethene (PCE)	ND	0.015	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
trans-1,2-DCE	ND	0.019	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
trans-1,3-Dichloropropene	ND	0.011	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
1,2,3-Trichlorobenzene	ND	0.0084	0.11		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
1,2,4-Trichlorobenzene	ND	0.019	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
1,1,1-Trichloroethane	ND	0.018	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
1,1,2-Trichloroethane	0.022	0.014	0.054	J	mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Trichloroethene (TCE)	ND	0.018	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Trichlorofluoromethane	ND	0.012	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
1,2,3-Trichloropropane	ND	0.010	0.11		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Vinyl chloride	ND	0.030	0.054		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Xylenes, Total	ND	0.018	0.11		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
1,4-Dioxane	ND	0.27	0.54		mg/Kg	1	8/29/2023 5:39:21 PM	R9933C
Surr: Dibromofluoromethane	100	0	73-145		%Rec	1	8/29/2023 5:39:21 PM	R9933C
Surr: 1,2-Dichloroethane-d4	107	0	64.8-147		%Rec	1	8/29/2023 5:39:21 PM	R9933C
Surr: Toluene-d8	105	0	70-130		%Rec	1	8/29/2023 5:39:21 PM	R9933C
Surr: 4-Bromofluorobenzene	93.3	0	62.1-144		%Rec	1	8/29/2023 5:39:21 PM	R9933C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-04(24-25)
Project: AOC 26 27
Collection Date: 8/16/2023 10:30:00 AM
Lab ID: 2308A58-024
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.055	0.089		µg/Kg	1	8/24/2023 4:36:57 AM	76952
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	35	8.0	9.4		mg/Kg	1	8/28/2023 8:13:28 PM	77051
Motor Oil Range Organics (MRO)	ND	26	47		mg/Kg	1	8/28/2023 8:13:28 PM	77051
Surr: DNOP	120	0	69-147		%Rec	1	8/28/2023 8:13:28 PM	77051
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	2.0	1.2	4.6	J	mg/Kg	1	8/28/2023 11:29:44 PM	GS992
Surr: BFB	102	0	15-244		%Rec	1	8/28/2023 11:29:44 PM	GS992
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 7:03:41 PM	76980
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.48		mg/Kg	5	9/6/2023 4:35:40 PM	76999
Arsenic	1.1	0.24	0.48		mg/Kg	5	9/6/2023 4:35:40 PM	76999
Lead	11	0.24	0.48		mg/Kg	5	9/7/2023 5:53:52 PM	76999
Nickel	13	0.34	0.48		mg/Kg	5	9/6/2023 4:35:40 PM	76999
Selenium	2.2	0.48	0.48		mg/Kg	5	9/6/2023 4:35:40 PM	76999
Silver	ND	0.24	0.48		mg/Kg	5	9/6/2023 4:35:40 PM	76999
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.071	0.071		mg/Kg	1	8/24/2023 3:04:54 PM	77023
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	150	0.19	0.19		mg/Kg	2	8/24/2023 3:55:58 PM	76999
Beryllium	1.2	0.094	0.29		mg/Kg	2	8/24/2023 3:55:58 PM	76999
Cadmium	ND	0.41	0.48		mg/Kg	2	8/24/2023 3:55:58 PM	76999
Chromium	14	0.58	0.58		mg/Kg	2	8/24/2023 3:55:58 PM	76999
Cobalt	6.2	0.29	0.58		mg/Kg	2	8/24/2023 3:55:58 PM	76999
Iron	14000	970	970		mg/Kg	100	8/28/2023 10:27:50 AM	76999
Manganese	290	0.39	0.48		mg/Kg	2	8/24/2023 3:55:58 PM	76999
Vanadium	16	0.29	4.8		mg/Kg	2	8/24/2023 3:55:58 PM	76999
Zinc	16	4.8	4.8		mg/Kg	2	8/24/2023 3:55:58 PM	76999
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Aniline	ND	0.12	0.19		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Anthracene	ND	0.19	0.19		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Azobenzene	ND	0.20	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Benz(a)anthracene	ND	0.20	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
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RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-04(24-25)
Project: AOC 26 27
Collection Date: 8/16/2023 10:30:00 AM
Lab ID: 2308A58-024
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.20	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Benzo(g,h,i)perylene	ND	0.21	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Benzo(k)fluoranthene	ND	0.19	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Benzoic acid	ND	0.19	0.47		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Benzyl alcohol	ND	0.17	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Bis(2-chloroethyl)ether	ND	0.22	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Bis(2-chloroisopropyl)ether	ND	0.16	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Bis(2-ethylhexyl)phthalate	ND	0.30	0.47		mg/Kg	1	9/8/2023 3:01:11 AM	77104
4-Bromophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Butyl benzyl phthalate	ND	0.20	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Carbazole	ND	0.21	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
4-Chloro-3-methylphenol	ND	0.19	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
4-Chloroaniline	ND	0.13	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Chrysene	ND	0.21	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Di-n-butyl phthalate	ND	0.57	0.95		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Di-n-octyl phthalate	ND	0.20	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Dibenz(a,h)anthracene	ND	0.21	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
3,3´-Dichlorobenzidine	ND	0.24	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Diethyl phthalate	ND	1.7	2.8		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Dimethyl phthalate	ND	0.22	0.38		mg/Kg	1	9/8/2023 3:01:11 AM	77104
2,4-Dichlorophenol	ND	0.20	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
2,4-Dimethylphenol	ND	0.16	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
4,6-Dinitro-2-methylphenol	ND	0.21	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
2,4-Dinitrophenol	ND	0.22	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
2,4-Dinitrotoluene	ND	0.19	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
2,6-Dinitrotoluene	ND	0.21	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Fluoranthene	ND	0.20	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Fluorene	ND	0.18	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104

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Qualifiers:

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B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-04(24-25)
Project: AOC 26 27
Collection Date: 8/16/2023 10:30:00 AM
Lab ID: 2308A58-024
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.087	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Isophorone	ND	0.16	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
2-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
2-Methylphenol	ND	0.14	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
3+4-Methylphenol	ND	0.16	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
N-Nitrosodi-n-propylamine	ND	0.19	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
N-Nitrosodimethylamine	ND	0.14	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
N-Nitrosodiphenylamine	ND	0.21	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Naphthalene	ND	0.14	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
2-Nitroaniline	ND	0.18	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
3-Nitroaniline	ND	0.14	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
4-Nitroaniline	ND	0.12	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Nitrobenzene	ND	0.15	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
2-Nitrophenol	ND	0.16	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
4-Nitrophenol	ND	0.18	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Pentachlorophenol	ND	0.23	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Phenanthrene	ND	0.20	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Phenol	ND	0.23	0.28		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Pyrene	ND	0.20	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Pyridine	ND	0.18	0.95		mg/Kg	1	9/8/2023 3:01:11 AM	77104
1,2,4-Trichlorobenzene	ND	0.13	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
2,4,5-Trichlorophenol	ND	0.20	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
2,4,6-Trichlorophenol	ND	0.17	0.24		mg/Kg	1	9/8/2023 3:01:11 AM	77104
Surr: 2-Fluorophenol	42.1		15-123		%Rec	1	9/8/2023 3:01:11 AM	77104
Surr: Phenol-d5	50.6		15-141		%Rec	1	9/8/2023 3:01:11 AM	77104
Surr: 2,4,6-Tribromophenol	62.6		23-118		%Rec	1	9/8/2023 3:01:11 AM	77104
Surr: Nitrobenzene-d5	40.1		15-125		%Rec	1	9/8/2023 3:01:11 AM	77104
Surr: 2-Fluorobiphenyl	41.4		15-129		%Rec	1	9/8/2023 3:01:11 AM	77104
Surr: 4-Terphenyl-d14	66.0		31.1-134		%Rec	1	9/8/2023 3:01:11 AM	77104
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0074	0.023		mg/Kg	1	8/29/2023 3:33:23 PM	R99320
Toluene	ND	0.0083	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R99320
Ethylbenzene	ND	0.0055	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R99320
Methyl tert-butyl ether (MTBE)	ND	0.026	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R99320
1,2,4-Trimethylbenzene	ND	0.0065	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R99320
1,3,5-Trimethylbenzene	ND	0.011	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R99320

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J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
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Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-04(24-25)
Project: AOC 26 27
Collection Date: 8/16/2023 10:30:00 AM
Lab ID: 2308A58-024
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.010	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
1,2-Dibromoethane (EDB)	ND	0.0074	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Naphthalene	ND	0.017	0.092		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
1-Methylnaphthalene	ND	0.014	0.18		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
2-Methylnaphthalene	ND	0.048	0.18		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Acetone	ND	0.69	0.69		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Bromobenzene	ND	0.0098	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Bromodichloromethane	ND	0.0098	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Bromoform	ND	0.011	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Bromomethane	ND	0.15	0.18		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
2-Butanone	ND	0.26	0.46		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Carbon disulfide	ND	0.011	0.46		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Carbon tetrachloride	ND	0.013	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Chlorobenzene	ND	0.0046	0.092		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Chloroethane	ND	0.0064	0.092		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Chloroform	ND	0.0063	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Chloromethane	ND	0.045	0.14		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
2-Chlorotoluene	ND	0.012	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
4-Chlorotoluene	ND	0.0096	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
cis-1,2-DCE	ND	0.023	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
cis-1,3-Dichloropropene	ND	0.0061	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
1,2-Dibromo-3-chloropropane	ND	0.020	0.092		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Dibromochloromethane	ND	0.0060	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Dibromomethane	ND	0.0070	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
1,2-Dichlorobenzene	ND	0.0096	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
1,3-Dichlorobenzene	ND	0.0087	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
1,4-Dichlorobenzene	ND	0.012	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Dichlorodifluoromethane	ND	0.018	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
1,1-Dichloroethane	ND	0.0037	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
1,1-Dichloroethene	ND	0.026	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
1,2-Dichloropropane	ND	0.0079	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
1,3-Dichloropropane	ND	0.0049	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
2,2-Dichloropropane	ND	0.0054	0.092		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
1,1-Dichloropropene	ND	0.0049	0.092		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Hexachlorobutadiene	ND	0.092	0.092		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
2-Hexanone	ND	0.020	0.46		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Isopropylbenzene	ND	0.0085	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
4-Isopropyltoluene	ND	0.0046	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
4-Methyl-2-pentanone	ND	0.054	0.46		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-04(24-25)
Project: AOC 26 27
Collection Date: 8/16/2023 10:30:00 AM
Lab ID: 2308A58-024
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.11	0.14		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
n-Butylbenzene	ND	0.012	0.14		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
n-Propylbenzene	ND	0.0074	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
sec-Butylbenzene	ND	0.012	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Styrene	ND	0.0058	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
tert-Butylbenzene	ND	0.016	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
1,1,1,2-Tetrachloroethane	ND	0.0068	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
1,1,2,2-Tetrachloroethane	ND	0.015	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Tetrachloroethene (PCE)	ND	0.013	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
trans-1,2-DCE	ND	0.016	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
trans-1,3-Dichloropropene	ND	0.0093	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
1,2,3-Trichlorobenzene	ND	0.0071	0.092		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
1,2,4-Trichlorobenzene	ND	0.016	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
1,1,1-Trichloroethane	ND	0.015	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
1,1,2-Trichloroethane	ND	0.012	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Trichloroethene (TCE)	ND	0.016	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Trichlorofluoromethane	ND	0.010	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
1,2,3-Trichloropropane	ND	0.0088	0.092		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Vinyl chloride	ND	0.025	0.046		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Xylenes, Total	ND	0.016	0.092		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
1,4-Dioxane	ND	0.23	0.46		mg/Kg	1	8/29/2023 3:33:23 PM	R9932C
Surr: Dibromofluoromethane	102	0	73-145		%Rec	1	8/29/2023 3:33:23 PM	R9932C
Surr: 1,2-Dichloroethane-d4	107	0	64.8-147		%Rec	1	8/29/2023 3:33:23 PM	R9932C
Surr: Toluene-d8	94.8	0	70-130		%Rec	1	8/29/2023 3:33:23 PM	R9932C
Surr: 4-Bromofluorobenzene	100	0	62.1-144		%Rec	1	8/29/2023 3:33:23 PM	R9932C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-09 (0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 8:55:00 AM
Lab ID: 2308A58-025
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.057	0.091		µg/Kg	1	8/24/2023 4:51:40 AM	76952
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	8.2	9.6		mg/Kg	1	8/28/2023 8:24:45 PM	77051
Motor Oil Range Organics (MRO)	ND	27	48		mg/Kg	1	8/28/2023 8:24:45 PM	77051
Surr: DNOP	114	0	69-147		%Rec	1	8/28/2023 8:24:45 PM	77051
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.5	5.9		mg/Kg	1	8/28/2023 11:53:08 PM	GS992
Surr: BFB	90.8	0	15-244		%Rec	1	8/28/2023 11:53:08 PM	GS992
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 7:16:05 PM	76980
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	0.33	0.24	0.48	J	mg/Kg	5	9/6/2023 4:40:05 PM	76999
Arsenic	1.5	0.24	0.48		mg/Kg	5	9/6/2023 4:40:05 PM	76999
Lead	5.3	0.24	0.48		mg/Kg	5	9/7/2023 6:07:09 PM	76999
Nickel	6.0	0.34	0.48		mg/Kg	5	9/7/2023 6:07:09 PM	76999
Selenium	1.0	0.48	0.48		mg/Kg	5	9/6/2023 4:40:05 PM	76999
Silver	ND	0.24	0.48		mg/Kg	5	9/7/2023 6:07:09 PM	76999
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.074	0.074		mg/Kg	1	8/24/2023 3:07:03 PM	77023
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	170	0.19	0.19		mg/Kg	2	8/24/2023 4:00:10 PM	76999
Beryllium	0.50	0.094	0.29		mg/Kg	2	8/24/2023 4:00:10 PM	76999
Cadmium	ND	0.40	0.48		mg/Kg	2	8/24/2023 4:00:10 PM	76999
Chromium	6.4	0.58	0.58		mg/Kg	2	8/24/2023 4:00:10 PM	76999
Cobalt	2.8	0.29	0.58		mg/Kg	2	8/24/2023 4:00:10 PM	76999
Iron	7000	480	480		mg/Kg	50	8/28/2023 10:29:43 AM	76999
Manganese	260	0.39	0.48		mg/Kg	2	8/24/2023 4:00:10 PM	76999
Vanadium	12	0.29	4.8		mg/Kg	2	8/24/2023 4:00:10 PM	76999
Zinc	53	4.8	4.8		mg/Kg	2	8/24/2023 4:00:10 PM	76999
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.17	0.19		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Acenaphthylene	ND	0.17	0.19		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Aniline	ND	0.11	0.19		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Anthracene	ND	0.18	0.19		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Azobenzene	ND	0.20	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Benz(a)anthracene	ND	0.20	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-09 (0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 8:55:00 AM
Lab ID: 2308A58-025
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.20	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Benzo(g,h,i)perylene	ND	0.21	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Benzo(k)fluoranthene	ND	0.19	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Benzoic acid	ND	0.18	0.47		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Benzyl alcohol	ND	0.17	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Bis(2-chloroethoxy)methane	ND	0.16	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Bis(2-chloroethyl)ether	ND	0.22	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Bis(2-chloroisopropyl)ether	ND	0.15	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Bis(2-ethylhexyl)phthalate	ND	0.29	0.47		mg/Kg	1	9/8/2023 3:44:22 AM	77104
4-Bromophenyl phenyl ether	ND	0.19	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Butyl benzyl phthalate	ND	0.20	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Carbazole	ND	0.21	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
4-Chloro-3-methylphenol	ND	0.18	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
4-Chloroaniline	ND	0.13	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
2-Chloronaphthalene	ND	0.17	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
2-Chlorophenol	ND	0.13	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
4-Chlorophenyl phenyl ether	ND	0.18	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Chrysene	ND	0.21	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Di-n-butyl phthalate	ND	0.56	0.93		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Di-n-octyl phthalate	ND	0.20	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Dibenz(a,h)anthracene	ND	0.21	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Dibenzofuran	ND	0.18	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
1,2-Dichlorobenzene	ND	0.15	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
1,3-Dichlorobenzene	ND	0.17	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
1,4-Dichlorobenzene	ND	0.17	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
3,3´-Dichlorobenzidine	ND	0.23	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Diethyl phthalate	ND	1.7	2.8		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Dimethyl phthalate	ND	0.21	0.37		mg/Kg	1	9/8/2023 3:44:22 AM	77104
2,4-Dichlorophenol	ND	0.19	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
2,4-Dimethylphenol	ND	0.15	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
4,6-Dinitro-2-methylphenol	ND	0.21	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
2,4-Dinitrophenol	ND	0.21	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
2,4-Dinitrotoluene	ND	0.18	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
2,6-Dinitrotoluene	ND	0.21	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Fluoranthene	ND	0.19	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Fluorene	ND	0.18	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Hexachlorobenzene	ND	0.16	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Hexachlorobutadiene	ND	0.14	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104

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Qualifiers:

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B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-09 (0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 8:55:00 AM
Lab ID: 2308A58-025
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.085	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Hexachloroethane	ND	0.19	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Indeno(1,2,3-cd)pyrene	ND	0.20	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Isophorone	ND	0.16	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
1-Methylnaphthalene	ND	0.15	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
2-Methylnaphthalene	ND	0.16	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
2-Methylphenol	ND	0.14	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
3+4-Methylphenol	ND	0.16	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
N-Nitrosodi-n-propylamine	ND	0.18	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
N-Nitrosodimethylamine	ND	0.14	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
N-Nitrosodiphenylamine	ND	0.21	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Naphthalene	ND	0.14	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
2-Nitroaniline	ND	0.18	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
3-Nitroaniline	ND	0.13	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
4-Nitroaniline	ND	0.12	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Nitrobenzene	ND	0.15	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
2-Nitrophenol	ND	0.15	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
4-Nitrophenol	ND	0.18	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Pentachlorophenol	ND	0.23	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Phenanthrene	ND	0.20	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Phenol	ND	0.22	0.28		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Pyrene	ND	0.20	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Pyridine	ND	0.18	0.93		mg/Kg	1	9/8/2023 3:44:22 AM	77104
1,2,4-Trichlorobenzene	ND	0.13	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
2,4,5-Trichlorophenol	ND	0.20	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
2,4,6-Trichlorophenol	ND	0.17	0.23		mg/Kg	1	9/8/2023 3:44:22 AM	77104
Surr: 2-Fluorophenol	49.9		15-123		%Rec	1	9/8/2023 3:44:22 AM	77104
Surr: Phenol-d5	60.5		15-141		%Rec	1	9/8/2023 3:44:22 AM	77104
Surr: 2,4,6-Tribromophenol	70.5		23-118		%Rec	1	9/8/2023 3:44:22 AM	77104
Surr: Nitrobenzene-d5	48.7		15-125		%Rec	1	9/8/2023 3:44:22 AM	77104
Surr: 2-Fluorobiphenyl	53.2		15-129		%Rec	1	9/8/2023 3:44:22 AM	77104
Surr: 4-Terphenyl-d14	66.1		31.1-134		%Rec	1	9/8/2023 3:44:22 AM	77104
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0095	0.030		mg/Kg	1	8/29/2023 4:01:54 PM	R99320
Toluene	ND	0.011	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R99320
Ethylbenzene	ND	0.0070	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R99320
Methyl tert-butyl ether (MTBE)	ND	0.033	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R99320
1,2,4-Trimethylbenzene	0.0086	0.0084	0.059	J	mg/Kg	1	8/29/2023 4:01:54 PM	R99320
1,3,5-Trimethylbenzene	ND	0.014	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R99320

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E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-09 (0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 8:55:00 AM
Lab ID: 2308A58-025
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.014	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
1,2-Dibromoethane (EDB)	ND	0.0095	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Naphthalene	ND	0.022	0.12		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
1-Methylnaphthalene	ND	0.018	0.24		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
2-Methylnaphthalene	ND	0.061	0.24		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Acetone	ND	0.89	0.89		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Bromobenzene	ND	0.013	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Bromodichloromethane	ND	0.013	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Bromoform	ND	0.014	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Bromomethane	ND	0.19	0.24		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
2-Butanone	ND	0.33	0.59		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Carbon disulfide	ND	0.014	0.59		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Carbon tetrachloride	ND	0.017	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Chlorobenzene	ND	0.0059	0.12		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Chloroethane	ND	0.0082	0.12		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Chloroform	0.013	0.0082	0.059	J	mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Chloromethane	ND	0.058	0.18		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
2-Chlorotoluene	ND	0.016	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
4-Chlorotoluene	ND	0.012	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
cis-1,2-DCE	ND	0.029	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
cis-1,3-Dichloropropene	ND	0.0078	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
1,2-Dibromo-3-chloropropane	ND	0.026	0.12		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Dibromochloromethane	ND	0.0078	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Dibromomethane	ND	0.0090	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
1,2-Dichlorobenzene	ND	0.012	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
1,3-Dichlorobenzene	ND	0.011	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
1,4-Dichlorobenzene	ND	0.016	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Dichlorodifluoromethane	ND	0.024	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
1,1-Dichloroethane	ND	0.0048	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
1,1-Dichloroethene	ND	0.034	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
1,2-Dichloropropane	ND	0.010	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
1,3-Dichloropropane	ND	0.0063	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
2,2-Dichloropropane	ND	0.0069	0.12		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
1,1-Dichloropropene	ND	0.0063	0.12		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Hexachlorobutadiene	ND	0.12	0.12		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
2-Hexanone	ND	0.026	0.59		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Isopropylbenzene	ND	0.011	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
4-Isopropyltoluene	ND	0.0059	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
4-Methyl-2-pentanone	ND	0.069	0.59		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-09 (0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 8:55:00 AM
Lab ID: 2308A58-025
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.14	0.18		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
n-Butylbenzene	ND	0.016	0.18		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
n-Propylbenzene	ND	0.0096	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
sec-Butylbenzene	ND	0.015	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Styrene	ND	0.0074	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
tert-Butylbenzene	ND	0.020	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
1,1,1,2-Tetrachloroethane	ND	0.0087	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
1,1,2,2-Tetrachloroethane	ND	0.020	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Tetrachloroethene (PCE)	ND	0.016	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
trans-1,2-DCE	ND	0.021	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
trans-1,3-Dichloropropene	ND	0.012	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
1,2,3-Trichlorobenzene	ND	0.0092	0.12		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
1,2,4-Trichlorobenzene	ND	0.021	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
1,1,1-Trichloroethane	ND	0.020	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
1,1,2-Trichloroethane	ND	0.015	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Trichloroethene (TCE)	ND	0.020	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Trichlorofluoromethane	ND	0.013	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
1,2,3-Trichloropropane	ND	0.011	0.12		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Vinyl chloride	ND	0.032	0.059		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Xylenes, Total	ND	0.020	0.12		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
1,4-Dioxane	ND	0.30	0.59		mg/Kg	1	8/29/2023 4:01:54 PM	R9932C
Surr: Dibromofluoromethane	97.3	0	73-145		%Rec	1	8/29/2023 4:01:54 PM	R9932C
Surr: 1,2-Dichloroethane-d4	103	0	64.8-147		%Rec	1	8/29/2023 4:01:54 PM	R9932C
Surr: Toluene-d8	96.8	0	70-130		%Rec	1	8/29/2023 4:01:54 PM	R9932C
Surr: 4-Bromofluorobenzene	95.7	0	62.1-144		%Rec	1	8/29/2023 4:01:54 PM	R9932C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-09(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 9:15:00 AM
Lab ID: 2308A58-026
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.055	0.089		µg/Kg	1	8/24/2023 5:06:21 AM	76952
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	460	8.3	9.7		mg/Kg	1	8/28/2023 8:35:55 PM	77051
Motor Oil Range Organics (MRO)	ND	27	48		mg/Kg	1	8/28/2023 8:35:55 PM	77051
Surr: DNOP	125	0	69-147		%Rec	1	8/28/2023 8:35:55 PM	77051
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	38	1.6	6.4		mg/Kg	1	8/29/2023 12:16:31 AM	GS992
Surr: BFB	165	0	15-244		%Rec	1	8/29/2023 12:16:31 AM	GS992
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 7:28:30 PM	76980
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.52		mg/Kg	5	9/6/2023 4:44:30 PM	76999
Arsenic	1.6	0.52	1.0		mg/Kg	10	9/7/2023 6:11:33 PM	76999
Lead	4.9	0.52	1.0		mg/Kg	10	9/7/2023 6:11:33 PM	76999
Nickel	3.3	0.73	1.0		mg/Kg	10	9/7/2023 6:11:33 PM	76999
Selenium	1.3	1.0	1.0		mg/Kg	10	9/7/2023 6:11:33 PM	76999
Silver	ND	0.52	1.0		mg/Kg	10	9/7/2023 6:11:33 PM	76999
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.070	0.070		mg/Kg	1	8/24/2023 3:09:10 PM	77023
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	460	0.21	0.21		mg/Kg	2	8/24/2023 4:04:26 PM	76999
Beryllium	0.57	0.10	0.31		mg/Kg	2	8/24/2023 4:04:26 PM	76999
Cadmium	ND	0.44	0.52		mg/Kg	2	8/24/2023 4:04:26 PM	76999
Chromium	4.9	0.63	0.63		mg/Kg	2	8/24/2023 4:04:26 PM	76999
Cobalt	2.2	0.31	0.63		mg/Kg	2	8/24/2023 4:04:26 PM	76999
Iron	6600	520	520		mg/Kg	50	9/8/2023 10:53:59 AM	76999
Manganese	1400	2.1	2.6		mg/Kg	10	8/28/2023 10:37:47 AM	76999
Vanadium	12	0.31	5.2		mg/Kg	2	8/24/2023 4:04:26 PM	76999
Zinc	8.6	5.2	5.2		mg/Kg	2	8/24/2023 4:04:26 PM	76999
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.17	0.18		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Acenaphthylene	ND	0.17	0.18		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Aniline	ND	0.11	0.18		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Anthracene	ND	0.18	0.18		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Azobenzene	ND	0.19	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Benz(a)anthracene	ND	0.19	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-09(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 9:15:00 AM
Lab ID: 2308A58-026
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.20	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Benzo(b)fluoranthene	ND	0.18	0.18		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Benzo(g,h,i)perylene	ND	0.20	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Benzo(k)fluoranthene	ND	0.19	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Benzoic acid	ND	0.18	0.46		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Benzyl alcohol	ND	0.16	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Bis(2-chloroethoxy)methane	ND	0.15	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Bis(2-chloroethyl)ether	ND	0.22	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Bis(2-chloroisopropyl)ether	ND	0.15	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Bis(2-ethylhexyl)phthalate	ND	0.29	0.46		mg/Kg	1	9/8/2023 4:25:43 AM	77104
4-Bromophenyl phenyl ether	ND	0.19	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Butyl benzyl phthalate	ND	0.19	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Carbazole	ND	0.21	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
4-Chloro-3-methylphenol	ND	0.18	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
4-Chloroaniline	ND	0.13	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
2-Chloronaphthalene	ND	0.16	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
2-Chlorophenol	ND	0.13	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
4-Chlorophenyl phenyl ether	ND	0.18	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Chrysene	ND	0.21	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Di-n-butyl phthalate	ND	0.55	0.92		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Di-n-octyl phthalate	ND	0.19	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Dibenz(a,h)anthracene	ND	0.20	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Dibenzofuran	ND	0.18	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
1,2-Dichlorobenzene	ND	0.15	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
1,3-Dichlorobenzene	ND	0.16	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
1,4-Dichlorobenzene	ND	0.16	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
3,3´-Dichlorobenzidine	ND	0.23	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Diethyl phthalate	ND	1.6	2.7		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Dimethyl phthalate	ND	0.21	0.37		mg/Kg	1	9/8/2023 4:25:43 AM	77104
2,4-Dichlorophenol	ND	0.19	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
2,4-Dimethylphenol	ND	0.15	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
4,6-Dinitro-2-methylphenol	ND	0.21	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
2,4-Dinitrophenol	ND	0.21	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
2,4-Dinitrotoluene	ND	0.18	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
2,6-Dinitrotoluene	ND	0.21	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Fluoranthene	ND	0.19	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Fluorene	ND	0.18	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Hexachlorobenzene	ND	0.16	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Hexachlorobutadiene	ND	0.14	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-09(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 9:15:00 AM
Lab ID: 2308A58-026
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.084	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Hexachloroethane	ND	0.18	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Indeno(1,2,3-cd)pyrene	ND	0.20	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Isophorone	ND	0.16	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
1-Methylnaphthalene	ND	0.15	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
2-Methylnaphthalene	ND	0.16	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
2-Methylphenol	ND	0.14	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
3+4-Methylphenol	ND	0.15	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
N-Nitrosodi-n-propylamine	ND	0.18	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
N-Nitrosodimethylamine	ND	0.14	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
N-Nitrosodiphenylamine	ND	0.20	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Naphthalene	ND	0.14	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
2-Nitroaniline	ND	0.18	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
3-Nitroaniline	ND	0.13	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
4-Nitroaniline	ND	0.11	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Nitrobenzene	ND	0.14	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
2-Nitrophenol	ND	0.15	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
4-Nitrophenol	ND	0.17	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Pentachlorophenol	ND	0.22	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Phenanthrene	0.32	0.19	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Phenol	ND	0.22	0.27		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Pyrene	ND	0.20	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Pyridine	ND	0.17	0.92		mg/Kg	1	9/8/2023 4:25:43 AM	77104
1,2,4-Trichlorobenzene	ND	0.13	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
2,4,5-Trichlorophenol	ND	0.20	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
2,4,6-Trichlorophenol	ND	0.17	0.23		mg/Kg	1	9/8/2023 4:25:43 AM	77104
Surr: 2-Fluorophenol	45.1		15-123		%Rec	1	9/8/2023 4:25:43 AM	77104
Surr: Phenol-d5	51.1		15-141		%Rec	1	9/8/2023 4:25:43 AM	77104
Surr: 2,4,6-Tribromophenol	65.2		23-118		%Rec	1	9/8/2023 4:25:43 AM	77104
Surr: Nitrobenzene-d5	43.5		15-125		%Rec	1	9/8/2023 4:25:43 AM	77104
Surr: 2-Fluorobiphenyl	42.2		15-129		%Rec	1	9/8/2023 4:25:43 AM	77104
Surr: 4-Terphenyl-d14	70.2		31.1-134		%Rec	1	9/8/2023 4:25:43 AM	77104
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.010	0.032		mg/Kg	1	8/29/2023 4:30:26 PM	R99320
Toluene	0.015	0.012	0.064	J	mg/Kg	1	8/29/2023 4:30:26 PM	R99320
Ethylbenzene	ND	0.0076	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R99320
Methyl tert-butyl ether (MTBE)	ND	0.036	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R99320
1,2,4-Trimethylbenzene	ND	0.0090	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R99320
1,3,5-Trimethylbenzene	ND	0.015	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R99320

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-09(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 9:15:00 AM
Lab ID: 2308A58-026
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.015	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
1,2-Dibromoethane (EDB)	ND	0.010	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Naphthalene	ND	0.024	0.13		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
1-Methylnaphthalene	ND	0.019	0.25		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
2-Methylnaphthalene	ND	0.066	0.25		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Acetone	ND	0.96	0.96		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Bromobenzene	ND	0.014	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Bromodichloromethane	ND	0.014	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Bromoform	ND	0.015	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Bromomethane	ND	0.21	0.25		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
2-Butanone	ND	0.36	0.64		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Carbon disulfide	ND	0.016	0.64		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Carbon tetrachloride	ND	0.018	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Chlorobenzene	ND	0.0063	0.13		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Chloroethane	ND	0.0088	0.13		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Chloroform	ND	0.0088	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Chloromethane	ND	0.063	0.19		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
2-Chlorotoluene	ND	0.017	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
4-Chlorotoluene	ND	0.013	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
cis-1,2-DCE	ND	0.032	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
cis-1,3-Dichloropropene	ND	0.0084	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
1,2-Dibromo-3-chloropropane	ND	0.028	0.13		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Dibromochloromethane	ND	0.0084	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Dibromomethane	ND	0.0097	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
1,2-Dichlorobenzene	ND	0.013	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
1,3-Dichlorobenzene	ND	0.012	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
1,4-Dichlorobenzene	ND	0.017	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Dichlorodifluoromethane	ND	0.025	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
1,1-Dichloroethane	ND	0.0052	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
1,1-Dichloroethene	ND	0.036	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
1,2-Dichloropropane	ND	0.011	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
1,3-Dichloropropane	ND	0.0068	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
2,2-Dichloropropane	ND	0.0075	0.13		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
1,1-Dichloropropene	ND	0.0067	0.13		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Hexachlorobutadiene	ND	0.13	0.13		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
2-Hexanone	ND	0.028	0.64		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Isopropylbenzene	ND	0.012	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
4-Isopropyltoluene	ND	0.0064	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
4-Methyl-2-pentanone	ND	0.074	0.64		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
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Collection Date: 8/16/2023 9:15:00 AM
Lab ID: 2308A58-026
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.15	0.19		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
n-Butylbenzene	ND	0.017	0.19		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
n-Propylbenzene	0.044	0.010	0.064	J	mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
sec-Butylbenzene	0.074	0.016	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Styrene	ND	0.0080	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
tert-Butylbenzene	ND	0.021	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
1,1,1,2-Tetrachloroethane	ND	0.0093	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
1,1,2,2-Tetrachloroethane	ND	0.021	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Tetrachloroethene (PCE)	ND	0.017	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
trans-1,2-DCE	ND	0.023	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
trans-1,3-Dichloropropene	ND	0.013	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
1,2,3-Trichlorobenzene	ND	0.0099	0.13		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
1,2,4-Trichlorobenzene	ND	0.022	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
1,1,1-Trichloroethane	ND	0.021	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
1,1,2-Trichloroethane	ND	0.016	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Trichloroethene (TCE)	ND	0.022	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Trichlorofluoromethane	ND	0.014	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
1,2,3-Trichloropropane	ND	0.012	0.13		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Vinyl chloride	ND	0.035	0.064		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Xylenes, Total	ND	0.022	0.13		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
1,4-Dioxane	ND	0.32	0.64		mg/Kg	1	8/29/2023 4:30:26 PM	R9932C
Surr: Dibromofluoromethane	95.0	0	73-145		%Rec	1	8/29/2023 4:30:26 PM	R9932C
Surr: 1,2-Dichloroethane-d4	115	0	64.8-147		%Rec	1	8/29/2023 4:30:26 PM	R9932C
Surr: Toluene-d8	101	0	70-130		%Rec	1	8/29/2023 4:30:26 PM	R9932C
Surr: 4-Bromofluorobenzene	101	0	62.1-144		%Rec	1	8/29/2023 4:30:26 PM	R9932C

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Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-09(10-15)
Project: AOC 26 27
Collection Date: 8/16/2023 9:05:00 AM
Lab ID: 2308A58-027
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.060	0.097		µg/Kg	1	8/24/2023 5:21:05 AM	76952
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	63	7.3	8.6		mg/Kg	1	8/28/2023 8:47:07 PM	77051
Motor Oil Range Organics (MRO)	ND	24	43		mg/Kg	1	8/28/2023 8:47:07 PM	77051
Surr: DNOP	120	0	69-147		%Rec	1	8/28/2023 8:47:07 PM	77051
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	1.7	1.6	6.4	J	mg/Kg	1	8/29/2023 12:39:59 AM	GS992
Surr: BFB	91.5	0	15-244		%Rec	1	8/29/2023 12:39:59 AM	GS992
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 8:05:43 PM	76980
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.51		mg/Kg	5	9/6/2023 4:48:55 PM	76999
Arsenic	2.8	0.51	1.0		mg/Kg	10	9/7/2023 6:15:57 PM	76999
Lead	6.6	0.51	1.0		mg/Kg	10	9/7/2023 6:15:57 PM	76999
Nickel	5.7	0.72	1.0		mg/Kg	10	9/7/2023 6:15:57 PM	76999
Selenium	1.1	1.0	1.0		mg/Kg	10	9/7/2023 6:15:57 PM	76999
Silver	ND	0.51	1.0		mg/Kg	10	9/7/2023 6:15:57 PM	76999
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.071	0.071		mg/Kg	1	8/24/2023 3:11:18 PM	77023
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	730	0.51	0.51		mg/Kg	5	8/24/2023 4:10:50 PM	76999
Beryllium	0.66	0.10	0.31		mg/Kg	2	8/24/2023 4:08:35 PM	76999
Cadmium	ND	0.43	0.51		mg/Kg	2	8/24/2023 4:08:35 PM	76999
Chromium	5.3	0.62	0.62		mg/Kg	2	8/24/2023 4:08:35 PM	76999
Cobalt	3.1	0.31	0.62		mg/Kg	2	8/24/2023 4:08:35 PM	76999
Iron	8800	510	510		mg/Kg	50	8/28/2023 10:45:47 AM	76999
Manganese	1500	2.1	2.6		mg/Kg	10	8/28/2023 10:43:52 AM	76999
Vanadium	15	0.31	5.1		mg/Kg	2	8/24/2023 4:08:35 PM	76999
Zinc	9.6	5.1	5.1		mg/Kg	2	8/24/2023 4:08:35 PM	76999
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.20		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Aniline	ND	0.12	0.20		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Anthracene	ND	0.19	0.20		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Azobenzene	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Benz(a)anthracene	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104

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EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Benzo(b)fluoranthene	ND	0.19	0.20		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Benzo(g,h,i)perylene	ND	0.22	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Benzoic acid	ND	0.19	0.49		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Benzyl alcohol	ND	0.18	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Bis(2-chloroethoxy)methane	ND	0.17	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Bis(2-ethylhexyl)phthalate	ND	0.31	0.49		mg/Kg	1	9/8/2023 5:07:20 AM	77104
4-Bromophenyl phenyl ether	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Butyl benzyl phthalate	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Carbazole	ND	0.22	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Chrysene	ND	0.22	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Di-n-butyl phthalate	ND	0.58	0.98		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Di-n-octyl phthalate	ND	0.21	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Dibenz(a,h)anthracene	ND	0.22	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
1,4-Dichlorobenzene	ND	0.18	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
3,3´-Dichlorobenzidine	ND	0.25	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Diethyl phthalate	ND	1.8	2.9		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Dimethyl phthalate	ND	0.23	0.39		mg/Kg	1	9/8/2023 5:07:20 AM	77104
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
2,4-Dinitrophenol	ND	0.23	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Fluoranthene	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Fluorene	ND	0.19	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104

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Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.090	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Hexachloroethane	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Isophorone	ND	0.17	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
2-Methylnaphthalene	ND	0.17	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
N-Nitrosodimethylamine	ND	0.15	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
N-Nitrosodiphenylamine	ND	0.22	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Naphthalene	ND	0.15	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
4-Nitrophenol	ND	0.19	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Phenanthrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Phenol	ND	0.23	0.29		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Pyridine	ND	0.18	0.98		mg/Kg	1	9/8/2023 5:07:20 AM	77104
1,2,4-Trichlorobenzene	ND	0.14	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
2,4,5-Trichlorophenol	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	9/8/2023 5:07:20 AM	77104
Surr: 2-Fluorophenol	64.9		15-123		%Rec	1	9/8/2023 5:07:20 AM	77104
Surr: Phenol-d5	75.2		15-141		%Rec	1	9/8/2023 5:07:20 AM	77104
Surr: 2,4,6-Tribromophenol	62.3		23-118		%Rec	1	9/8/2023 5:07:20 AM	77104
Surr: Nitrobenzene-d5	63.1		15-125		%Rec	1	9/8/2023 5:07:20 AM	77104
Surr: 2-Fluorobiphenyl	58.1		15-129		%Rec	1	9/8/2023 5:07:20 AM	77104
Surr: 4-Terphenyl-d14	60.2		31.1-134		%Rec	1	9/8/2023 5:07:20 AM	77104
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.010	0.032		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Toluene	ND	0.012	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Ethylbenzene	ND	0.0076	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Methyl tert-butyl ether (MTBE)	ND	0.036	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1,2,4-Trimethylbenzene	ND	0.0091	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1,3,5-Trimethylbenzene	ND	0.015	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-09(10-15)
Project: AOC 26 27
Collection Date: 8/16/2023 9:05:00 AM
Lab ID: 2308A58-027
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.015	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1,2-Dibromoethane (EDB)	ND	0.010	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Naphthalene	ND	0.024	0.13		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1-Methylnaphthalene	ND	0.019	0.26		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
2-Methylnaphthalene	ND	0.067	0.26		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Acetone	ND	0.96	0.96		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Bromobenzene	ND	0.014	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Bromodichloromethane	ND	0.014	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Bromoform	ND	0.015	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Bromomethane	ND	0.21	0.26		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
2-Butanone	ND	0.36	0.64		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Carbon disulfide	ND	0.016	0.64		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Carbon tetrachloride	ND	0.018	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Chlorobenzene	ND	0.0064	0.13		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Chloroethane	ND	0.0089	0.13		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Chloroform	0.017	0.0088	0.064	J	mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Chloromethane	ND	0.063	0.19		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
2-Chlorotoluene	ND	0.017	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
4-Chlorotoluene	ND	0.013	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
cis-1,2-DCE	ND	0.032	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
cis-1,3-Dichloropropene	ND	0.0084	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1,2-Dibromo-3-chloropropane	ND	0.028	0.13		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Dibromochloromethane	ND	0.0084	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Dibromomethane	ND	0.0098	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1,2-Dichlorobenzene	ND	0.013	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1,3-Dichlorobenzene	ND	0.012	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1,4-Dichlorobenzene	ND	0.017	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Dichlorodifluoromethane	ND	0.026	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1,1-Dichloroethane	ND	0.0052	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1,1-Dichloroethene	ND	0.037	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1,2-Dichloropropane	ND	0.011	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1,3-Dichloropropane	ND	0.0068	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
2,2-Dichloropropane	ND	0.0075	0.13		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1,1-Dichloropropene	ND	0.0068	0.13		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Hexachlorobutadiene	ND	0.13	0.13		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
2-Hexanone	ND	0.028	0.64		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Isopropylbenzene	ND	0.012	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
4-Isopropyltoluene	ND	0.0064	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
4-Methyl-2-pentanone	ND	0.075	0.64		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-09(10-15)
Project: AOC 26 27
Collection Date: 8/16/2023 9:05:00 AM
Lab ID: 2308A58-027
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.15	0.19		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
n-Butylbenzene	ND	0.017	0.19		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
n-Propylbenzene	ND	0.010	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
sec-Butylbenzene	ND	0.017	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Styrene	ND	0.0081	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
tert-Butylbenzene	ND	0.022	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1,1,1,2-Tetrachloroethane	ND	0.0094	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1,1,2,2-Tetrachloroethane	ND	0.021	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Tetrachloroethene (PCE)	ND	0.018	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
trans-1,2-DCE	ND	0.023	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
trans-1,3-Dichloropropene	ND	0.013	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1,2,3-Trichlorobenzene	ND	0.0099	0.13		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1,2,4-Trichlorobenzene	ND	0.022	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1,1,1-Trichloroethane	ND	0.022	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1,1,2-Trichloroethane	ND	0.016	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Trichloroethene (TCE)	ND	0.022	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Trichlorofluoromethane	ND	0.015	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1,2,3-Trichloropropane	ND	0.012	0.13		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Vinyl chloride	ND	0.035	0.064		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Xylenes, Total	ND	0.022	0.13		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
1,4-Dioxane	ND	0.33	0.64		mg/Kg	1	8/29/2023 4:59:05 PM	R9932C
Surr: Dibromofluoromethane	97.4	0	73-145		%Rec	1	8/29/2023 4:59:05 PM	R9932C
Surr: 1,2-Dichloroethane-d4	112	0	64.8-147		%Rec	1	8/29/2023 4:59:05 PM	R9932C
Surr: Toluene-d8	98.0	0	70-130		%Rec	1	8/29/2023 4:59:05 PM	R9932C
Surr: 4-Bromofluorobenzene	102	0	62.1-144		%Rec	1	8/29/2023 4:59:05 PM	R9932C

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-10(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 10:40:00 AM
Lab ID: 2308A58-028
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.054	0.088		µg/Kg	1	8/24/2023 5:35:51 AM	76952
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	32	7.2	8.4		mg/Kg	1	8/28/2023 11:21:28 PM	77051
Motor Oil Range Organics (MRO)	82	23	42		mg/Kg	1	8/28/2023 11:21:28 PM	77051
Surr: DNOP	118	0	69-147		%Rec	1	8/28/2023 11:21:28 PM	77051
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.8	7.1		mg/Kg	1	8/29/2023 1:03:21 AM	GS992
Surr: BFB	91.7	0	15-244		%Rec	1	8/29/2023 1:03:21 AM	GS992
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	110	61	61		mg/Kg	20	8/22/2023 8:18:08 PM	76980
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.48	0.96		mg/Kg	10	9/7/2023 6:20:21 PM	76999
Arsenic	2.4	0.48	0.96		mg/Kg	10	9/7/2023 6:20:21 PM	76999
Lead	11	0.48	0.96		mg/Kg	10	9/7/2023 6:20:21 PM	76999
Nickel	11	0.67	0.96		mg/Kg	10	9/7/2023 6:20:21 PM	76999
Selenium	1.4	0.96	0.96		mg/Kg	10	9/7/2023 6:20:21 PM	76999
Silver	ND	0.48	0.96		mg/Kg	10	9/7/2023 6:20:21 PM	76999
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.075	0.075		mg/Kg	1	8/24/2023 3:13:27 PM	77023
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	380	0.19	0.19		mg/Kg	2	8/24/2023 4:19:42 PM	76999
Beryllium	0.75	0.093	0.29		mg/Kg	2	8/24/2023 4:19:42 PM	76999
Cadmium	ND	0.40	0.48		mg/Kg	2	8/24/2023 4:19:42 PM	76999
Chromium	30	0.57	0.57		mg/Kg	2	8/24/2023 4:19:42 PM	76999
Cobalt	3.6	0.28	0.57		mg/Kg	2	8/24/2023 4:19:42 PM	76999
Iron	12000	960	960		mg/Kg	100	9/14/2023 11:14:03 AM	76999
Manganese	760	0.97	1.2		mg/Kg	5	8/24/2023 4:21:58 PM	76999
Vanadium	16	0.28	4.8		mg/Kg	2	8/24/2023 4:19:42 PM	76999
Zinc	86	4.8	4.8		mg/Kg	2	8/24/2023 4:19:42 PM	76999
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	1.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Acenaphthylene	ND	1.8	1.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Aniline	ND	1.2	1.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Anthracene	ND	1.9	1.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Azobenzene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Benz(a)anthracene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104

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Qualifiers:

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ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-10(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 10:40:00 AM
Lab ID: 2308A58-028
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Benzo(b)fluoranthene	ND	1.9	1.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Benzo(g,h,i)perylene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Benzo(k)fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Benzoic acid	ND	1.9	4.8	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Benzyl alcohol	ND	1.7	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Bis(2-chloroethoxy)methane	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Bis(2-chloroethyl)ether	ND	2.3	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Bis(2-chloroisopropyl)ether	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Bis(2-ethylhexyl)phthalate	ND	3.0	4.8	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
4-Bromophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Butyl benzyl phthalate	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Carbazole	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
4-Chloro-3-methylphenol	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
4-Chloroaniline	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
2-Chloronaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
2-Chlorophenol	ND	1.3	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
4-Chlorophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Chrysene	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Di-n-butyl phthalate	ND	5.7	9.6	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Di-n-octyl phthalate	ND	2.0	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Dibenz(a,h)anthracene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Dibenzofuran	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
1,2-Dichlorobenzene	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
1,3-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
1,4-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
3,3´-Dichlorobenzidine	ND	2.4	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Diethyl phthalate	ND	17	29	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Dimethyl phthalate	ND	2.2	3.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
2,4-Dichlorophenol	ND	2.0	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
2,4-Dimethylphenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
4,6-Dinitro-2-methylphenol	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
2,4-Dinitrophenol	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
2,4-Dinitrotoluene	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
2,6-Dinitrotoluene	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Fluorene	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Hexachlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Hexachlorobutadiene	ND	1.4	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-10(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 10:40:00 AM
Lab ID: 2308A58-028
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.88	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Hexachloroethane	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Indeno(1,2,3-cd)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Isophorone	ND	1.7	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
1-Methylnaphthalene	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
2-Methylnaphthalene	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
2-Methylphenol	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
3+4-Methylphenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
N-Nitrosodi-n-propylamine	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
N-Nitrosodimethylamine	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
N-Nitrosodiphenylamine	ND	2.1	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Naphthalene	ND	1.4	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
2-Nitroaniline	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
3-Nitroaniline	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
4-Nitroaniline	ND	1.2	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Nitrobenzene	ND	1.5	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
2-Nitrophenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
4-Nitrophenol	ND	1.8	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Pentachlorophenol	ND	2.4	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Phenanthrene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Phenol	ND	2.3	2.9	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Pyridine	ND	1.8	9.6	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
1,2,4-Trichlorobenzene	ND	1.3	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
2,4,5-Trichlorophenol	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
2,4,6-Trichlorophenol	ND	1.8	2.4	D	mg/Kg	10	9/11/2023 7:49:10 PM	77104
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/11/2023 7:49:10 PM	77104
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/11/2023 7:49:10 PM	77104
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/11/2023 7:49:10 PM	77104
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/11/2023 7:49:10 PM	77104
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/11/2023 7:49:10 PM	77104
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/11/2023 7:49:10 PM	77104
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.011	0.035		mg/Kg	1	8/29/2023 5:27:41 PM	R99320
Toluene	ND	0.013	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R99320
Ethylbenzene	ND	0.0084	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R99320
Methyl tert-butyl ether (MTBE)	ND	0.040	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R99320
1,2,4-Trimethylbenzene	0.013	0.010	0.071	J	mg/Kg	1	8/29/2023 5:27:41 PM	R99320
1,3,5-Trimethylbenzene	ND	0.016	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R99320

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-10(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 10:40:00 AM
Lab ID: 2308A58-028
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.016	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
1,2-Dibromoethane (EDB)	ND	0.011	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Naphthalene	ND	0.026	0.14		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
1-Methylnaphthalene	ND	0.021	0.28		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
2-Methylnaphthalene	ND	0.073	0.28		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Acetone	ND	1.1	1.1		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Bromobenzene	ND	0.015	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Bromodichloromethane	ND	0.015	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Bromoform	ND	0.017	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Bromomethane	ND	0.23	0.28		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
2-Butanone	ND	0.40	0.71		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Carbon disulfide	ND	0.017	0.71		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Carbon tetrachloride	ND	0.020	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Chlorobenzene	ND	0.0070	0.14		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Chloroethane	ND	0.0098	0.14		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Chloroform	0.020	0.0097	0.071	J	mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Chloromethane	ND	0.070	0.21		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
2-Chlorotoluene	ND	0.019	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
4-Chlorotoluene	ND	0.015	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
cis-1,2-DCE	ND	0.035	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
cis-1,3-Dichloropropene	ND	0.0093	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
1,2-Dibromo-3-chloropropane	ND	0.031	0.14		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Dibromochloromethane	ND	0.0093	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Dibromomethane	ND	0.011	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
1,2-Dichlorobenzene	ND	0.015	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
1,3-Dichlorobenzene	ND	0.013	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
1,4-Dichlorobenzene	ND	0.019	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Dichlorodifluoromethane	ND	0.028	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
1,1-Dichloroethane	ND	0.0058	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
1,1-Dichloroethene	ND	0.040	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
1,2-Dichloropropane	ND	0.012	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
1,3-Dichloropropane	ND	0.0075	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
2,2-Dichloropropane	ND	0.0083	0.14		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
1,1-Dichloropropene	ND	0.0075	0.14		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Hexachlorobutadiene	ND	0.14	0.14		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
2-Hexanone	ND	0.031	0.71		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Isopropylbenzene	ND	0.013	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
4-Isopropyltoluene	ND	0.0071	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
4-Methyl-2-pentanone	ND	0.082	0.71		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-10(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 10:40:00 AM
Lab ID: 2308A58-028
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.16	0.21		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
n-Butylbenzene	ND	0.019	0.21		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
n-Propylbenzene	ND	0.011	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
sec-Butylbenzene	ND	0.018	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Styrene	ND	0.0089	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
tert-Butylbenzene	ND	0.024	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
1,1,1,2-Tetrachloroethane	ND	0.010	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
1,1,2,2-Tetrachloroethane	ND	0.024	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Tetrachloroethene (PCE)	ND	0.019	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
trans-1,2-DCE	ND	0.025	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
trans-1,3-Dichloropropene	ND	0.014	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
1,2,3-Trichlorobenzene	ND	0.011	0.14		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
1,2,4-Trichlorobenzene	ND	0.025	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
1,1,1-Trichloroethane	ND	0.024	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
1,1,2-Trichloroethane	ND	0.018	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Trichloroethene (TCE)	ND	0.024	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Trichlorofluoromethane	ND	0.016	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
1,2,3-Trichloropropane	ND	0.013	0.14		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Vinyl chloride	ND	0.039	0.071		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Xylenes, Total	ND	0.024	0.14		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
1,4-Dioxane	ND	0.36	0.71		mg/Kg	1	8/29/2023 5:27:41 PM	R9932C
Surr: Dibromofluoromethane	101	0	73-145		%Rec	1	8/29/2023 5:27:41 PM	R9932C
Surr: 1,2-Dichloroethane-d4	111	0	64.8-147		%Rec	1	8/29/2023 5:27:41 PM	R9932C
Surr: Toluene-d8	95.2	0	70-130		%Rec	1	8/29/2023 5:27:41 PM	R9932C
Surr: 4-Bromofluorobenzene	96.0	0	62.1-144		%Rec	1	8/29/2023 5:27:41 PM	R9932C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-10(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 10:50:00 AM
Lab ID: 2308A58-029
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.057	0.091		µg/Kg	1	8/24/2023 5:50:35 AM	76952
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	8.5	9.9		mg/Kg	1	8/28/2023 9:09:12 PM	77051
Motor Oil Range Organics (MRO)	ND	27	49		mg/Kg	1	8/28/2023 9:09:12 PM	77051
Surr: DNOP	111	0	69-147		%Rec	1	8/28/2023 9:09:12 PM	77051
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.3	5.0		mg/Kg	1	8/29/2023 1:26:38 AM	GS992
Surr: BFB	90.6	0	15-244		%Rec	1	8/29/2023 1:26:38 AM	GS992
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	160	60	60		mg/Kg	20	8/22/2023 8:30:32 PM	76980
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.25	0.51		mg/Kg	5	9/6/2023 5:11:02 PM	76999
Arsenic	1.2	0.25	0.51		mg/Kg	5	9/6/2023 5:11:02 PM	76999
Lead	10	0.25	0.51		mg/Kg	5	9/7/2023 6:24:46 PM	76999
Nickel	11	0.36	0.51		mg/Kg	5	9/7/2023 6:24:46 PM	76999
Selenium	1.9	0.51	0.51		mg/Kg	5	9/7/2023 6:24:46 PM	76999
Silver	ND	0.25	0.51		mg/Kg	5	9/6/2023 5:11:02 PM	76999
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.070	0.070		mg/Kg	1	8/24/2023 3:19:47 PM	77023
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	220	0.20	0.20		mg/Kg	2	8/24/2023 4:24:02 PM	76999
Beryllium	1.2	0.099	0.30		mg/Kg	2	8/24/2023 4:24:02 PM	76999
Cadmium	ND	0.43	0.51		mg/Kg	2	8/24/2023 4:24:02 PM	76999
Chromium	12	0.61	0.61		mg/Kg	2	8/24/2023 4:24:02 PM	76999
Cobalt	4.9	0.30	0.61		mg/Kg	2	8/24/2023 4:24:02 PM	76999
Iron	16000	1000	1000		mg/Kg	100	9/8/2023 10:58:11 AM	76999
Manganese	320	0.41	0.51		mg/Kg	2	8/24/2023 4:24:02 PM	76999
Vanadium	15	0.30	5.1		mg/Kg	2	8/24/2023 4:24:02 PM	76999
Zinc	16	5.1	5.1		mg/Kg	2	8/24/2023 4:24:02 PM	76999
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Aniline	ND	0.12	0.19		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Anthracene	ND	0.19	0.19		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Azobenzene	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Benz(a)anthracene	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
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S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-10(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 10:50:00 AM
Lab ID: 2308A58-029
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Benzo(g,h,i)perylene	ND	0.22	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Benzoic acid	ND	0.19	0.48		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Benzyl alcohol	ND	0.17	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Bis(2-ethylhexyl)phthalate	ND	0.30	0.48		mg/Kg	1	9/8/2023 5:49:05 AM	77104
4-Bromophenyl phenyl ether	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Butyl benzyl phthalate	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Carbazole	ND	0.22	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Chrysene	ND	0.22	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Di-n-butyl phthalate	ND	0.58	0.97		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Dibenz(a,h)anthracene	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
3,3´-Dichlorobenzidine	ND	0.24	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Dimethyl phthalate	ND	0.22	0.39		mg/Kg	1	9/8/2023 5:49:05 AM	77104
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Fluoranthene	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Fluorene	ND	0.19	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-10(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 10:50:00 AM
Lab ID: 2308A58-029
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.089	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Isophorone	ND	0.17	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
2-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
N-Nitrosodimethylamine	ND	0.14	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Naphthalene	ND	0.15	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
4-Nitrophenol	ND	0.18	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Phenanthrene	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Phenol	ND	0.23	0.29		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Pyridine	ND	0.18	0.97		mg/Kg	1	9/8/2023 5:49:05 AM	77104
1,2,4-Trichlorobenzene	ND	0.13	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
2,4,5-Trichlorophenol	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	9/8/2023 5:49:05 AM	77104
Surr: 2-Fluorophenol	49.0		15-123		%Rec	1	9/8/2023 5:49:05 AM	77104
Surr: Phenol-d5	55.8		15-141		%Rec	1	9/8/2023 5:49:05 AM	77104
Surr: 2,4,6-Tribromophenol	53.4		23-118		%Rec	1	9/8/2023 5:49:05 AM	77104
Surr: Nitrobenzene-d5	40.2		15-125		%Rec	1	9/8/2023 5:49:05 AM	77104
Surr: 2-Fluorobiphenyl	43.8		15-129		%Rec	1	9/8/2023 5:49:05 AM	77104
Surr: 4-Terphenyl-d14	59.1		31.1-134		%Rec	1	9/8/2023 5:49:05 AM	77104
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	0.033	0.0081	0.025		mg/Kg	1	8/29/2023 5:56:15 PM	R99320
Toluene	ND	0.0091	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R99320
Ethylbenzene	0.021	0.0060	0.050	J	mg/Kg	1	8/29/2023 5:56:15 PM	R99320
Methyl tert-butyl ether (MTBE)	ND	0.028	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R99320
1,2,4-Trimethylbenzene	0.0077	0.0071	0.050	J	mg/Kg	1	8/29/2023 5:56:15 PM	R99320
1,3,5-Trimethylbenzene	ND	0.011	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R99320

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-10(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 10:50:00 AM
Lab ID: 2308A58-029
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.011	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
1,2-Dibromoethane (EDB)	ND	0.0081	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Naphthalene	ND	0.019	0.10		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
1-Methylnaphthalene	ND	0.015	0.20		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
2-Methylnaphthalene	ND	0.052	0.20		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Acetone	ND	0.75	0.75		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Bromobenzene	ND	0.011	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Bromodichloromethane	ND	0.011	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Bromoform	ND	0.012	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Bromomethane	ND	0.16	0.20		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
2-Butanone	ND	0.28	0.50		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Carbon disulfide	ND	0.012	0.50		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Carbon tetrachloride	ND	0.014	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Chlorobenzene	ND	0.0050	0.10		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Chloroethane	ND	0.0070	0.10		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Chloroform	0.011	0.0069	0.050	J	mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Chloromethane	ND	0.050	0.15		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
2-Chlorotoluene	ND	0.013	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
4-Chlorotoluene	ND	0.011	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
cis-1,2-DCE	ND	0.025	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
cis-1,3-Dichloropropene	ND	0.0066	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
1,2-Dibromo-3-chloropropane	ND	0.022	0.10		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Dibromochloromethane	ND	0.0066	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Dibromomethane	ND	0.0076	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
1,2-Dichlorobenzene	ND	0.010	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
1,3-Dichlorobenzene	ND	0.0095	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
1,4-Dichlorobenzene	ND	0.013	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Dichlorodifluoromethane	ND	0.020	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
1,1-Dichloroethane	ND	0.0041	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
1,1-Dichloroethene	ND	0.029	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
1,2-Dichloropropane	ND	0.0086	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
1,3-Dichloropropane	ND	0.0054	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
2,2-Dichloropropane	ND	0.0059	0.10		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
1,1-Dichloropropene	ND	0.0053	0.10		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Hexachlorobutadiene	ND	0.10	0.10		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
2-Hexanone	ND	0.022	0.50		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Isopropylbenzene	ND	0.0093	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
4-Isopropyltoluene	ND	0.0050	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
4-Methyl-2-pentanone	ND	0.059	0.50		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-10(15-20)
Project: AOC 26 27
Collection Date: 8/16/2023 10:50:00 AM
Lab ID: 2308A58-029
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.12	0.15		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
n-Butylbenzene	ND	0.013	0.15		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
n-Propylbenzene	0.015	0.0081	0.050	J	mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
sec-Butylbenzene	ND	0.013	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Styrene	ND	0.0063	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
tert-Butylbenzene	ND	0.017	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
1,1,1,2-Tetrachloroethane	ND	0.0074	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
1,1,2,2-Tetrachloroethane	ND	0.017	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Tetrachloroethene (PCE)	ND	0.014	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
trans-1,2-DCE	ND	0.018	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
trans-1,3-Dichloropropene	ND	0.010	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
1,2,3-Trichlorobenzene	ND	0.0078	0.10		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
1,2,4-Trichlorobenzene	ND	0.017	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
1,1,1-Trichloroethane	ND	0.017	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
1,1,2-Trichloroethane	ND	0.013	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Trichloroethene (TCE)	ND	0.017	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Trichlorofluoromethane	ND	0.011	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
1,2,3-Trichloropropane	ND	0.0096	0.10		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Vinyl chloride	ND	0.027	0.050		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Xylenes, Total	0.020	0.017	0.10	J	mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
1,4-Dioxane	ND	0.25	0.50		mg/Kg	1	8/29/2023 5:56:15 PM	R9932C
Surr: Dibromofluoromethane	102	0	73-145		%Rec	1	8/29/2023 5:56:15 PM	R9932C
Surr: 1,2-Dichloroethane-d4	102	0	64.8-147		%Rec	1	8/29/2023 5:56:15 PM	R9932C
Surr: Toluene-d8	98.3	0	70-130		%Rec	1	8/29/2023 5:56:15 PM	R9932C
Surr: 4-Bromofluorobenzene	99.1	0	62.1-144		%Rec	1	8/29/2023 5:56:15 PM	R9932C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-10(23.5-24.5)
Project: AOC 26 27
Collection Date: 8/16/2023 11:00:00 AM
Lab ID: 2308A58-030
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.058	0.094		µg/Kg	1	8/24/2023 6:05:15 AM	76952
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	8.3	9.6		mg/Kg	1	8/28/2023 9:20:22 PM	77051
Motor Oil Range Organics (MRO)	ND	27	48		mg/Kg	1	8/28/2023 9:20:22 PM	77051
Surr: DNOP	108	0	69-147		%Rec	1	8/28/2023 9:20:22 PM	77051
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.6	6.4		mg/Kg	1	8/29/2023 1:50:00 AM	GS992
Surr: BFB	92.2	0	15-244		%Rec	1	8/29/2023 1:50:00 AM	GS992
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	140	60	60		mg/Kg	20	8/22/2023 8:42:57 PM	76980
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.49		mg/Kg	5	9/6/2023 5:15:27 PM	77030
Arsenic	1.2	0.24	0.49		mg/Kg	5	9/6/2023 5:15:27 PM	77030
Lead	11	0.24	0.49		mg/Kg	5	9/7/2023 6:29:10 PM	77030
Nickel	12	0.34	0.49		mg/Kg	5	9/7/2023 6:29:10 PM	77030
Selenium	1.9	0.49	0.49		mg/Kg	5	9/7/2023 6:29:10 PM	77030
Silver	ND	0.24	0.49		mg/Kg	5	9/6/2023 5:15:27 PM	77030
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.069	0.069		mg/Kg	1	8/24/2023 3:21:56 PM	77023
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	160	0.19	0.19		mg/Kg	2	8/28/2023 4:08:00 PM	77030
Beryllium	1.1	0.095	0.29		mg/Kg	2	8/28/2023 4:08:00 PM	77030
Cadmium	ND	0.41	0.49		mg/Kg	2	8/28/2023 4:08:00 PM	77030
Chromium	12	0.58	0.58		mg/Kg	2	8/28/2023 4:08:00 PM	77030
Cobalt	5.5	0.29	0.58		mg/Kg	2	8/28/2023 4:08:00 PM	77030
Iron	13000	970	970		mg/Kg	100	8/28/2023 7:51:47 PM	77030
Manganese	270	0.39	0.49		mg/Kg	2	8/28/2023 4:08:00 PM	77030
Vanadium	13	0.29	4.9		mg/Kg	2	8/28/2023 4:08:00 PM	77030
Zinc	15	4.9	4.9		mg/Kg	2	8/30/2023 4:06:27 PM	77030
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.17	0.19		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Acenaphthylene	ND	0.17	0.19		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Aniline	ND	0.11	0.19		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Anthracene	ND	0.18	0.19		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Azobenzene	ND	0.19	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Benz(a)anthracene	ND	0.20	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-10(23.5-24.5)
Project: AOC 26 27
Collection Date: 8/16/2023 11:00:00 AM
Lab ID: 2308A58-030
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.20	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Benzo(b)fluoranthene	ND	0.18	0.19		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Benzo(g,h,i)perylene	ND	0.21	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Benzo(k)fluoranthene	ND	0.19	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Benzoic acid	ND	0.18	0.46		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Benzyl alcohol	ND	0.17	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Bis(2-chloroethoxy)methane	ND	0.16	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Bis(2-chloroethyl)ether	ND	0.22	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Bis(2-chloroisopropyl)ether	ND	0.15	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Bis(2-ethylhexyl)phthalate	ND	0.29	0.46		mg/Kg	1	9/8/2023 6:30:49 AM	77104
4-Bromophenyl phenyl ether	ND	0.19	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Butyl benzyl phthalate	ND	0.20	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Carbazole	ND	0.21	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
4-Chloro-3-methylphenol	ND	0.18	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
4-Chloroaniline	ND	0.13	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
2-Chloronaphthalene	ND	0.16	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
2-Chlorophenol	ND	0.13	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
4-Chlorophenyl phenyl ether	ND	0.18	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Chrysene	ND	0.21	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Di-n-butyl phthalate	ND	0.55	0.93		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Di-n-octyl phthalate	ND	0.19	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Dibenz(a,h)anthracene	ND	0.21	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Dibenzofuran	ND	0.18	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
1,2-Dichlorobenzene	ND	0.15	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
1,3-Dichlorobenzene	ND	0.17	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
1,4-Dichlorobenzene	ND	0.17	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
3,3´-Dichlorobenzidine	ND	0.23	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Diethyl phthalate	ND	1.7	2.8		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Dimethyl phthalate	ND	0.21	0.37		mg/Kg	1	9/8/2023 6:30:49 AM	77104
2,4-Dichlorophenol	ND	0.19	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
2,4-Dimethylphenol	ND	0.15	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
4,6-Dinitro-2-methylphenol	ND	0.21	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
2,4-Dinitrophenol	ND	0.21	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
2,4-Dinitrotoluene	ND	0.18	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
2,6-Dinitrotoluene	ND	0.21	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Fluoranthene	ND	0.19	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Fluorene	ND	0.18	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Hexachlorobenzene	ND	0.16	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Hexachlorobutadiene	ND	0.14	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104

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Qualifiers:

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B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-10(23.5-24.5)
Project: AOC 26 27
Collection Date: 8/16/2023 11:00:00 AM
Lab ID: 2308A58-030
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.085	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Hexachloroethane	ND	0.18	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Indeno(1,2,3-cd)pyrene	ND	0.20	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Isophorone	ND	0.16	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
1-Methylnaphthalene	ND	0.15	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
2-Methylnaphthalene	ND	0.16	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
2-Methylphenol	ND	0.14	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
3+4-Methylphenol	ND	0.15	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
N-Nitrosodi-n-propylamine	ND	0.18	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
N-Nitrosodimethylamine	ND	0.14	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
N-Nitrosodiphenylamine	ND	0.20	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Naphthalene	ND	0.14	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
2-Nitroaniline	ND	0.18	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
3-Nitroaniline	ND	0.13	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
4-Nitroaniline	ND	0.12	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Nitrobenzene	ND	0.14	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
2-Nitrophenol	ND	0.15	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
4-Nitrophenol	ND	0.18	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Pentachlorophenol	ND	0.23	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Phenanthrene	ND	0.19	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Phenol	ND	0.22	0.28		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Pyrene	ND	0.20	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Pyridine	ND	0.17	0.93		mg/Kg	1	9/8/2023 6:30:49 AM	77104
1,2,4-Trichlorobenzene	ND	0.13	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
2,4,5-Trichlorophenol	ND	0.20	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
2,4,6-Trichlorophenol	ND	0.17	0.23		mg/Kg	1	9/8/2023 6:30:49 AM	77104
Surr: 2-Fluorophenol	48.2		15-123		%Rec	1	9/8/2023 6:30:49 AM	77104
Surr: Phenol-d5	58.2		15-141		%Rec	1	9/8/2023 6:30:49 AM	77104
Surr: 2,4,6-Tribromophenol	57.7		23-118		%Rec	1	9/8/2023 6:30:49 AM	77104
Surr: Nitrobenzene-d5	44.3		15-125		%Rec	1	9/8/2023 6:30:49 AM	77104
Surr: 2-Fluorobiphenyl	47.5		15-129		%Rec	1	9/8/2023 6:30:49 AM	77104
Surr: 4-Terphenyl-d14	61.8		31.1-134		%Rec	1	9/8/2023 6:30:49 AM	77104
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	0.25	0.010	0.032		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Toluene	0.043	0.012	0.064	J	mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Ethylbenzene	0.062	0.0076	0.064	J	mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Methyl tert-butyl ether (MTBE)	ND	0.036	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1,2,4-Trimethylbenzene	0.079	0.0091	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1,3,5-Trimethylbenzene	ND	0.015	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-10(23.5-24.5)
Project: AOC 26 27
Collection Date: 8/16/2023 11:00:00 AM
Lab ID: 2308A58-030
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.015	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1,2-Dibromoethane (EDB)	ND	0.010	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Naphthalene	ND	0.024	0.13		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1-Methylnaphthalene	ND	0.019	0.26		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
2-Methylnaphthalene	ND	0.067	0.26		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Acetone	ND	0.96	0.96		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Bromobenzene	ND	0.014	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Bromodichloromethane	ND	0.014	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Bromoform	ND	0.015	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Bromomethane	ND	0.21	0.26		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
2-Butanone	ND	0.36	0.64		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Carbon disulfide	ND	0.016	0.64		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Carbon tetrachloride	ND	0.018	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Chlorobenzene	ND	0.0064	0.13		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Chloroethane	ND	0.0089	0.13		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Chloroform	0.015	0.0088	0.064	J	mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Chloromethane	ND	0.063	0.19		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
2-Chlorotoluene	ND	0.017	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
4-Chlorotoluene	ND	0.013	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
cis-1,2-DCE	ND	0.032	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
cis-1,3-Dichloropropene	ND	0.0084	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1,2-Dibromo-3-chloropropane	ND	0.028	0.13		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Dibromochloromethane	ND	0.0084	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Dibromomethane	ND	0.0098	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1,2-Dichlorobenzene	ND	0.013	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1,3-Dichlorobenzene	ND	0.012	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1,4-Dichlorobenzene	ND	0.017	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Dichlorodifluoromethane	ND	0.026	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1,1-Dichloroethane	ND	0.0052	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1,1-Dichloroethene	ND	0.036	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1,2-Dichloropropane	ND	0.011	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1,3-Dichloropropane	ND	0.0068	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
2,2-Dichloropropane	ND	0.0075	0.13		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1,1-Dichloropropene	ND	0.0068	0.13		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Hexachlorobutadiene	ND	0.13	0.13		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
2-Hexanone	ND	0.028	0.64		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Isopropylbenzene	ND	0.012	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
4-Isopropyltoluene	ND	0.0064	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
4-Methyl-2-pentanone	ND	0.075	0.64		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
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P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-10(23.5-24.5)
Project: AOC 26 27
Collection Date: 8/16/2023 11:00:00 AM
Lab ID: 2308A58-030 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.15	0.19		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
n-Butylbenzene	ND	0.017	0.19		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
n-Propylbenzene	0.018	0.010	0.064	J	mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
sec-Butylbenzene	ND	0.017	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Styrene	ND	0.0081	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
tert-Butylbenzene	ND	0.022	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1,1,1,2-Tetrachloroethane	ND	0.0094	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1,1,2,2-Tetrachloroethane	ND	0.021	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Tetrachloroethene (PCE)	ND	0.018	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
trans-1,2-DCE	ND	0.023	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
trans-1,3-Dichloropropene	ND	0.013	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1,2,3-Trichlorobenzene	ND	0.0099	0.13		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1,2,4-Trichlorobenzene	ND	0.022	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1,1,1-Trichloroethane	ND	0.021	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1,1,2-Trichloroethane	ND	0.016	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Trichloroethene (TCE)	ND	0.022	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Trichlorofluoromethane	ND	0.015	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1,2,3-Trichloropropane	ND	0.012	0.13		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Vinyl chloride	ND	0.035	0.064		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Xylenes, Total	0.087	0.022	0.13	J	mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
1,4-Dioxane	ND	0.32	0.64		mg/Kg	1	8/29/2023 6:24:50 PM	R9932C
Surr: Dibromofluoromethane	101	0	73-145		%Rec	1	8/29/2023 6:24:50 PM	R9932C
Surr: 1,2-Dichloroethane-d4	104	0	64.8-147		%Rec	1	8/29/2023 6:24:50 PM	R9932C
Surr: Toluene-d8	98.1	0	70-130		%Rec	1	8/29/2023 6:24:50 PM	R9932C
Surr: 4-Bromofluorobenzene	100	0	62.1-144		%Rec	1	8/29/2023 6:24:50 PM	R9932C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-11(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/16/2023 12:00:00 PM
Lab ID: 2308A58-031 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.057	0.093		µg/Kg	1	8/24/2023 6:34:50 AM	76952
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	8.0	9.3		mg/Kg	1	8/28/2023 9:31:29 PM	77051
Motor Oil Range Organics (MRO)	ND	26	47		mg/Kg	1	8/28/2023 9:31:29 PM	77051
Surr: DNOP	98.8	0	69-147		%Rec	1	8/28/2023 9:31:29 PM	77051
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.8	7.1		mg/Kg	1	8/29/2023 2:13:23 AM	GS992
Surr: BFB	92.7	0	15-244		%Rec	1	8/29/2023 2:13:23 AM	GS992
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	220	60	60		mg/Kg	20	8/22/2023 8:55:21 PM	76980
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.48	0.97		mg/Kg	10	9/7/2023 6:46:47 PM	77030
Arsenic	2.1	0.48	0.97		mg/Kg	10	9/7/2023 6:46:47 PM	77030
Lead	8.8	0.48	0.97		mg/Kg	10	9/7/2023 6:46:47 PM	77030
Nickel	6.7	0.68	0.97		mg/Kg	10	9/7/2023 6:46:47 PM	77030
Selenium	2.0	0.97	0.97		mg/Kg	10	9/7/2023 6:46:47 PM	77030
Silver	ND	0.48	0.97		mg/Kg	10	9/7/2023 6:46:47 PM	77030
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.069	0.069		mg/Kg	1	8/24/2023 3:24:04 PM	77023
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	1100	0.48	0.48		mg/Kg	5	8/28/2023 4:25:59 PM	77030
Beryllium	0.68	0.094	0.29		mg/Kg	2	8/28/2023 4:11:42 PM	77030
Cadmium	ND	0.41	0.48		mg/Kg	2	8/28/2023 4:11:42 PM	77030
Chromium	6.5	0.58	0.58		mg/Kg	2	8/28/2023 4:11:42 PM	77030
Cobalt	2.8	0.29	0.58		mg/Kg	2	8/28/2023 4:11:42 PM	77030
Iron	10000	480	480		mg/Kg	50	8/28/2023 7:53:45 PM	77030
Manganese	910	2.0	2.4		mg/Kg	10	8/30/2023 4:09:46 PM	77030
Vanadium	17	0.29	4.8		mg/Kg	2	8/28/2023 4:11:42 PM	77030
Zinc	11	4.8	4.8		mg/Kg	2	8/30/2023 4:08:03 PM	77030
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.9	2.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Acenaphthylene	ND	1.9	2.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Aniline	ND	1.2	2.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Anthracene	ND	2.0	2.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Azobenzene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Benz(a)anthracene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-11(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/16/2023 12:00:00 PM
Lab ID: 2308A58-031 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.2	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Benzo(b)fluoranthene	ND	2.0	2.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Benzo(g,h,i)perylene	ND	2.2	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Benzo(k)fluoranthene	ND	2.0	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Benzoic acid	ND	2.0	5.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Benzyl alcohol	ND	1.8	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Bis(2-chloroethoxy)methane	ND	1.7	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Bis(2-chloroethyl)ether	ND	2.4	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Bis(2-chloroisopropyl)ether	ND	1.7	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Bis(2-ethylhexyl)phthalate	ND	3.1	5.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
4-Bromophenyl phenyl ether	ND	2.0	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Butyl benzyl phthalate	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Carbazole	ND	2.3	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
4-Chloro-3-methylphenol	ND	2.0	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
4-Chloroaniline	ND	1.4	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
2-Chloronaphthalene	ND	1.8	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
2-Chlorophenol	ND	1.4	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
4-Chlorophenyl phenyl ether	ND	2.0	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Chrysene	ND	2.2	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Di-n-butyl phthalate	ND	6.0	10	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Di-n-octyl phthalate	ND	2.1	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Dibenz(a,h)anthracene	ND	2.2	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Dibenzofuran	ND	2.0	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
1,2-Dichlorobenzene	ND	1.6	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
1,3-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
1,4-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
3,3´-Dichlorobenzidine	ND	2.5	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Diethyl phthalate	ND	18	30	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Dimethyl phthalate	ND	2.3	4.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
2,4-Dichlorophenol	ND	2.1	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
2,4-Dimethylphenol	ND	1.7	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
4,6-Dinitro-2-methylphenol	ND	2.2	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
2,4-Dinitrophenol	ND	2.3	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
2,4-Dinitrotoluene	ND	2.0	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
2,6-Dinitrotoluene	ND	2.2	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Fluoranthene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Fluorene	ND	1.9	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Hexachlorobenzene	ND	1.7	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Hexachlorobutadiene	ND	1.5	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-11(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/16/2023 12:00:00 PM
Lab ID: 2308A58-031 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.92	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Hexachloroethane	ND	2.0	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Indeno(1,2,3-cd)pyrene	ND	2.2	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Isophorone	ND	1.7	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
1-Methylnaphthalene	ND	1.6	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
2-Methylnaphthalene	ND	1.7	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
2-Methylphenol	ND	1.5	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
3+4-Methylphenol	ND	1.7	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
N-Nitrosodi-n-propylamine	ND	1.9	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
N-Nitrosodimethylamine	ND	1.5	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
N-Nitrosodiphenylamine	ND	2.2	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Naphthalene	ND	1.5	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
2-Nitroaniline	ND	1.9	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
3-Nitroaniline	ND	1.4	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
4-Nitroaniline	ND	1.2	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Nitrobenzene	ND	1.6	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
2-Nitrophenol	ND	1.6	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
4-Nitrophenol	ND	1.9	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Pentachlorophenol	ND	2.4	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Phenanthrene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Phenol	ND	2.4	3.0	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Pyrene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Pyridine	ND	1.9	10	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
1,2,4-Trichlorobenzene	ND	1.4	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
2,4,5-Trichlorophenol	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
2,4,6-Trichlorophenol	ND	1.8	2.5	D	mg/Kg	10	9/11/2023 12:08:49 PM	77104
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/11/2023 12:08:49 PM	77104
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/11/2023 12:08:49 PM	77104
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/11/2023 12:08:49 PM	77104
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/11/2023 12:08:49 PM	77104
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/11/2023 12:08:49 PM	77104
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/11/2023 12:08:49 PM	77104
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.011	0.035		mg/Kg	1	8/29/2023 6:53:20 PM	R99320
Toluene	ND	0.013	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R99320
Ethylbenzene	0.017	0.0084	0.071	J	mg/Kg	1	8/29/2023 6:53:20 PM	R99320
Methyl tert-butyl ether (MTBE)	ND	0.040	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R99320
1,2,4-Trimethylbenzene	0.045	0.010	0.071	J	mg/Kg	1	8/29/2023 6:53:20 PM	R99320
1,3,5-Trimethylbenzene	ND	0.016	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R99320

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-11(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 12:00:00 PM
Lab ID: 2308A58-031
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.016	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
1,2-Dibromoethane (EDB)	ND	0.011	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Naphthalene	0.048	0.026	0.14	J	mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
1-Methylnaphthalene	0.067	0.021	0.28	J	mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
2-Methylnaphthalene	0.12	0.073	0.28	J	mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Acetone	ND	1.1	1.1		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Bromobenzene	ND	0.015	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Bromodichloromethane	ND	0.015	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Bromoform	ND	0.017	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Bromomethane	ND	0.23	0.28		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
2-Butanone	ND	0.40	0.71		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Carbon disulfide	ND	0.017	0.71		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Carbon tetrachloride	ND	0.020	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Chlorobenzene	ND	0.0070	0.14		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Chloroethane	ND	0.0098	0.14		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Chloroform	0.016	0.0098	0.071	J	mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Chloromethane	ND	0.070	0.21		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
2-Chlorotoluene	ND	0.019	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
4-Chlorotoluene	ND	0.015	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
cis-1,2-DCE	ND	0.035	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
cis-1,3-Dichloropropene	ND	0.0093	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
1,2-Dibromo-3-chloropropane	ND	0.031	0.14		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Dibromochloromethane	ND	0.0093	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Dibromomethane	ND	0.011	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
1,2-Dichlorobenzene	ND	0.015	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
1,3-Dichlorobenzene	ND	0.013	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
1,4-Dichlorobenzene	ND	0.019	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Dichlorodifluoromethane	ND	0.028	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
1,1-Dichloroethane	ND	0.0058	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
1,1-Dichloroethene	ND	0.040	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
1,2-Dichloropropane	ND	0.012	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
1,3-Dichloropropane	ND	0.0075	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
2,2-Dichloropropane	ND	0.0083	0.14		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
1,1-Dichloropropene	ND	0.0075	0.14		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Hexachlorobutadiene	ND	0.14	0.14		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
2-Hexanone	ND	0.031	0.71		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Isopropylbenzene	ND	0.013	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
4-Isopropyltoluene	ND	0.0071	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
4-Methyl-2-pentanone	ND	0.083	0.71		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
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B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

CLIENT: Marathon
Client Sample ID: SB-11(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 12:00:00 PM
Lab ID: 2308A58-031
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.16	0.21		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
n-Butylbenzene	ND	0.019	0.21		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
n-Propylbenzene	0.018	0.011	0.071	J	mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
sec-Butylbenzene	ND	0.018	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Styrene	ND	0.0089	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
tert-Butylbenzene	ND	0.024	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
1,1,1,2-Tetrachloroethane	ND	0.010	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
1,1,2,2-Tetrachloroethane	ND	0.024	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Tetrachloroethene (PCE)	ND	0.019	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
trans-1,2-DCE	ND	0.025	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
trans-1,3-Dichloropropene	ND	0.014	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
1,2,3-Trichlorobenzene	ND	0.011	0.14		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
1,2,4-Trichlorobenzene	ND	0.025	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
1,1,1-Trichloroethane	ND	0.024	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
1,1,2-Trichloroethane	ND	0.018	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Trichloroethene (TCE)	ND	0.024	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Trichlorofluoromethane	ND	0.016	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
1,2,3-Trichloropropane	ND	0.014	0.14		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Vinyl chloride	ND	0.039	0.071		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Xylenes, Total	ND	0.024	0.14		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
1,4-Dioxane	ND	0.36	0.71		mg/Kg	1	8/29/2023 6:53:20 PM	R9932C
Surr: Dibromofluoromethane	97.2	0	73-145		%Rec	1	8/29/2023 6:53:20 PM	R9932C
Surr: 1,2-Dichloroethane-d4	109	0	64.8-147		%Rec	1	8/29/2023 6:53:20 PM	R9932C
Surr: Toluene-d8	97.4	0	70-130		%Rec	1	8/29/2023 6:53:20 PM	R9932C
Surr: 4-Bromofluorobenzene	101	0	62.1-144		%Rec	1	8/29/2023 6:53:20 PM	R9932C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-11(1-5)
Project: AOC 26 27 **Collection Date:** 8/16/2023 12:05:00 PM
Lab ID: 2308A58-032 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.055	0.089		µg/Kg	1	8/24/2023 6:49:33 AM	76952
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	8.0	9.3		mg/Kg	1	8/28/2023 9:42:37 PM	77051
Motor Oil Range Organics (MRO)	ND	26	47		mg/Kg	1	8/28/2023 9:42:37 PM	77051
Surr: DNOP	98.4	0	69-147		%Rec	1	8/28/2023 9:42:37 PM	77051
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.4	5.5		mg/Kg	1	8/29/2023 2:36:47 AM	GS992
Surr: BFB	88.8	0	15-244		%Rec	1	8/29/2023 2:36:47 AM	GS992
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	170	61	61		mg/Kg	20	8/22/2023 9:07:46 PM	76980
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.52	1.0		mg/Kg	10	9/7/2023 7:04:27 PM	77030
Arsenic	1.9	0.52	1.0		mg/Kg	10	9/7/2023 7:04:27 PM	77030
Lead	5.6	0.52	1.0		mg/Kg	10	9/7/2023 7:04:27 PM	77030
Nickel	5.1	0.73	1.0		mg/Kg	10	9/7/2023 7:04:27 PM	77030
Selenium	1.6	1.0	1.0		mg/Kg	10	9/7/2023 7:04:27 PM	77030
Silver	ND	0.52	1.0		mg/Kg	10	9/7/2023 7:04:27 PM	77030
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.069	0.069		mg/Kg	1	8/24/2023 3:26:13 PM	77023
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	450	0.21	0.21		mg/Kg	2	8/28/2023 4:33:18 PM	77030
Beryllium	0.61	0.10	0.31		mg/Kg	2	8/28/2023 4:33:18 PM	77030
Cadmium	ND	0.44	0.52		mg/Kg	2	8/28/2023 4:33:18 PM	77030
Chromium	5.1	0.62	0.62		mg/Kg	2	8/28/2023 4:33:18 PM	77030
Cobalt	3.0	0.31	0.62		mg/Kg	2	8/28/2023 4:33:18 PM	77030
Iron	8300	520	520		mg/Kg	50	8/28/2023 7:57:42 PM	77030
Manganese	890	2.1	2.6		mg/Kg	10	8/30/2023 4:13:05 PM	77030
Vanadium	43	0.31	5.2		mg/Kg	2	8/28/2023 4:33:18 PM	77030
Zinc	14	5.2	5.2		mg/Kg	2	8/30/2023 4:11:22 PM	77030
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	2.0	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Acenaphthylene	ND	1.8	2.0	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Aniline	ND	1.2	2.0	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Anthracene	ND	1.9	2.0	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Azobenzene	ND	2.0	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Benz(a)anthracene	ND	2.1	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-11(1-5)
Project: AOC 26 27 **Collection Date:** 8/16/2023 12:05:00 PM
Lab ID: 2308A58-032 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Benzo(b)fluoranthene	ND	1.9	2.0	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Benzo(g,h,i)perylene	ND	2.2	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Benzo(k)fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Benzoic acid	ND	1.9	4.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Benzyl alcohol	ND	1.8	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Bis(2-chloroethoxy)methane	ND	1.6	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Bis(2-chloroethyl)ether	ND	2.3	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Bis(2-chloroisopropyl)ether	ND	1.6	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Bis(2-ethylhexyl)phthalate	ND	3.0	4.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
4-Bromophenyl phenyl ether	ND	2.0	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Butyl benzyl phthalate	ND	2.1	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Carbazole	ND	2.2	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
4-Chloro-3-methylphenol	ND	1.9	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
4-Chloroaniline	ND	1.4	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
2-Chloronaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
2-Chlorophenol	ND	1.3	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
4-Chlorophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Chrysene	ND	2.2	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Di-n-butyl phthalate	ND	5.8	9.8	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Di-n-octyl phthalate	ND	2.0	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Dibenz(a,h)anthracene	ND	2.2	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Dibenzofuran	ND	1.9	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
1,2-Dichlorobenzene	ND	1.6	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
1,3-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
1,4-Dichlorobenzene	ND	1.8	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
3,3´-Dichlorobenzidine	ND	2.5	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Diethyl phthalate	ND	18	29	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Dimethyl phthalate	ND	2.3	3.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
2,4-Dichlorophenol	ND	2.0	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
2,4-Dimethylphenol	ND	1.6	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
4,6-Dinitro-2-methylphenol	ND	2.2	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
2,4-Dinitrophenol	ND	2.2	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
2,4-Dinitrotoluene	ND	1.9	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
2,6-Dinitrotoluene	ND	2.2	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Fluorene	ND	1.9	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Hexachlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Hexachlorobutadiene	ND	1.4	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-11(1-5)
Project: AOC 26 27 **Collection Date:** 8/16/2023 12:05:00 PM
Lab ID: 2308A58-032 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.90	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Hexachloroethane	ND	2.0	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Indeno(1,2,3-cd)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Isophorone	ND	1.7	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
1-Methylnaphthalene	ND	1.6	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
2-Methylnaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
2-Methylphenol	ND	1.4	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
3+4-Methylphenol	ND	1.6	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
N-Nitrosodi-n-propylamine	ND	1.9	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
N-Nitrosodimethylamine	ND	1.5	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
N-Nitrosodiphenylamine	ND	2.2	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Naphthalene	ND	1.5	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
2-Nitroaniline	ND	1.9	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
3-Nitroaniline	ND	1.4	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
4-Nitroaniline	ND	1.2	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Nitrobenzene	ND	1.5	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
2-Nitrophenol	ND	1.6	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
4-Nitrophenol	ND	1.9	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Pentachlorophenol	ND	2.4	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Phenanthrene	ND	2.1	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Phenol	ND	2.3	2.9	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Pyrene	ND	2.1	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Pyridine	ND	1.8	9.8	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
1,2,4-Trichlorobenzene	ND	1.4	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
2,4,5-Trichlorophenol	ND	2.1	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
2,4,6-Trichlorophenol	ND	1.8	2.4	D	mg/Kg	10	9/8/2023 6:38:39 PM	77104
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/8/2023 6:38:39 PM	77104
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/8/2023 6:38:39 PM	77104
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/8/2023 6:38:39 PM	77104
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/8/2023 6:38:39 PM	77104
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/8/2023 6:38:39 PM	77104
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/8/2023 6:38:39 PM	77104
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0088	0.027		mg/Kg	1	8/29/2023 7:21:49 PM	R99320
Toluene	ND	0.0099	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R99320
Ethylbenzene	ND	0.0065	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R99320
Methyl tert-butyl ether (MTBE)	ND	0.031	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R99320
1,2,4-Trimethylbenzene	ND	0.0077	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R99320
1,3,5-Trimethylbenzene	ND	0.013	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R99320

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B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-11(1-5)
Project: AOC 26 27
Collection Date: 8/16/2023 12:05:00 PM
Lab ID: 2308A58-032
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.012	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
1,2-Dibromoethane (EDB)	ND	0.0088	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Naphthalene	ND	0.020	0.11		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
1-Methylnaphthalene	ND	0.016	0.22		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
2-Methylnaphthalene	ND	0.057	0.22		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Acetone	ND	0.82	0.82		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Bromobenzene	ND	0.012	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Bromodichloromethane	ND	0.012	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Bromoform	ND	0.013	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Bromomethane	ND	0.18	0.22		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
2-Butanone	ND	0.31	0.55		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Carbon disulfide	ND	0.013	0.55		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Carbon tetrachloride	ND	0.015	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Chlorobenzene	ND	0.0054	0.11		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Chloroethane	ND	0.0076	0.11		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Chloroform	ND	0.0075	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Chloromethane	ND	0.054	0.16		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
2-Chlorotoluene	ND	0.015	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
4-Chlorotoluene	ND	0.011	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
cis-1,2-DCE	ND	0.027	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
cis-1,3-Dichloropropene	ND	0.0072	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
1,2-Dibromo-3-chloropropane	ND	0.024	0.11		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Dibromochloromethane	ND	0.0072	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Dibromomethane	ND	0.0083	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
1,2-Dichlorobenzene	ND	0.011	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
1,3-Dichlorobenzene	ND	0.010	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
1,4-Dichlorobenzene	ND	0.015	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Dichlorodifluoromethane	ND	0.022	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
1,1-Dichloroethane	ND	0.0045	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
1,1-Dichloroethene	ND	0.031	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
1,2-Dichloropropane	ND	0.0094	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
1,3-Dichloropropane	ND	0.0058	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
2,2-Dichloropropane	ND	0.0064	0.11		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
1,1-Dichloropropene	ND	0.0058	0.11		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Hexachlorobutadiene	ND	0.11	0.11		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
2-Hexanone	ND	0.024	0.55		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Isopropylbenzene	ND	0.010	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
4-Isopropyltoluene	ND	0.0055	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
4-Methyl-2-pentanone	ND	0.064	0.55		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-11(1-5)
Project: AOC 26 27
Collection Date: 8/16/2023 12:05:00 PM
Lab ID: 2308A58-032
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.13	0.16		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
n-Butylbenzene	ND	0.015	0.16		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
n-Propylbenzene	ND	0.0088	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
sec-Butylbenzene	ND	0.014	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Styrene	ND	0.0069	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
tert-Butylbenzene	ND	0.018	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
1,1,1,2-Tetrachloroethane	ND	0.0080	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
1,1,2,2-Tetrachloroethane	ND	0.018	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Tetrachloroethene (PCE)	ND	0.015	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
trans-1,2-DCE	ND	0.020	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
trans-1,3-Dichloropropene	ND	0.011	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
1,2,3-Trichlorobenzene	ND	0.0085	0.11		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
1,2,4-Trichlorobenzene	ND	0.019	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
1,1,1-Trichloroethane	ND	0.018	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
1,1,2-Trichloroethane	ND	0.014	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Trichloroethene (TCE)	ND	0.019	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Trichlorofluoromethane	ND	0.012	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
1,2,3-Trichloropropane	ND	0.010	0.11		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Vinyl chloride	ND	0.030	0.055		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Xylenes, Total	ND	0.018	0.11		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
1,4-Dioxane	ND	0.28	0.55		mg/Kg	1	8/29/2023 7:21:49 PM	R9932C
Surr: Dibromofluoromethane	102	0	73-145		%Rec	1	8/29/2023 7:21:49 PM	R9932C
Surr: 1,2-Dichloroethane-d4	101	0	64.8-147		%Rec	1	8/29/2023 7:21:49 PM	R9932C
Surr: Toluene-d8	99.5	0	70-130		%Rec	1	8/29/2023 7:21:49 PM	R9932C
Surr: 4-Bromofluorobenzene	98.8	0	62.1-144		%Rec	1	8/29/2023 7:21:49 PM	R9932C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-11(17.5-18.5)
Project: AOC 26 27
Collection Date: 8/16/2023 12:10:00 PM
Lab ID: 2308A58-033
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.054	0.088		µg/Kg	1	8/24/2023 7:04:16 AM	76952
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	770	84	98		mg/Kg	10	8/25/2023 12:16:56 PM	77051
Motor Oil Range Organics (MRO)	ND	270	490	D	mg/Kg	10	8/25/2023 12:16:56 PM	77051
Surr: DNOP	0	0	69-147	S	%Rec	10	8/25/2023 12:16:56 PM	77051
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	84	7.2	28		mg/Kg	5	8/29/2023 3:00:15 AM	GS992
Surr: BFB	183	0	15-244		%Rec	5	8/29/2023 3:00:15 AM	GS992
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 9:20:10 PM	76980
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.51		mg/Kg	5	9/6/2023 5:42:00 PM	77030
Arsenic	0.94	0.51	1.0	J	mg/Kg	10	9/7/2023 7:08:51 PM	77030
Lead	10	0.51	1.0		mg/Kg	10	9/7/2023 7:08:51 PM	77030
Nickel	10	0.72	1.0		mg/Kg	10	9/7/2023 7:08:51 PM	77030
Selenium	1.5	1.0	1.0		mg/Kg	10	9/7/2023 7:08:51 PM	77030
Silver	ND	0.51	1.0		mg/Kg	10	9/7/2023 7:08:51 PM	77030
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.072	0.072		mg/Kg	1	8/24/2023 3:28:22 PM	77023
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	180	0.20	0.20		mg/Kg	2	8/28/2023 4:37:00 PM	77030
Beryllium	1.2	0.099	0.31		mg/Kg	2	8/28/2023 4:37:00 PM	77030
Cadmium	ND	0.43	0.51		mg/Kg	2	8/28/2023 4:37:00 PM	77030
Chromium	9.1	0.61	0.61		mg/Kg	2	8/28/2023 4:37:00 PM	77030
Cobalt	5.1	0.30	0.61		mg/Kg	2	8/28/2023 4:37:00 PM	77030
Iron	13000	1000	1000		mg/Kg	100	8/28/2023 8:03:38 PM	77030
Manganese	260	0.41	0.51		mg/Kg	2	8/28/2023 4:37:00 PM	77030
Vanadium	14	0.30	5.1		mg/Kg	2	8/28/2023 4:37:00 PM	77030
Zinc	14	5.1	5.1		mg/Kg	2	8/30/2023 4:14:41 PM	77030
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	2.0	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Acenaphthylene	ND	1.8	2.0	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Aniline	ND	1.2	2.0	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Anthracene	ND	1.9	2.0	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Azobenzene	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Benz(a)anthracene	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-11(17.5-18.5)
Project: AOC 26 27
Collection Date: 8/16/2023 12:10:00 PM
Lab ID: 2308A58-033
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Benzo(b)fluoranthene	ND	1.9	2.0	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Benzo(g,h,i)perylene	ND	2.2	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Benzo(k)fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Benzoic acid	ND	1.9	4.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Benzyl alcohol	ND	1.8	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Bis(2-chloroethoxy)methane	ND	1.6	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Bis(2-chloroethyl)ether	ND	2.3	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Bis(2-chloroisopropyl)ether	ND	1.6	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Bis(2-ethylhexyl)phthalate	ND	3.1	4.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
4-Bromophenyl phenyl ether	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Butyl benzyl phthalate	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Carbazole	ND	2.2	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
4-Chloro-3-methylphenol	ND	1.9	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
4-Chloroaniline	ND	1.4	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
2-Chloronaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
2-Chlorophenol	ND	1.3	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
4-Chlorophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Chrysene	ND	2.2	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Di-n-butyl phthalate	ND	5.8	9.8	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Di-n-octyl phthalate	ND	2.1	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Dibenz(a,h)anthracene	ND	2.2	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Dibenzofuran	ND	1.9	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
1,2-Dichlorobenzene	ND	1.6	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
1,3-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
1,4-Dichlorobenzene	ND	1.8	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
3,3´-Dichlorobenzidine	ND	2.5	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Diethyl phthalate	ND	18	29	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Dimethyl phthalate	ND	2.3	3.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
2,4-Dichlorophenol	ND	2.0	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
2,4-Dimethylphenol	ND	1.6	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
4,6-Dinitro-2-methylphenol	ND	2.2	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
2,4-Dinitrophenol	ND	2.3	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
2,4-Dinitrotoluene	ND	1.9	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
2,6-Dinitrotoluene	ND	2.2	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Fluorene	ND	1.9	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Hexachlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Hexachlorobutadiene	ND	1.4	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-11(17.5-18.5)
Project: AOC 26 27
Collection Date: 8/16/2023 12:10:00 PM
Lab ID: 2308A58-033
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.90	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Hexachloroethane	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Indeno(1,2,3-cd)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Isophorone	ND	1.7	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
1-Methylnaphthalene	2.3	1.6	2.4	JD	mg/Kg	10	9/9/2023 7:44:48 AM	77104
2-Methylnaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
2-Methylphenol	ND	1.4	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
3+4-Methylphenol	ND	1.6	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
N-Nitrosodi-n-propylamine	ND	1.9	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
N-Nitrosodimethylamine	ND	1.5	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
N-Nitrosodiphenylamine	ND	2.2	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Naphthalene	ND	1.5	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
2-Nitroaniline	ND	1.9	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
3-Nitroaniline	ND	1.4	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
4-Nitroaniline	ND	1.2	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Nitrobenzene	ND	1.5	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
2-Nitrophenol	ND	1.6	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
4-Nitrophenol	ND	1.9	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Pentachlorophenol	ND	2.4	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Phenanthrene	2.4	2.1	2.4	JD	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Phenol	ND	2.3	2.9	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Pyrene	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Pyridine	ND	1.8	9.8	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
1,2,4-Trichlorobenzene	ND	1.4	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
2,4,5-Trichlorophenol	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
2,4,6-Trichlorophenol	ND	1.8	2.4	D	mg/Kg	10	9/9/2023 7:44:48 AM	77104
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/9/2023 7:44:48 AM	77104
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/9/2023 7:44:48 AM	77104
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/9/2023 7:44:48 AM	77104
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/9/2023 7:44:48 AM	77104
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/9/2023 7:44:48 AM	77104
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/9/2023 7:44:48 AM	77104
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	0.055	0.046	0.14	J	mg/Kg	5	8/29/2023 7:50:18 PM	R99320
Toluene	ND	0.051	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R99320
Ethylbenzene	0.21	0.034	0.28	J	mg/Kg	5	8/29/2023 7:50:18 PM	R99320
Methyl tert-butyl ether (MTBE)	ND	0.16	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R99320
1,2,4-Trimethylbenzene	0.30	0.040	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R99320
1,3,5-Trimethylbenzene	ND	0.065	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R99320

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-11(17.5-18.5)
Project: AOC 26 27
Collection Date: 8/16/2023 12:10:00 PM
Lab ID: 2308A58-033
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.065	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
1,2-Dibromoethane (EDB)	ND	0.046	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Naphthalene	ND	0.11	0.57		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
1-Methylnaphthalene	2.1	0.084	1.1		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
2-Methylnaphthalene	ND	0.29	1.1		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Acetone	ND	4.3	4.3		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Bromobenzene	ND	0.060	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Bromodichloromethane	ND	0.061	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Bromoform	ND	0.068	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Bromomethane	ND	0.92	1.1		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
2-Butanone	ND	1.6	2.8		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Carbon disulfide	ND	0.069	2.8		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Carbon tetrachloride	ND	0.080	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Chlorobenzene	ND	0.028	0.57		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Chloroethane	ND	0.039	0.57		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Chloroform	ND	0.039	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Chloromethane	ND	0.28	0.85		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
2-Chlorotoluene	ND	0.076	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
4-Chlorotoluene	ND	0.059	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
cis-1,2-DCE	ND	0.14	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
cis-1,3-Dichloropropene	ND	0.037	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
1,2-Dibromo-3-chloropropane	ND	0.12	0.57		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Dibromochloromethane	ND	0.037	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Dibromomethane	ND	0.043	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
1,2-Dichlorobenzene	ND	0.059	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
1,3-Dichlorobenzene	ND	0.054	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
1,4-Dichlorobenzene	ND	0.076	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Dichlorodifluoromethane	ND	0.11	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
1,1-Dichloroethane	ND	0.023	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
1,1-Dichloroethene	ND	0.16	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
1,2-Dichloropropane	ND	0.049	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
1,3-Dichloropropane	ND	0.030	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
2,2-Dichloropropane	ND	0.033	0.57		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
1,1-Dichloropropene	ND	0.030	0.57		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Hexachlorobutadiene	ND	0.57	0.57		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
2-Hexanone	ND	0.12	2.8		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Isopropylbenzene	0.30	0.053	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
4-Isopropyltoluene	0.21	0.028	0.28	J	mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
4-Methyl-2-pentanone	ND	0.33	2.8		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-11(17.5-18.5)
Project: AOC 26 27
Collection Date: 8/16/2023 12:10:00 PM
Lab ID: 2308A58-033
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.66	0.85		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
n-Butylbenzene	0.18	0.076	0.85	J	mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
n-Propylbenzene	0.77	0.046	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
sec-Butylbenzene	0.27	0.073	0.28	J	mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Styrene	ND	0.036	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
tert-Butylbenzene	ND	0.096	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
1,1,1,2-Tetrachloroethane	ND	0.042	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
1,1,2,2-Tetrachloroethane	ND	0.095	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Tetrachloroethene (PCE)	ND	0.078	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
trans-1,2-DCE	ND	0.10	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
trans-1,3-Dichloropropene	ND	0.058	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
1,2,3-Trichlorobenzene	ND	0.044	0.57		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
1,2,4-Trichlorobenzene	ND	0.099	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
1,1,1-Trichloroethane	ND	0.095	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
1,1,2-Trichloroethane	ND	0.071	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Trichloroethene (TCE)	ND	0.096	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Trichlorofluoromethane	ND	0.064	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
1,2,3-Trichloropropane	ND	0.054	0.57		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Vinyl chloride	ND	0.15	0.28		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Xylenes, Total	ND	0.096	0.57		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
1,4-Dioxane	ND	1.4	2.8		mg/Kg	5	8/29/2023 7:50:18 PM	R9932C
Surr: Dibromofluoromethane	92.6	0	73-145		%Rec	5	8/29/2023 7:50:18 PM	R9932C
Surr: 1,2-Dichloroethane-d4	106	0	64.8-147		%Rec	5	8/29/2023 7:50:18 PM	R9932C
Surr: Toluene-d8	98.5	0	70-130		%Rec	5	8/29/2023 7:50:18 PM	R9932C
Surr: 4-Bromofluorobenzene	98.6	0	62.1-144		%Rec	5	8/29/2023 7:50:18 PM	R9932C

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-11(19-20)
Project: AOC 26 27
Collection Date: 8/16/2023 12:15:00 PM
Lab ID: 2308A58-034
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.056	0.090		µg/Kg	1	8/24/2023 7:19:01 AM	76952
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	510	84	99		mg/Kg	10	8/25/2023 12:27:44 PM	77051
Motor Oil Range Organics (MRO)	ND	270	490	D	mg/Kg	10	8/25/2023 12:27:44 PM	77051
Surr: DNOP	0	0	69-147	S	%Rec	10	8/25/2023 12:27:44 PM	77051
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	73	6.5	26		mg/Kg	5	8/29/2023 3:23:41 AM	GS992
Surr: BFB	161	0	15-244		%Rec	5	8/29/2023 3:23:41 AM	GS992
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 9:32:35 PM	76980
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.25	0.50		mg/Kg	5	9/6/2023 5:46:26 PM	77030
Arsenic	1.1	0.25	0.50		mg/Kg	5	9/6/2023 5:46:26 PM	77030
Lead	9.1	0.25	0.50		mg/Kg	5	9/7/2023 7:13:16 PM	77030
Nickel	7.7	0.35	0.50		mg/Kg	5	9/7/2023 7:13:16 PM	77030
Selenium	1.4	0.50	0.50		mg/Kg	5	9/7/2023 7:13:16 PM	77030
Silver	ND	0.25	0.50		mg/Kg	5	9/6/2023 5:46:26 PM	77030
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.072	0.072		mg/Kg	1	8/24/2023 3:30:32 PM	77023
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	230	0.20	0.20		mg/Kg	2	8/28/2023 4:47:08 PM	77030
Beryllium	1.0	0.098	0.30		mg/Kg	2	8/28/2023 4:47:08 PM	77030
Cadmium	ND	0.42	0.50		mg/Kg	2	8/28/2023 4:47:08 PM	77030
Chromium	6.8	0.60	0.60		mg/Kg	2	8/28/2023 4:47:08 PM	77030
Cobalt	4.1	0.30	0.60		mg/Kg	2	8/28/2023 4:47:08 PM	77030
Iron	12000	500	500		mg/Kg	50	8/28/2023 8:05:36 PM	77030
Manganese	280	0.41	0.50		mg/Kg	2	8/28/2023 4:47:08 PM	77030
Vanadium	14	0.30	5.0		mg/Kg	2	8/28/2023 4:47:08 PM	77030
Zinc	12	5.0	5.0		mg/Kg	2	8/30/2023 4:16:18 PM	77030
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	1.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Acenaphthylene	ND	1.8	1.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Aniline	ND	1.2	1.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Anthracene	ND	1.9	1.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Azobenzene	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Benz(a)anthracene	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-11(19-20)
Project: AOC 26 27
Collection Date: 8/16/2023 12:15:00 PM
Lab ID: 2308A58-034
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Benzo(b)fluoranthene	ND	1.9	1.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Benzo(g,h,i)perylene	ND	2.2	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Benzo(k)fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Benzoic acid	ND	1.9	4.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Benzyl alcohol	ND	1.8	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Bis(2-chloroethoxy)methane	ND	1.6	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Bis(2-chloroethyl)ether	ND	2.3	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Bis(2-chloroisopropyl)ether	ND	1.6	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Bis(2-ethylhexyl)phthalate	ND	3.0	4.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
4-Bromophenyl phenyl ether	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Butyl benzyl phthalate	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Carbazole	ND	2.2	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
4-Chloro-3-methylphenol	ND	1.9	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
4-Chloroaniline	ND	1.4	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
2-Chloronaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
2-Chlorophenol	ND	1.3	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
4-Chlorophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Chrysene	ND	2.2	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Di-n-butyl phthalate	ND	5.8	9.7	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Di-n-octyl phthalate	ND	2.0	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Dibenz(a,h)anthracene	ND	2.2	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Dibenzofuran	ND	1.9	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
1,2-Dichlorobenzene	ND	1.6	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
1,3-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
1,4-Dichlorobenzene	ND	1.8	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
3,3´-Dichlorobenzidine	ND	2.5	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Diethyl phthalate	ND	17	29	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Dimethyl phthalate	ND	2.2	3.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
2,4-Dichlorophenol	ND	2.0	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
2,4-Dimethylphenol	ND	1.6	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
4,6-Dinitro-2-methylphenol	ND	2.2	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
2,4-Dinitrophenol	ND	2.2	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
2,4-Dinitrotoluene	ND	1.9	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
2,6-Dinitrotoluene	ND	2.2	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Fluorene	ND	1.9	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Hexachlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Hexachlorobutadiene	ND	1.4	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-11(19-20)
Project: AOC 26 27
Collection Date: 8/16/2023 12:15:00 PM
Lab ID: 2308A58-034
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.89	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Hexachloroethane	ND	1.9	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Indeno(1,2,3-cd)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Isophorone	ND	1.7	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
1-Methylnaphthalene	ND	1.6	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
2-Methylnaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
2-Methylphenol	ND	1.4	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
3+4-Methylphenol	ND	1.6	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
N-Nitrosodi-n-propylamine	ND	1.9	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
N-Nitrosodimethylamine	ND	1.5	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
N-Nitrosodiphenylamine	ND	2.1	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Naphthalene	ND	1.5	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
2-Nitroaniline	ND	1.9	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
3-Nitroaniline	ND	1.4	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
4-Nitroaniline	ND	1.2	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Nitrobenzene	ND	1.5	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
2-Nitrophenol	ND	1.6	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
4-Nitrophenol	ND	1.9	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Pentachlorophenol	ND	2.4	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Phenanthrene	ND	2.0	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Phenol	ND	2.3	2.9	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Pyrene	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Pyridine	ND	1.8	9.7	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
1,2,4-Trichlorobenzene	ND	1.4	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
2,4,5-Trichlorophenol	ND	2.1	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
2,4,6-Trichlorophenol	ND	1.8	2.4	D	mg/Kg	10	9/9/2023 8:26:49 AM	77104
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/9/2023 8:26:49 AM	77104
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/9/2023 8:26:49 AM	77104
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/9/2023 8:26:49 AM	77104
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/9/2023 8:26:49 AM	77104
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/9/2023 8:26:49 AM	77104
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/9/2023 8:26:49 AM	77104
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	0.047	0.041	0.13	J	mg/Kg	5	8/29/2023 8:18:43 PM	R99320
Toluene	ND	0.047	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R99320
Ethylbenzene	0.21	0.031	0.26	J	mg/Kg	5	8/29/2023 8:18:43 PM	R99320
Methyl tert-butyl ether (MTBE)	ND	0.15	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R99320
1,2,4-Trimethylbenzene	0.29	0.036	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R99320
1,3,5-Trimethylbenzene	ND	0.059	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R99320

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-11(19-20)
Project: AOC 26 27
Collection Date: 8/16/2023 12:15:00 PM
Lab ID: 2308A58-034
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.059	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
1,2-Dibromoethane (EDB)	ND	0.041	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Naphthalene	ND	0.096	0.51		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
1-Methylnaphthalene	4.2	0.076	1.0		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
2-Methylnaphthalene	ND	0.27	1.0		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Acetone	ND	3.9	3.9		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Bromobenzene	ND	0.055	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Bromodichloromethane	ND	0.055	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Bromoform	ND	0.062	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Bromomethane	ND	0.84	1.0		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
2-Butanone	ND	1.4	2.6		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Carbon disulfide	ND	0.063	2.6		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Carbon tetrachloride	ND	0.073	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Chlorobenzene	ND	0.026	0.51		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Chloroethane	ND	0.036	0.51		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Chloroform	0.051	0.035	0.26	J	mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Chloromethane	ND	0.25	0.77		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
2-Chlorotoluene	ND	0.069	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
4-Chlorotoluene	ND	0.054	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
cis-1,2-DCE	ND	0.13	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
cis-1,3-Dichloropropene	ND	0.034	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
1,2-Dibromo-3-chloropropane	ND	0.11	0.51		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Dibromochloromethane	ND	0.034	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Dibromomethane	ND	0.039	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
1,2-Dichlorobenzene	ND	0.054	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
1,3-Dichlorobenzene	ND	0.049	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
1,4-Dichlorobenzene	ND	0.069	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Dichlorodifluoromethane	ND	0.10	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
1,1-Dichloroethane	ND	0.021	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
1,1-Dichloroethene	ND	0.15	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
1,2-Dichloropropane	ND	0.044	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
1,3-Dichloropropane	ND	0.027	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
2,2-Dichloropropane	ND	0.030	0.51		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
1,1-Dichloropropene	ND	0.027	0.51		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Hexachlorobutadiene	ND	0.51	0.51		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
2-Hexanone	ND	0.11	2.6		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Isopropylbenzene	0.24	0.048	0.26	J	mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
4-Isopropyltoluene	0.17	0.026	0.26	J	mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
4-Methyl-2-pentanone	ND	0.30	2.6		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-11(19-20)
Project: AOC 26 27
Collection Date: 8/16/2023 12:15:00 PM
Lab ID: 2308A58-034
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.60	0.77		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
n-Butylbenzene	0.13	0.069	0.77	J	mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
n-Propylbenzene	0.69	0.042	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
sec-Butylbenzene	0.21	0.067	0.26	J	mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Styrene	ND	0.032	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
tert-Butylbenzene	ND	0.087	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
1,1,1,2-Tetrachloroethane	ND	0.038	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
1,1,2,2-Tetrachloroethane	ND	0.086	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Tetrachloroethene (PCE)	ND	0.071	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
trans-1,2-DCE	ND	0.092	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
trans-1,3-Dichloropropene	ND	0.052	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
1,2,3-Trichlorobenzene	ND	0.040	0.51		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
1,2,4-Trichlorobenzene	ND	0.090	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
1,1,1-Trichloroethane	ND	0.086	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
1,1,2-Trichloroethane	ND	0.064	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Trichloroethene (TCE)	ND	0.087	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Trichlorofluoromethane	ND	0.058	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
1,2,3-Trichloropropane	ND	0.049	0.51		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Vinyl chloride	ND	0.14	0.26		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Xylenes, Total	ND	0.087	0.51		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
1,4-Dioxane	ND	1.3	2.6		mg/Kg	5	8/29/2023 8:18:43 PM	R9932C
Surr: Dibromofluoromethane	96.5	0	73-145		%Rec	5	8/29/2023 8:18:43 PM	R9932C
Surr: 1,2-Dichloroethane-d4	109	0	64.8-147		%Rec	5	8/29/2023 8:18:43 PM	R9932C
Surr: Toluene-d8	97.6	0	70-130		%Rec	5	8/29/2023 8:18:43 PM	R9932C
Surr: 4-Bromofluorobenzene	102	0	62.1-144		%Rec	5	8/29/2023 8:18:43 PM	R9932C

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-13(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/16/2023 12:20:00 PM
Lab ID: 2308A58-035 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.057	0.091		µg/Kg	1	8/24/2023 7:33:38 AM	76952
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	8.1	9.4		mg/Kg	1	8/30/2023 12:06:19 AM	77051
Motor Oil Range Organics (MRO)	ND	26	47		mg/Kg	1	8/30/2023 12:06:19 AM	77051
Surr: DNOP	95.9	0	69-147		%Rec	1	8/30/2023 12:06:19 AM	77051
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.6	6.1		mg/Kg	1	8/29/2023 3:47:10 AM	GS992
Surr: BFB	91.5	0	15-244		%Rec	1	8/29/2023 3:47:10 AM	GS992
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	120	60	60		mg/Kg	20	8/22/2023 9:45:00 PM	76980
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.51	1.0		mg/Kg	10	9/7/2023 7:22:05 PM	77030
Arsenic	1.7	0.51	1.0		mg/Kg	10	9/7/2023 7:22:05 PM	77030
Lead	10	0.51	1.0		mg/Kg	10	9/7/2023 7:22:05 PM	77030
Nickel	11	0.71	1.0		mg/Kg	10	9/7/2023 7:22:05 PM	77030
Selenium	1.7	1.0	1.0		mg/Kg	10	9/7/2023 7:22:05 PM	77030
Silver	ND	0.51	1.0		mg/Kg	10	9/7/2023 7:22:05 PM	77030
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.069	0.069		mg/Kg	1	8/24/2023 3:32:42 PM	77023
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	710	0.51	0.51		mg/Kg	5	8/28/2023 4:52:41 PM	77030
Beryllium	0.70	0.25	0.76	J	mg/Kg	5	8/28/2023 4:52:41 PM	77030
Cadmium	ND	1.1	1.3		mg/Kg	5	8/28/2023 4:52:41 PM	77030
Chromium	15	1.5	1.5		mg/Kg	5	8/28/2023 4:52:41 PM	77030
Cobalt	3.2	0.76	1.5		mg/Kg	5	8/28/2023 4:52:41 PM	77030
Iron	9000	510	510		mg/Kg	50	8/28/2023 8:16:18 PM	77030
Manganese	860	1.0	1.3		mg/Kg	5	8/28/2023 4:52:41 PM	77030
Vanadium	16	0.76	13		mg/Kg	5	8/28/2023 4:52:41 PM	77030
Zinc	30	13	13		mg/Kg	5	8/30/2023 4:56:33 PM	77030
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.7	1.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Acenaphthylene	ND	1.7	1.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Aniline	ND	1.1	1.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Anthracene	ND	1.8	1.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Azobenzene	ND	1.9	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Benz(a)anthracene	ND	2.0	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-13(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 12:20:00 PM
Lab ID: 2308A58-035
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.0	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Benzo(b)fluoranthene	ND	1.8	1.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Benzo(g,h,i)perylene	ND	2.1	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Benzo(k)fluoranthene	ND	1.9	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Benzoic acid	ND	1.8	4.6	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Benzyl alcohol	ND	1.7	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Bis(2-chloroethoxy)methane	ND	1.6	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Bis(2-chloroethyl)ether	ND	2.2	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Bis(2-chloroisopropyl)ether	ND	1.5	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Bis(2-ethylhexyl)phthalate	ND	2.9	4.6	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
4-Bromophenyl phenyl ether	ND	1.9	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Butyl benzyl phthalate	ND	2.0	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Carbazole	ND	2.1	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
4-Chloro-3-methylphenol	ND	1.8	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
4-Chloroaniline	ND	1.3	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
2-Chloronaphthalene	ND	1.6	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
2-Chlorophenol	ND	1.3	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
4-Chlorophenyl phenyl ether	ND	1.8	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Chrysene	ND	2.1	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Di-n-butyl phthalate	ND	5.5	9.2	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Di-n-octyl phthalate	ND	1.9	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Dibenz(a,h)anthracene	ND	2.1	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Dibenzofuran	ND	1.8	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
1,2-Dichlorobenzene	ND	1.5	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
1,3-Dichlorobenzene	ND	1.6	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
1,4-Dichlorobenzene	ND	1.7	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
3,3´-Dichlorobenzidine	ND	2.3	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Diethyl phthalate	ND	17	28	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Dimethyl phthalate	ND	2.1	3.7	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
2,4-Dichlorophenol	ND	1.9	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
2,4-Dimethylphenol	ND	1.5	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
4,6-Dinitro-2-methylphenol	ND	2.1	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
2,4-Dinitrophenol	ND	2.1	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
2,4-Dinitrotoluene	ND	1.8	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
2,6-Dinitrotoluene	ND	2.1	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Fluoranthene	ND	1.9	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Fluorene	ND	1.8	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Hexachlorobenzene	ND	1.6	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Hexachlorobutadiene	ND	1.4	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-13(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/16/2023 12:20:00 PM
Lab ID: 2308A58-035 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.85	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Hexachloroethane	ND	1.8	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Indeno(1,2,3-cd)pyrene	ND	2.0	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Isophorone	ND	1.6	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
1-Methylnaphthalene	ND	1.5	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
2-Methylnaphthalene	ND	1.6	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
2-Methylphenol	ND	1.4	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
3+4-Methylphenol	ND	1.5	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
N-Nitrosodi-n-propylamine	ND	1.8	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
N-Nitrosodimethylamine	ND	1.4	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
N-Nitrosodiphenylamine	ND	2.0	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Naphthalene	ND	1.4	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
2-Nitroaniline	ND	1.8	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
3-Nitroaniline	ND	1.3	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
4-Nitroaniline	ND	1.2	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Nitrobenzene	ND	1.4	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
2-Nitrophenol	ND	1.5	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
4-Nitrophenol	ND	1.8	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Pentachlorophenol	ND	2.3	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Phenanthrene	ND	1.9	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Phenol	ND	2.2	2.8	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Pyrene	ND	2.0	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Pyridine	ND	1.7	9.2	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
1,2,4-Trichlorobenzene	ND	1.3	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
2,4,5-Trichlorophenol	ND	2.0	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
2,4,6-Trichlorophenol	ND	1.7	2.3	D	mg/Kg	10	9/11/2023 12:50:34 PM	77104
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/11/2023 12:50:34 PM	77104
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/11/2023 12:50:34 PM	77104
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/11/2023 12:50:34 PM	77104
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/11/2023 12:50:34 PM	77104
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/11/2023 12:50:34 PM	77104
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/11/2023 12:50:34 PM	77104
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0098	0.031		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Toluene	ND	0.011	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Ethylbenzene	ND	0.0073	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Methyl tert-butyl ether (MTBE)	ND	0.035	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1,2,4-Trimethylbenzene	ND	0.0086	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1,3,5-Trimethylbenzene	ND	0.014	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-13(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 12:20:00 PM
Lab ID: 2308A58-035
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.014	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1,2-Dibromoethane (EDB)	ND	0.0098	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Naphthalene	ND	0.023	0.12		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1-Methylnaphthalene	0.043	0.018	0.24	J	mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
2-Methylnaphthalene	ND	0.063	0.24		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Acetone	ND	0.92	0.92		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Bromobenzene	ND	0.013	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Bromodichloromethane	ND	0.013	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Bromoform	ND	0.015	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Bromomethane	ND	0.20	0.24		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
2-Butanone	ND	0.34	0.61		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Carbon disulfide	ND	0.015	0.61		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Carbon tetrachloride	ND	0.017	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Chlorobenzene	ND	0.0061	0.12		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Chloroethane	ND	0.0085	0.12		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Chloroform	0.013	0.0084	0.061	J	mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Chloromethane	ND	0.060	0.18		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
2-Chlorotoluene	ND	0.016	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
4-Chlorotoluene	ND	0.013	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
cis-1,2-DCE	ND	0.030	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
cis-1,3-Dichloropropene	ND	0.0080	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1,2-Dibromo-3-chloropropane	ND	0.026	0.12		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Dibromochloromethane	ND	0.0080	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Dibromomethane	ND	0.0093	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1,2-Dichlorobenzene	ND	0.013	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1,3-Dichlorobenzene	ND	0.012	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1,4-Dichlorobenzene	ND	0.016	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Dichlorodifluoromethane	ND	0.024	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1,1-Dichloroethane	ND	0.0050	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1,1-Dichloroethene	ND	0.035	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1,2-Dichloropropane	ND	0.010	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1,3-Dichloropropane	ND	0.0065	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
2,2-Dichloropropane	ND	0.0072	0.12		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1,1-Dichloropropene	ND	0.0065	0.12		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Hexachlorobutadiene	ND	0.12	0.12		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
2-Hexanone	ND	0.027	0.61		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Isopropylbenzene	ND	0.011	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
4-Isopropyltoluene	ND	0.0061	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
4-Methyl-2-pentanone	ND	0.071	0.61		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-13(0.5-1)
Project: AOC 26 27
Collection Date: 8/16/2023 12:20:00 PM
Lab ID: 2308A58-035
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.14	0.18		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
n-Butylbenzene	ND	0.016	0.18		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
n-Propylbenzene	ND	0.0099	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
sec-Butylbenzene	ND	0.016	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Styrene	ND	0.0077	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
tert-Butylbenzene	ND	0.021	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1,1,1,2-Tetrachloroethane	ND	0.0090	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1,1,2,2-Tetrachloroethane	ND	0.020	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Tetrachloroethene (PCE)	ND	0.017	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
trans-1,2-DCE	ND	0.022	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
trans-1,3-Dichloropropene	ND	0.012	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1,2,3-Trichlorobenzene	ND	0.0095	0.12		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1,2,4-Trichlorobenzene	ND	0.021	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1,1,1-Trichloroethane	ND	0.020	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1,1,2-Trichloroethane	ND	0.015	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Trichloroethene (TCE)	ND	0.021	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Trichlorofluoromethane	ND	0.014	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1,2,3-Trichloropropane	ND	0.012	0.12		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Vinyl chloride	ND	0.033	0.061		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Xylenes, Total	ND	0.021	0.12		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
1,4-Dioxane	ND	0.31	0.61		mg/Kg	1	8/29/2023 8:47:06 PM	R9932C
Surr: Dibromofluoromethane	95.9	0	73-145		%Rec	1	8/29/2023 8:47:06 PM	R9932C
Surr: 1,2-Dichloroethane-d4	103	0	64.8-147		%Rec	1	8/29/2023 8:47:06 PM	R9932C
Surr: Toluene-d8	96.6	0	70-130		%Rec	1	8/29/2023 8:47:06 PM	R9932C
Surr: 4-Bromofluorobenzene	104	0	62.1-144		%Rec	1	8/29/2023 8:47:06 PM	R9932C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-13(10-15)
Project: AOC 26 27 **Collection Date:** 8/16/2023 12:30:00 PM
Lab ID: 2308A58-036 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.062	0.099		µg/Kg	1	8/24/2023 7:48:16 AM	76952
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	820	83	97		mg/Kg	10	8/25/2023 12:49:14 PM	77051
Motor Oil Range Organics (MRO)	3400	270	490		mg/Kg	10	8/25/2023 12:49:14 PM	77051
Surr: DNOP	0	0	69-147	S	%Rec	10	8/25/2023 12:49:14 PM	77051
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	200	7.6	30		mg/Kg	5	8/29/2023 4:10:44 AM	GS992
Surr: BFB	276	0	15-244	S	%Rec	5	8/29/2023 4:10:44 AM	GS992
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 9:57:25 PM	76980
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.50	1.0		mg/Kg	10	9/7/2023 7:26:30 PM	77030
Arsenic	2.3	0.50	1.0		mg/Kg	10	9/7/2023 7:26:30 PM	77030
Lead	6.8	0.50	1.0		mg/Kg	10	9/7/2023 7:26:30 PM	77030
Nickel	4.7	0.71	1.0		mg/Kg	10	9/7/2023 7:26:30 PM	77030
Selenium	1.2	1.0	1.0		mg/Kg	10	9/7/2023 7:26:30 PM	77030
Silver	ND	0.50	1.0		mg/Kg	10	9/7/2023 7:26:30 PM	77030
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.073	0.073		mg/Kg	1	8/24/2023 3:34:50 PM	77023
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	870	0.50	0.50		mg/Kg	5	8/28/2023 4:56:13 PM	77030
Beryllium	0.51	0.098	0.30		mg/Kg	2	8/28/2023 4:54:27 PM	77030
Cadmium	ND	0.42	0.50		mg/Kg	2	8/28/2023 4:54:27 PM	77030
Chromium	4.6	0.61	0.61		mg/Kg	2	8/28/2023 4:54:27 PM	77030
Cobalt	2.7	0.30	0.61		mg/Kg	2	8/28/2023 4:54:27 PM	77030
Iron	7500	500	500		mg/Kg	50	8/28/2023 8:20:15 PM	77030
Manganese	1300	2.0	2.5		mg/Kg	10	8/30/2023 4:33:25 PM	77030
Vanadium	18	0.30	5.0		mg/Kg	2	8/28/2023 4:54:27 PM	77030
Zinc	12	5.0	5.0		mg/Kg	2	8/30/2023 4:31:45 PM	77030
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	2.0	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Acenaphthylene	ND	1.8	2.0	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Aniline	ND	1.2	2.0	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Anthracene	ND	1.9	2.0	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Azobenzene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Benz(a)anthracene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-13(10-15)
Project: AOC 26 27 **Collection Date:** 8/16/2023 12:30:00 PM
Lab ID: 2308A58-036 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Benzo(b)fluoranthene	ND	1.9	2.0	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Benzo(g,h,i)perylene	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Benzo(k)fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Benzoic acid	ND	1.9	4.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Benzyl alcohol	ND	1.8	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Bis(2-chloroethoxy)methane	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Bis(2-chloroethyl)ether	ND	2.3	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Bis(2-chloroisopropyl)ether	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Bis(2-ethylhexyl)phthalate	ND	3.1	4.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
4-Bromophenyl phenyl ether	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Butyl benzyl phthalate	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Carbazole	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
4-Chloro-3-methylphenol	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
4-Chloroaniline	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
2-Chloronaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
2-Chlorophenol	ND	1.3	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
4-Chlorophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Chrysene	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Di-n-butyl phthalate	ND	5.8	9.8	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Di-n-octyl phthalate	ND	2.1	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Dibenz(a,h)anthracene	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Dibenzofuran	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
1,2-Dichlorobenzene	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
1,3-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
1,4-Dichlorobenzene	ND	1.8	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
3,3´-Dichlorobenzidine	ND	2.5	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Diethyl phthalate	ND	18	29	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Dimethyl phthalate	ND	2.3	3.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
2,4-Dichlorophenol	ND	2.0	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
2,4-Dimethylphenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
4,6-Dinitro-2-methylphenol	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
2,4-Dinitrophenol	ND	2.3	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
2,4-Dinitrotoluene	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
2,6-Dinitrotoluene	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Fluorene	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Hexachlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Hexachlorobutadiene	ND	1.4	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-13(10-15)
Project: AOC 26 27 **Collection Date:** 8/16/2023 12:30:00 PM
Lab ID: 2308A58-036 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.90	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Hexachloroethane	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Indeno(1,2,3-cd)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Isophorone	ND	1.7	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
1-Methylnaphthalene	5.6	1.6	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
2-Methylnaphthalene	11	1.7	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
2-Methylphenol	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
3+4-Methylphenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
N-Nitrosodi-n-propylamine	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
N-Nitrosodimethylamine	ND	1.5	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
N-Nitrosodiphenylamine	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Naphthalene	3.6	1.5	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
2-Nitroaniline	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
3-Nitroaniline	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
4-Nitroaniline	ND	1.2	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Nitrobenzene	ND	1.5	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
2-Nitrophenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
4-Nitrophenol	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Pentachlorophenol	ND	2.4	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Phenanthrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Phenol	ND	2.3	2.9	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Pyridine	ND	1.8	9.8	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
1,2,4-Trichlorobenzene	ND	1.4	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
2,4,5-Trichlorophenol	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
2,4,6-Trichlorophenol	ND	1.8	2.4	D	mg/Kg	10	9/11/2023 10:45:42 AM	77104
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/11/2023 10:45:42 AM	77104
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/11/2023 10:45:42 AM	77104
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/11/2023 10:45:42 AM	77104
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/11/2023 10:45:42 AM	77104
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/11/2023 10:45:42 AM	77104
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/11/2023 10:45:42 AM	77104
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.049	0.15		mg/Kg	5	8/29/2023 9:15:25 PM	R99320
Toluene	ND	0.054	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R99320
Ethylbenzene	1.8	0.036	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R99320
Methyl tert-butyl ether (MTBE)	ND	0.17	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R99320
1,2,4-Trimethylbenzene	7.7	0.043	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R99320
1,3,5-Trimethylbenzene	1.9	0.069	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R99320

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-13(10-15)
Project: AOC 26 27
Collection Date: 8/16/2023 12:30:00 PM
Lab ID: 2308A58-036
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.069	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
1,2-Dibromoethane (EDB)	ND	0.048	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Naphthalene	6.5	0.11	0.60		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
1-Methylnaphthalene	11	0.089	1.2		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
2-Methylnaphthalene	20	0.31	1.2		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Acetone	ND	4.5	4.5		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Bromobenzene	ND	0.064	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Bromodichloromethane	ND	0.064	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Bromoform	ND	0.073	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Bromomethane	ND	0.98	1.2		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
2-Butanone	ND	1.7	3.0		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Carbon disulfide	ND	0.073	3.0		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Carbon tetrachloride	ND	0.085	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Chlorobenzene	ND	0.030	0.60		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Chloroethane	ND	0.042	0.60		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Chloroform	ND	0.042	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Chloromethane	ND	0.30	0.90		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
2-Chlorotoluene	ND	0.081	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
4-Chlorotoluene	ND	0.063	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
cis-1,2-DCE	ND	0.15	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
cis-1,3-Dichloropropene	ND	0.040	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
1,2-Dibromo-3-chloropropane	ND	0.13	0.60		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Dibromochloromethane	ND	0.040	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Dibromomethane	ND	0.046	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
1,2-Dichlorobenzene	ND	0.063	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
1,3-Dichlorobenzene	ND	0.057	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
1,4-Dichlorobenzene	ND	0.081	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Dichlorodifluoromethane	ND	0.12	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
1,1-Dichloroethane	ND	0.025	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
1,1-Dichloroethene	ND	0.17	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
1,2-Dichloropropane	ND	0.052	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
1,3-Dichloropropane	ND	0.032	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
2,2-Dichloropropane	ND	0.035	0.60		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
1,1-Dichloropropene	ND	0.032	0.60		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Hexachlorobutadiene	ND	0.60	0.60		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
2-Hexanone	ND	0.13	3.0		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Isopropylbenzene	0.62	0.056	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
4-Isopropyltoluene	0.52	0.030	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
4-Methyl-2-pentanone	ND	0.35	3.0		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-13(10-15)
Project: AOC 26 27
Collection Date: 8/16/2023 12:30:00 PM
Lab ID: 2308A58-036
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.70	0.90		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
n-Butylbenzene	1.4	0.081	0.90		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
n-Propylbenzene	1.8	0.049	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
sec-Butylbenzene	0.48	0.078	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Styrene	ND	0.038	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
tert-Butylbenzene	ND	0.10	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
1,1,1,2-Tetrachloroethane	ND	0.044	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
1,1,2,2-Tetrachloroethane	ND	0.10	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Tetrachloroethene (PCE)	ND	0.083	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
trans-1,2-DCE	ND	0.11	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
trans-1,3-Dichloropropene	ND	0.061	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
1,2,3-Trichlorobenzene	ND	0.047	0.60		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
1,2,4-Trichlorobenzene	ND	0.10	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
1,1,1-Trichloroethane	ND	0.10	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
1,1,2-Trichloroethane	ND	0.075	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Trichloroethene (TCE)	ND	0.10	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Trichlorofluoromethane	ND	0.068	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
1,2,3-Trichloropropane	ND	0.058	0.60		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Vinyl chloride	ND	0.16	0.30		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Xylenes, Total	1.3	0.10	0.60		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
1,4-Dioxane	ND	1.5	3.0		mg/Kg	5	8/29/2023 9:15:25 PM	R9932C
Surr: Dibromofluoromethane	89.1	0	73-145		%Rec	5	8/29/2023 9:15:25 PM	R9932C
Surr: 1,2-Dichloroethane-d4	119	0	64.8-147		%Rec	5	8/29/2023 9:15:25 PM	R9932C
Surr: Toluene-d8	98.8	0	70-130		%Rec	5	8/29/2023 9:15:25 PM	R9932C
Surr: 4-Bromofluorobenzene	103	0	62.1-144		%Rec	5	8/29/2023 9:15:25 PM	R9932C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-13(14-15)
Project: AOC 26 27 **Collection Date:** 8/16/2023 12:35:00 PM
Lab ID: 2308A58-037 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.062	0.099		µg/Kg	1	8/24/2023 8:02:59 AM	76952
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	1000	83	97		mg/Kg	10	8/25/2023 1:12:42 PM	77051
Motor Oil Range Organics (MRO)	4000	270	480		mg/Kg	10	8/25/2023 1:12:42 PM	77051
Surr: DNOP	0	0	69-147	S	%Rec	10	8/25/2023 1:12:42 PM	77051
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	160	7.0	27		mg/Kg	5	8/29/2023 4:34:06 AM	GS992
Surr: BFB	270	0	15-244	S	%Rec	5	8/29/2023 4:34:06 AM	GS992
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 10:34:40 PM	76980
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.48	0.96		mg/Kg	10	9/7/2023 7:30:55 PM	77030
Arsenic	2.8	0.48	0.96		mg/Kg	10	9/7/2023 7:30:55 PM	77030
Lead	6.9	0.48	0.96		mg/Kg	10	9/7/2023 7:30:55 PM	77030
Nickel	7.9	0.67	0.96		mg/Kg	10	9/7/2023 7:30:55 PM	77030
Selenium	3.3	0.96	0.96		mg/Kg	10	9/7/2023 7:30:55 PM	77030
Silver	ND	0.48	0.96		mg/Kg	10	9/7/2023 7:30:55 PM	77030
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.070	0.070		mg/Kg	1	8/24/2023 3:36:59 PM	77023
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	810	0.48	0.48		mg/Kg	5	8/28/2023 4:59:58 PM	77030
Beryllium	0.57	0.093	0.29		mg/Kg	2	8/28/2023 4:58:01 PM	77030
Cadmium	ND	0.40	0.48		mg/Kg	2	8/28/2023 4:58:01 PM	77030
Chromium	3.8	0.58	0.58		mg/Kg	2	8/28/2023 4:58:01 PM	77030
Cobalt	3.9	0.29	0.58		mg/Kg	2	8/28/2023 4:58:01 PM	77030
Iron	9300	480	480		mg/Kg	50	8/28/2023 8:24:11 PM	77030
Manganese	1700	1.9	2.4		mg/Kg	10	8/30/2023 4:36:37 PM	77030
Vanadium	16	0.29	4.8		mg/Kg	2	8/28/2023 4:58:01 PM	77030
Zinc	12	4.8	4.8		mg/Kg	2	8/30/2023 4:34:58 PM	77030
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	2.0	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Acenaphthylene	ND	1.8	2.0	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Aniline	ND	1.2	2.0	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Anthracene	ND	1.9	2.0	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Azobenzene	ND	2.1	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Benz(a)anthracene	ND	2.1	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-13(14-15)
Project: AOC 26 27
Collection Date: 8/16/2023 12:35:00 PM
Lab ID: 2308A58-037
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Benzo(b)fluoranthene	ND	2.0	2.0	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Benzo(g,h,i)perylene	ND	2.2	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Benzo(k)fluoranthene	ND	2.0	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Benzoic acid	ND	1.9	4.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Benzyl alcohol	ND	1.8	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Bis(2-chloroethoxy)methane	ND	1.7	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Bis(2-chloroethyl)ether	ND	2.3	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Bis(2-chloroisopropyl)ether	ND	1.6	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Bis(2-ethylhexyl)phthalate	ND	3.1	4.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
4-Bromophenyl phenyl ether	ND	2.0	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Butyl benzyl phthalate	ND	2.1	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Carbazole	ND	2.2	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
4-Chloro-3-methylphenol	ND	1.9	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
4-Chloroaniline	ND	1.4	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
2-Chloronaphthalene	ND	1.7	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
2-Chlorophenol	ND	1.3	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
4-Chlorophenyl phenyl ether	ND	1.9	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Chrysene	ND	2.2	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Di-n-butyl phthalate	ND	5.9	9.8	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Di-n-octyl phthalate	ND	2.1	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Dibenz(a,h)anthracene	ND	2.2	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Dibenzofuran	ND	1.9	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
1,2-Dichlorobenzene	ND	1.6	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
1,3-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
1,4-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
3,3´-Dichlorobenzidine	ND	2.5	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Diethyl phthalate	ND	18	29	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Dimethyl phthalate	ND	2.3	3.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
2,4-Dichlorophenol	ND	2.0	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
2,4-Dimethylphenol	ND	1.6	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
4,6-Dinitro-2-methylphenol	ND	2.2	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
2,4-Dinitrophenol	ND	2.3	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
2,4-Dinitrotoluene	ND	2.0	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
2,6-Dinitrotoluene	ND	2.2	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Fluoranthene	ND	2.1	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Fluorene	ND	1.9	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Hexachlorobenzene	ND	1.7	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Hexachlorobutadiene	ND	1.5	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-13(14-15)
Project: AOC 26 27 **Collection Date:** 8/16/2023 12:35:00 PM
Lab ID: 2308A58-037 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.90	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Hexachloroethane	ND	2.0	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Indeno(1,2,3-cd)pyrene	ND	2.1	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Isophorone	ND	1.7	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
1-Methylnaphthalene	5.6	1.6	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
2-Methylnaphthalene	10	1.7	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
2-Methylphenol	ND	1.5	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
3+4-Methylphenol	ND	1.6	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
N-Nitrosodi-n-propylamine	ND	1.9	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
N-Nitrosodimethylamine	ND	1.5	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
N-Nitrosodiphenylamine	ND	2.2	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Naphthalene	3.2	1.5	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
2-Nitroaniline	ND	1.9	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
3-Nitroaniline	ND	1.4	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
4-Nitroaniline	ND	1.2	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Nitrobenzene	ND	1.5	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
2-Nitrophenol	ND	1.6	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
4-Nitrophenol	ND	1.9	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Pentachlorophenol	ND	2.4	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Phenanthrene	2.3	2.1	2.5	JD	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Phenol	ND	2.4	2.9	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Pyrene	ND	2.1	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Pyridine	ND	1.8	9.8	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
1,2,4-Trichlorobenzene	ND	1.4	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
2,4,5-Trichlorophenol	ND	2.1	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
2,4,6-Trichlorophenol	ND	1.8	2.5	D	mg/Kg	10	9/8/2023 12:59:06 PM	77165
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/8/2023 12:59:06 PM	77165
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/8/2023 12:59:06 PM	77165
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/8/2023 12:59:06 PM	77165
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/8/2023 12:59:06 PM	77165
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/8/2023 12:59:06 PM	77165
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/8/2023 12:59:06 PM	77165
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.044	0.14		mg/Kg	5	8/29/2023 9:43:47 PM	R99320
Toluene	ND	0.050	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R99320
Ethylbenzene	1.8	0.033	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R99320
Methyl tert-butyl ether (MTBE)	ND	0.16	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R99320
1,2,4-Trimethylbenzene	8.5	0.039	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R99320
1,3,5-Trimethylbenzene	2.0	0.063	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R99320

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Qualifiers:

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ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-13(14-15)
Project: AOC 26 27
Collection Date: 8/16/2023 12:35:00 PM
Lab ID: 2308A58-037
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.063	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
1,2-Dibromoethane (EDB)	ND	0.044	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Naphthalene	6.6	0.10	0.55		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
1-Methylnaphthalene	12	0.081	1.1		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
2-Methylnaphthalene	21	0.29	1.1		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Acetone	ND	4.1	4.1		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Bromobenzene	ND	0.058	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Bromodichloromethane	ND	0.059	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Bromoform	ND	0.066	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Bromomethane	ND	0.89	1.1		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
2-Butanone	ND	1.5	2.7		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Carbon disulfide	ND	0.067	2.7		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Carbon tetrachloride	ND	0.078	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Chlorobenzene	ND	0.027	0.55		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Chloroethane	ND	0.038	0.55		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Chloroform	ND	0.038	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Chloromethane	ND	0.27	0.82		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
2-Chlorotoluene	ND	0.074	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
4-Chlorotoluene	ND	0.058	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
cis-1,2-DCE	ND	0.14	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
cis-1,3-Dichloropropene	ND	0.036	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
1,2-Dibromo-3-chloropropane	ND	0.12	0.55		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Dibromochloromethane	ND	0.036	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Dibromomethane	ND	0.042	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
1,2-Dichlorobenzene	ND	0.057	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
1,3-Dichlorobenzene	ND	0.052	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
1,4-Dichlorobenzene	ND	0.073	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Dichlorodifluoromethane	ND	0.11	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
1,1-Dichloroethane	ND	0.022	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
1,1-Dichloroethene	ND	0.16	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
1,2-Dichloropropane	ND	0.047	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
1,3-Dichloropropane	ND	0.029	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
2,2-Dichloropropane	ND	0.032	0.55		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
1,1-Dichloropropene	ND	0.029	0.55		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Hexachlorobutadiene	ND	0.55	0.55		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
2-Hexanone	ND	0.12	2.7		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Isopropylbenzene	0.63	0.051	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
4-Isopropyltoluene	0.52	0.028	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
4-Methyl-2-pentanone	ND	0.32	2.7		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
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P	Sample pH Not In Range
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Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-13(14-15)
Project: AOC 26 27
Collection Date: 8/16/2023 12:35:00 PM
Lab ID: 2308A58-037
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.64	0.82		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
n-Butylbenzene	1.4	0.073	0.82		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
n-Propylbenzene	1.8	0.044	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
sec-Butylbenzene	0.52	0.071	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Styrene	ND	0.035	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
tert-Butylbenzene	ND	0.093	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
1,1,1,2-Tetrachloroethane	ND	0.040	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
1,1,2,2-Tetrachloroethane	ND	0.092	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Tetrachloroethene (PCE)	ND	0.075	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
trans-1,2-DCE	ND	0.098	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
trans-1,3-Dichloropropene	ND	0.056	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
1,2,3-Trichlorobenzene	ND	0.042	0.55		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
1,2,4-Trichlorobenzene	ND	0.096	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
1,1,1-Trichloroethane	ND	0.092	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
1,1,2-Trichloroethane	ND	0.069	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Trichloroethene (TCE)	ND	0.093	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Trichlorofluoromethane	ND	0.062	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
1,2,3-Trichloropropane	ND	0.052	0.55		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Vinyl chloride	ND	0.15	0.27		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Xylenes, Total	1.4	0.093	0.55		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
1,4-Dioxane	ND	1.4	2.7		mg/Kg	5	8/29/2023 9:43:47 PM	R9932C
Surr: Dibromofluoromethane	92.6	0	73-145		%Rec	5	8/29/2023 9:43:47 PM	R9932C
Surr: 1,2-Dichloroethane-d4	120	0	64.8-147		%Rec	5	8/29/2023 9:43:47 PM	R9932C
Surr: Toluene-d8	96.8	0	70-130		%Rec	5	8/29/2023 9:43:47 PM	R9932C
Surr: 4-Bromofluorobenzene	103	0	62.1-144		%Rec	5	8/29/2023 9:43:47 PM	R9932C

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Qualifiers:

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-13(24-25)
Project: AOC 26 27
Collection Date: 8/16/2023 12:40:00 PM
Lab ID: 2308A58-038
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.062	0.099		µg/Kg	1	8/24/2023 8:17:44 AM	76952
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	8.2	9.5		mg/Kg	1	8/28/2023 9:53:39 PM	77051
Motor Oil Range Organics (MRO)	ND	26	48		mg/Kg	1	8/28/2023 9:53:39 PM	77051
Surr: DNOP	102	0	69-147		%Rec	1	8/28/2023 9:53:39 PM	77051
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.4	5.3		mg/Kg	1	8/29/2023 4:57:27 AM	GS9927
Surr: BFB	93.8	0	15-244		%Rec	1	8/29/2023 4:57:27 AM	GS9927
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 10:47:05 PM	76980
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.50	1.0		mg/Kg	10	9/7/2023 7:35:21 PM	77030
Arsenic	0.93	0.50	1.0	J	mg/Kg	10	9/7/2023 7:35:21 PM	77030
Lead	9.2	0.50	1.0		mg/Kg	10	9/7/2023 7:35:21 PM	77030
Nickel	10	0.70	1.0		mg/Kg	10	9/7/2023 7:35:21 PM	77030
Selenium	1.4	1.0	1.0		mg/Kg	10	9/7/2023 7:35:21 PM	77030
Silver	ND	0.50	1.0		mg/Kg	10	9/7/2023 7:35:21 PM	77030
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.072	0.072		mg/Kg	1	8/24/2023 3:39:08 PM	77023
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	140	0.20	0.20		mg/Kg	2	8/28/2023 5:01:52 PM	77030
Beryllium	1.0	0.097	0.30		mg/Kg	2	8/28/2023 5:01:52 PM	77030
Cadmium	ND	0.42	0.50		mg/Kg	2	8/28/2023 5:01:52 PM	77030
Chromium	8.7	0.60	0.60		mg/Kg	2	8/28/2023 5:01:52 PM	77030
Cobalt	4.4	0.30	0.60		mg/Kg	2	8/28/2023 5:01:52 PM	77030
Iron	12000	500	500		mg/Kg	50	8/28/2023 8:28:07 PM	77030
Manganese	260	0.40	0.50		mg/Kg	2	8/28/2023 5:01:52 PM	77030
Vanadium	13	0.30	5.0		mg/Kg	2	8/28/2023 5:01:52 PM	77030
Zinc	14	5.0	5.0		mg/Kg	2	8/30/2023 4:38:08 PM	77030
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.20		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Aniline	ND	0.12	0.20		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Anthracene	ND	0.19	0.20		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Azobenzene	ND	0.21	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Benz(a)anthracene	ND	0.21	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165

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B	Analyte detected in the associated Method Blank
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P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-13(24-25)
Project: AOC 26 27
Collection Date: 8/16/2023 12:40:00 PM
Lab ID: 2308A58-038
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Benzo(b)fluoranthene	ND	0.20	0.20		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Benzo(g,h,i)perylene	ND	0.22	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Benzo(k)fluoranthene	ND	0.20	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Benzoic acid	ND	0.19	0.49		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Benzyl alcohol	ND	0.18	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Bis(2-chloroethoxy)methane	ND	0.17	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Bis(2-chloroethyl)ether	ND	0.23	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Bis(2-chloroisopropyl)ether	ND	0.16	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Bis(2-ethylhexyl)phthalate	ND	0.31	0.49		mg/Kg	1	9/8/2023 1:40:40 PM	77165
4-Bromophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Butyl benzyl phthalate	ND	0.21	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Carbazole	ND	0.22	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
4-Chloro-3-methylphenol	ND	0.19	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
4-Chloroaniline	ND	0.14	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
2-Chloronaphthalene	ND	0.17	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
2-Chlorophenol	ND	0.13	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
4-Chlorophenyl phenyl ether	ND	0.19	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Chrysene	ND	0.22	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Di-n-butyl phthalate	ND	0.59	0.98		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Di-n-octyl phthalate	ND	0.21	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Dibenz(a,h)anthracene	ND	0.22	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Dibenzofuran	ND	0.19	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
1,2-Dichlorobenzene	ND	0.16	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
1,3-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
1,4-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
3,3´-Dichlorobenzidine	ND	0.25	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Diethyl phthalate	ND	1.8	3.0		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Dimethyl phthalate	ND	0.23	0.39		mg/Kg	1	9/8/2023 1:40:40 PM	77165
2,4-Dichlorophenol	ND	0.20	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
2,4-Dimethylphenol	ND	0.16	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
4,6-Dinitro-2-methylphenol	ND	0.22	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
2,4-Dinitrophenol	ND	0.23	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
2,4-Dinitrotoluene	ND	0.20	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
2,6-Dinitrotoluene	ND	0.22	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Fluoranthene	ND	0.21	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Fluorene	ND	0.19	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Hexachlorobenzene	ND	0.17	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Hexachlorobutadiene	ND	0.15	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165

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Qualifiers:

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B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
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Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-13(24-25)
Project: AOC 26 27
Collection Date: 8/16/2023 12:40:00 PM
Lab ID: 2308A58-038
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.090	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Hexachloroethane	ND	0.20	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Indeno(1,2,3-cd)pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Isophorone	ND	0.17	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
1-Methylnaphthalene	ND	0.16	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
2-Methylnaphthalene	ND	0.17	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
2-Methylphenol	ND	0.15	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
3+4-Methylphenol	ND	0.16	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
N-Nitrosodi-n-propylamine	ND	0.19	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
N-Nitrosodimethylamine	ND	0.15	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
N-Nitrosodiphenylamine	ND	0.22	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Naphthalene	ND	0.15	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
2-Nitroaniline	ND	0.19	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
3-Nitroaniline	ND	0.14	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
4-Nitroaniline	ND	0.12	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Nitrobenzene	ND	0.15	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
2-Nitrophenol	ND	0.16	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
4-Nitrophenol	ND	0.19	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Pentachlorophenol	ND	0.24	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Phenanthrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Phenol	ND	0.24	0.30		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Pyridine	ND	0.18	0.98		mg/Kg	1	9/8/2023 1:40:40 PM	77165
1,2,4-Trichlorobenzene	ND	0.14	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
2,4,5-Trichlorophenol	ND	0.21	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
2,4,6-Trichlorophenol	ND	0.18	0.25		mg/Kg	1	9/8/2023 1:40:40 PM	77165
Surr: 2-Fluorophenol	47.4		15-123		%Rec	1	9/8/2023 1:40:40 PM	77165
Surr: Phenol-d5	61.8		15-141		%Rec	1	9/8/2023 1:40:40 PM	77165
Surr: 2,4,6-Tribromophenol	73.9		23-118		%Rec	1	9/8/2023 1:40:40 PM	77165
Surr: Nitrobenzene-d5	47.8		15-125		%Rec	1	9/8/2023 1:40:40 PM	77165
Surr: 2-Fluorobiphenyl	54.0		15-129		%Rec	1	9/8/2023 1:40:40 PM	77165
Surr: 4-Terphenyl-d14	77.8		31.1-134		%Rec	1	9/8/2023 1:40:40 PM	77165
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	0.018	0.0086	0.027	J	mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Toluene	ND	0.0096	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Ethylbenzene	ND	0.0063	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Methyl tert-butyl ether (MTBE)	ND	0.030	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1,2,4-Trimethylbenzene	0.0093	0.0075	0.053	J	mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1,3,5-Trimethylbenzene	ND	0.012	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C

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Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-13(24-25)
Project: AOC 26 27
Collection Date: 8/16/2023 12:40:00 PM
Lab ID: 2308A58-038
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.012	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1,2-Dibromoethane (EDB)	ND	0.0086	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Naphthalene	ND	0.020	0.11		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1-Methylnaphthalene	0.11	0.016	0.21	J	mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
2-Methylnaphthalene	0.19	0.055	0.21	J	mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Acetone	ND	0.80	0.80		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Bromobenzene	ND	0.011	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Bromodichloromethane	ND	0.011	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Bromoform	ND	0.013	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Bromomethane	ND	0.17	0.21		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
2-Butanone	ND	0.30	0.53		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Carbon disulfide	ND	0.013	0.53		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Carbon tetrachloride	ND	0.015	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Chlorobenzene	ND	0.0053	0.11		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Chloroethane	ND	0.0074	0.11		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Chloroform	ND	0.0074	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Chloromethane	ND	0.053	0.16		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
2-Chlorotoluene	ND	0.014	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
4-Chlorotoluene	ND	0.011	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
cis-1,2-DCE	ND	0.026	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
cis-1,3-Dichloropropene	ND	0.0070	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1,2-Dibromo-3-chloropropane	ND	0.023	0.11		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Dibromochloromethane	ND	0.0070	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Dibromomethane	ND	0.0081	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1,2-Dichlorobenzene	ND	0.011	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1,3-Dichlorobenzene	ND	0.010	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1,4-Dichlorobenzene	ND	0.014	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Dichlorodifluoromethane	ND	0.021	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1,1-Dichloroethane	ND	0.0043	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1,1-Dichloroethene	ND	0.030	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1,2-Dichloropropane	ND	0.0092	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1,3-Dichloropropane	ND	0.0057	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
2,2-Dichloropropane	ND	0.0062	0.11		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1,1-Dichloropropene	ND	0.0056	0.11		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Hexachlorobutadiene	ND	0.11	0.11		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
2-Hexanone	ND	0.023	0.53		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Isopropylbenzene	ND	0.0099	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
4-Isopropyltoluene	ND	0.0054	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
4-Methyl-2-pentanone	ND	0.062	0.53		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C

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ND	Not Detected at the Reporting Limit
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Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-13(24-25)
Project: AOC 26 27
Collection Date: 8/16/2023 12:40:00 PM
Lab ID: 2308A58-038
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.12	0.16		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
n-Butylbenzene	ND	0.014	0.16		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
n-Propylbenzene	ND	0.0086	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
sec-Butylbenzene	ND	0.014	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Styrene	ND	0.0067	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
tert-Butylbenzene	ND	0.018	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1,1,1,2-Tetrachloroethane	ND	0.0078	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1,1,2,2-Tetrachloroethane	ND	0.018	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Tetrachloroethene (PCE)	ND	0.015	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
trans-1,2-DCE	ND	0.019	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
trans-1,3-Dichloropropene	ND	0.011	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1,2,3-Trichlorobenzene	ND	0.0083	0.11		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1,2,4-Trichlorobenzene	ND	0.019	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1,1,1-Trichloroethane	ND	0.018	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1,1,2-Trichloroethane	ND	0.013	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Trichloroethene (TCE)	ND	0.018	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Trichlorofluoromethane	ND	0.012	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1,2,3-Trichloropropane	ND	0.010	0.11		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Vinyl chloride	ND	0.029	0.053		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Xylenes, Total	ND	0.018	0.11		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
1,4-Dioxane	ND	0.27	0.53		mg/Kg	1	8/29/2023 10:12:06 PM	R9932C
Surr: Dibromofluoromethane	100	0	73-145		%Rec	1	8/29/2023 10:12:06 PM	R9932C
Surr: 1,2-Dichloroethane-d4	99.8	0	64.8-147		%Rec	1	8/29/2023 10:12:06 PM	R9932C
Surr: Toluene-d8	96.1	0	70-130		%Rec	1	8/29/2023 10:12:06 PM	R9932C
Surr: 4-Bromofluorobenzene	100	0	62.1-144		%Rec	1	8/29/2023 10:12:06 PM	R9932C

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0816-1
Project: AOC 26 27 **Collection Date:** 8/16/2023
Lab ID: 2308A58-039 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.058	0.094		µg/Kg	1	8/24/2023 8:32:28 AM	76952
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	25	8.3	9.7		mg/Kg	1	8/28/2023 10:04:39 PM	77051
Motor Oil Range Organics (MRO)	ND	27	48		mg/Kg	1	8/28/2023 10:04:39 PM	77051
Surr: DNOP	101	0	69-147		%Rec	1	8/28/2023 10:04:39 PM	77051
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.7	6.7		mg/Kg	1	8/29/2023 5:20:51 AM	GS992
Surr: BFB	94.5	0	15-244		%Rec	1	8/29/2023 5:20:51 AM	GS992
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 10:59:29 PM	76980
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.49	0.97		mg/Kg	10	9/7/2023 7:39:45 PM	77030
Arsenic	1.9	0.49	0.97		mg/Kg	10	9/7/2023 7:39:45 PM	77030
Lead	13	0.49	0.97		mg/Kg	10	9/7/2023 7:39:45 PM	77030
Nickel	9.7	0.68	0.97		mg/Kg	10	9/7/2023 7:39:45 PM	77030
Selenium	1.2	0.97	0.97		mg/Kg	10	9/7/2023 7:39:45 PM	77030
Silver	ND	0.49	0.97		mg/Kg	10	9/7/2023 7:39:45 PM	77030
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.073	0.073		mg/Kg	1	8/24/2023 3:45:32 PM	77023
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	260	0.19	0.19		mg/Kg	2	8/28/2023 5:12:10 PM	77030
Beryllium	1.1	0.094	0.29		mg/Kg	2	8/28/2023 5:12:10 PM	77030
Cadmium	ND	0.41	0.49		mg/Kg	2	8/28/2023 5:12:10 PM	77030
Chromium	9.4	0.58	0.58		mg/Kg	2	8/28/2023 5:12:10 PM	77030
Cobalt	4.3	0.29	0.58		mg/Kg	2	8/28/2023 5:12:10 PM	77030
Iron	15000	970	970		mg/Kg	100	8/28/2023 8:41:54 PM	77030
Manganese	340	0.39	0.49		mg/Kg	2	8/28/2023 5:12:10 PM	77030
Vanadium	21	0.29	4.9		mg/Kg	2	8/28/2023 5:12:10 PM	77030
Zinc	14	4.9	4.9		mg/Kg	2	8/28/2023 5:12:10 PM	77030
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Aniline	ND	0.12	0.19		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Anthracene	ND	0.19	0.19		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Azobenzene	ND	0.20	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Benz(a)anthracene	ND	0.20	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0816-1
Project: AOC 26 27
Collection Date: 8/16/2023
Lab ID: 2308A58-039
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Benzo(g,h,i)perylene	ND	0.21	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Benzoic acid	ND	0.19	0.48		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Benzyl alcohol	ND	0.17	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Bis(2-ethylhexyl)phthalate	ND	0.30	0.48		mg/Kg	1	9/8/2023 2:22:14 PM	77165
4-Bromophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Butyl benzyl phthalate	ND	0.20	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Carbazole	ND	0.22	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
4-Chloroaniline	ND	0.13	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Chrysene	ND	0.21	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Di-n-butyl phthalate	ND	0.57	0.95		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Dibenz(a,h)anthracene	ND	0.21	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
3,3´-Dichlorobenzidine	ND	0.24	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Dimethyl phthalate	ND	0.22	0.38		mg/Kg	1	9/8/2023 2:22:14 PM	77165
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
4,6-Dinitro-2-methylphenol	ND	0.21	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
2,6-Dinitrotoluene	ND	0.21	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Fluoranthene	ND	0.20	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Fluorene	ND	0.19	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0816-1
Project: AOC 26 27 **Collection Date:** 8/16/2023
Lab ID: 2308A58-039 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.088	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Isophorone	ND	0.16	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
2-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
N-Nitrosodimethylamine	ND	0.14	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Naphthalene	ND	0.14	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
2-Nitroaniline	ND	0.18	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
4-Nitrophenol	ND	0.18	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Pentachlorophenol	ND	0.23	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Phenanthrene	ND	0.20	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Phenol	ND	0.23	0.29		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Pyrene	ND	0.20	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Pyridine	ND	0.18	0.95		mg/Kg	1	9/8/2023 2:22:14 PM	77165
1,2,4-Trichlorobenzene	ND	0.13	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
2,4,5-Trichlorophenol	ND	0.20	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
2,4,6-Trichlorophenol	ND	0.17	0.24		mg/Kg	1	9/8/2023 2:22:14 PM	77165
Surr: 2-Fluorophenol	40.8		15-123		%Rec	1	9/8/2023 2:22:14 PM	77165
Surr: Phenol-d5	47.3		15-141		%Rec	1	9/8/2023 2:22:14 PM	77165
Surr: 2,4,6-Tribromophenol	52.7		23-118		%Rec	1	9/8/2023 2:22:14 PM	77165
Surr: Nitrobenzene-d5	37.7		15-125		%Rec	1	9/8/2023 2:22:14 PM	77165
Surr: 2-Fluorobiphenyl	36.9		15-129		%Rec	1	9/8/2023 2:22:14 PM	77165
Surr: 4-Terphenyl-d14	63.0		31.1-134		%Rec	1	9/8/2023 2:22:14 PM	77165
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	0.029	0.011	0.033	J	mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Toluene	ND	0.012	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Ethylbenzene	ND	0.0079	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Methyl tert-butyl ether (MTBE)	ND	0.038	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1,2,4-Trimethylbenzene	ND	0.0094	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1,3,5-Trimethylbenzene	ND	0.015	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
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Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0816-1
Project: AOC 26 27 **Collection Date:** 8/16/2023
Lab ID: 2308A58-039 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.015	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1,2-Dibromoethane (EDB)	ND	0.011	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Naphthalene	ND	0.025	0.13		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1-Methylnaphthalene	0.022	0.020	0.27	J	mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
2-Methylnaphthalene	ND	0.069	0.27		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Acetone	ND	1.0	1.0		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Bromobenzene	ND	0.014	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Bromodichloromethane	ND	0.014	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Bromoform	ND	0.016	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Bromomethane	ND	0.22	0.27		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
2-Butanone	ND	0.37	0.67		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Carbon disulfide	ND	0.016	0.67		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Carbon tetrachloride	ND	0.019	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Chlorobenzene	ND	0.0066	0.13		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Chloroethane	ND	0.0093	0.13		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Chloroform	0.013	0.0092	0.067	J	mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Chloromethane	ND	0.066	0.20		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
2-Chlorotoluene	ND	0.018	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
4-Chlorotoluene	ND	0.014	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
cis-1,2-DCE	ND	0.033	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
cis-1,3-Dichloropropene	ND	0.0088	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1,2-Dibromo-3-chloropropane	ND	0.029	0.13		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Dibromochloromethane	ND	0.0088	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Dibromomethane	ND	0.010	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1,2-Dichlorobenzene	ND	0.014	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1,3-Dichlorobenzene	ND	0.013	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1,4-Dichlorobenzene	ND	0.018	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Dichlorodifluoromethane	ND	0.027	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1,1-Dichloroethane	ND	0.0054	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1,1-Dichloroethene	ND	0.038	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1,2-Dichloropropane	ND	0.011	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1,3-Dichloropropane	ND	0.0071	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
2,2-Dichloropropane	ND	0.0078	0.13		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1,1-Dichloropropene	ND	0.0071	0.13		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Hexachlorobutadiene	ND	0.13	0.13		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
2-Hexanone	ND	0.029	0.67		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Isopropylbenzene	ND	0.012	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
4-Isopropyltoluene	ND	0.0067	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
4-Methyl-2-pentanone	ND	0.078	0.67		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0816-1
Project: AOC 26 27
Collection Date: 8/16/2023
Lab ID: 2308A58-039
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.16	0.20		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
n-Butylbenzene	ND	0.018	0.20		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
n-Propylbenzene	0.015	0.011	0.067	J	mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
sec-Butylbenzene	ND	0.017	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Styrene	ND	0.0084	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
tert-Butylbenzene	ND	0.022	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1,1,1,2-Tetrachloroethane	ND	0.0098	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1,1,2,2-Tetrachloroethane	ND	0.022	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Tetrachloroethene (PCE)	ND	0.018	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
trans-1,2-DCE	ND	0.024	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
trans-1,3-Dichloropropene	ND	0.014	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1,2,3-Trichlorobenzene	ND	0.010	0.13		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1,2,4-Trichlorobenzene	ND	0.023	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1,1,1-Trichloroethane	ND	0.022	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1,1,2-Trichloroethane	ND	0.017	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Trichloroethene (TCE)	ND	0.023	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Trichlorofluoromethane	ND	0.015	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1,2,3-Trichloropropane	ND	0.013	0.13		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Vinyl chloride	ND	0.036	0.067		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Xylenes, Total	ND	0.023	0.13		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
1,4-Dioxane	ND	0.34	0.67		mg/Kg	1	8/29/2023 12:14:24 PM	R9932C
Surr: Dibromofluoromethane	92.8	0	73-145		%Rec	1	8/29/2023 12:14:24 PM	R9932C
Surr: 1,2-Dichloroethane-d4	99.0	0	64.8-147		%Rec	1	8/29/2023 12:14:24 PM	R9932C
Surr: Toluene-d8	96.4	0	70-130		%Rec	1	8/29/2023 12:14:24 PM	R9932C
Surr: 4-Bromofluorobenzene	98.7	0	62.1-144		%Rec	1	8/29/2023 12:14:24 PM	R9932C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0816-2
Project: AOC 26 27 **Collection Date:** 8/16/2023
Lab ID: 2308A58-040 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.056	0.090		µg/Kg	1	8/25/2023 10:11:42 AM	77038
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	7.9	9.2		mg/Kg	1	8/29/2023 4:26:36 AM	77108
Motor Oil Range Organics (MRO)	ND	26	46		mg/Kg	1	8/29/2023 4:26:36 AM	77108
Surr: DNOP	96.5	0	69-147		%Rec	1	8/29/2023 4:26:36 AM	77108
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	1.3	5.2		mg/Kg	1	8/29/2023 12:02:00 PM	GS993
Surr: BFB	95.9	0	15-244		%Rec	1	8/29/2023 12:02:00 PM	GS993
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/22/2023 11:11:54 PM	76980
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.50	1.0		mg/Kg	10	9/7/2023 7:44:09 PM	77030
Arsenic	0.90	0.50	1.0	J	mg/Kg	10	9/7/2023 7:44:09 PM	77030
Lead	8.9	0.50	1.0		mg/Kg	10	9/7/2023 7:44:09 PM	77030
Nickel	9.0	0.70	1.0		mg/Kg	10	9/7/2023 7:44:09 PM	77030
Selenium	1.4	1.0	1.0		mg/Kg	10	9/7/2023 7:44:09 PM	77030
Silver	ND	0.50	1.0		mg/Kg	10	9/7/2023 7:44:09 PM	77030
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.071	0.071		mg/Kg	1	8/24/2023 1:47:58 PM	77023
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	120	0.20	0.20		mg/Kg	2	8/28/2023 5:16:10 PM	77030
Beryllium	1.0	0.097	0.30		mg/Kg	2	8/28/2023 5:16:10 PM	77030
Cadmium	ND	0.42	0.50		mg/Kg	2	8/28/2023 5:16:10 PM	77030
Chromium	8.1	0.60	0.60		mg/Kg	2	8/28/2023 5:16:10 PM	77030
Cobalt	4.2	0.30	0.60		mg/Kg	2	8/28/2023 5:16:10 PM	77030
Iron	13000	1000	1000		mg/Kg	100	8/28/2023 8:45:54 PM	77030
Manganese	320	0.40	0.50		mg/Kg	2	8/28/2023 5:16:10 PM	77030
Vanadium	14	0.30	5.0		mg/Kg	2	8/28/2023 5:16:10 PM	77030
Zinc	14	5.0	5.0		mg/Kg	2	8/28/2023 5:16:10 PM	77030
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.20		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Aniline	ND	0.12	0.20		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Anthracene	ND	0.19	0.20		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Azobenzene	ND	0.21	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Benz(a)anthracene	ND	0.21	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0816-2
Project: AOC 26 27
Collection Date: 8/16/2023
Lab ID: 2308A58-040
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Benzo(b)fluoranthene	ND	0.20	0.20		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Benzo(g,h,i)perylene	ND	0.22	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Benzo(k)fluoranthene	ND	0.20	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Benzoic acid	ND	0.19	0.49		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Benzyl alcohol	ND	0.18	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Bis(2-chloroethoxy)methane	ND	0.17	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Bis(2-ethylhexyl)phthalate	ND	0.31	0.49		mg/Kg	1	9/8/2023 3:04:13 PM	77165
4-Bromophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Butyl benzyl phthalate	ND	0.21	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Carbazole	ND	0.22	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
2-Chloronaphthalene	ND	0.17	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
2-Chlorophenol	ND	0.13	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
4-Chlorophenyl phenyl ether	ND	0.19	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Chrysene	ND	0.22	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Di-n-butyl phthalate	ND	0.59	0.98		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Di-n-octyl phthalate	ND	0.21	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Dibenz(a,h)anthracene	ND	0.22	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Dibenzofuran	ND	0.19	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
1,2-Dichlorobenzene	ND	0.16	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
1,3-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
1,4-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
3,3´-Dichlorobenzidine	ND	0.25	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Diethyl phthalate	ND	1.8	2.9		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Dimethyl phthalate	ND	0.23	0.39		mg/Kg	1	9/8/2023 3:04:13 PM	77165
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
2,4-Dinitrophenol	ND	0.23	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Fluoranthene	ND	0.21	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Fluorene	ND	0.19	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Hexachlorobenzene	ND	0.17	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Hexachlorobutadiene	ND	0.15	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0816-2
Project: AOC 26 27
Collection Date: 8/16/2023
Lab ID: 2308A58-040
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.090	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Hexachloroethane	ND	0.20	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Indeno(1,2,3-cd)pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Isophorone	ND	0.17	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
1-Methylnaphthalene	ND	0.16	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
2-Methylnaphthalene	ND	0.17	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
2-Methylphenol	ND	0.15	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
N-Nitrosodimethylamine	ND	0.15	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
N-Nitrosodiphenylamine	ND	0.22	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Naphthalene	ND	0.15	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
4-Nitrophenol	ND	0.19	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Phenanthrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Phenol	ND	0.24	0.29		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Pyridine	ND	0.18	0.98		mg/Kg	1	9/8/2023 3:04:13 PM	77165
1,2,4-Trichlorobenzene	ND	0.14	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
2,4,5-Trichlorophenol	ND	0.21	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
2,4,6-Trichlorophenol	ND	0.18	0.25		mg/Kg	1	9/8/2023 3:04:13 PM	77165
Surr: 2-Fluorophenol	41.0		15-123		%Rec	1	9/8/2023 3:04:13 PM	77165
Surr: Phenol-d5	49.3		15-141		%Rec	1	9/8/2023 3:04:13 PM	77165
Surr: 2,4,6-Tribromophenol	56.1		23-118		%Rec	1	9/8/2023 3:04:13 PM	77165
Surr: Nitrobenzene-d5	38.9		15-125		%Rec	1	9/8/2023 3:04:13 PM	77165
Surr: 2-Fluorobiphenyl	40.7		15-129		%Rec	1	9/8/2023 3:04:13 PM	77165
Surr: 4-Terphenyl-d14	60.3		31.1-134		%Rec	1	9/8/2023 3:04:13 PM	77165
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0084	0.026		mg/Kg	1	8/29/2023 1:39:28 PM	R99320
Toluene	ND	0.0095	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R99320
Ethylbenzene	ND	0.0062	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R99320
Methyl tert-butyl ether (MTBE)	ND	0.030	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R99320
1,2,4-Trimethylbenzene	ND	0.0074	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R99320
1,3,5-Trimethylbenzene	ND	0.012	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R99320

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0816-2
Project: AOC 26 27
Collection Date: 8/16/2023
Lab ID: 2308A58-040
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.012	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
1,2-Dibromoethane (EDB)	ND	0.0084	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Naphthalene	ND	0.019	0.10		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
1-Methylnaphthalene	ND	0.016	0.21		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
2-Methylnaphthalene	ND	0.054	0.21		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Acetone	ND	0.79	0.79		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Bromobenzene	ND	0.011	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Bromodichloromethane	ND	0.011	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Bromoform	ND	0.013	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Bromomethane	ND	0.17	0.21		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
2-Butanone	ND	0.29	0.52		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Carbon disulfide	ND	0.013	0.52		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Carbon tetrachloride	ND	0.015	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Chlorobenzene	ND	0.0052	0.10		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Chloroethane	ND	0.0073	0.10		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Chloroform	ND	0.0072	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Chloromethane	ND	0.052	0.16		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
2-Chlorotoluene	ND	0.014	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
4-Chlorotoluene	ND	0.011	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
cis-1,2-DCE	ND	0.026	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
cis-1,3-Dichloropropene	ND	0.0069	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
1,2-Dibromo-3-chloropropane	ND	0.023	0.10		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Dibromochloromethane	ND	0.0069	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Dibromomethane	ND	0.0080	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
1,2-Dichlorobenzene	ND	0.011	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
1,3-Dichlorobenzene	ND	0.0099	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
1,4-Dichlorobenzene	ND	0.014	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Dichlorodifluoromethane	ND	0.021	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
1,1-Dichloroethane	ND	0.0043	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
1,1-Dichloroethene	ND	0.030	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
1,2-Dichloropropane	ND	0.0090	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
1,3-Dichloropropane	ND	0.0056	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
2,2-Dichloropropane	ND	0.0061	0.10		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
1,1-Dichloropropene	ND	0.0055	0.10		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Hexachlorobutadiene	ND	0.10	0.10		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
2-Hexanone	ND	0.023	0.52		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Isopropylbenzene	ND	0.0097	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
4-Isopropyltoluene	ND	0.0053	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
4-Methyl-2-pentanone	ND	0.061	0.52		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0816-2
Project: AOC 26 27
Collection Date: 8/16/2023
Lab ID: 2308A58-040
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.12	0.16		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
n-Butylbenzene	ND	0.014	0.16		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
n-Propylbenzene	ND	0.0085	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
sec-Butylbenzene	ND	0.014	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Styrene	ND	0.0066	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
tert-Butylbenzene	ND	0.018	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
1,1,1,2-Tetrachloroethane	ND	0.0077	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
1,1,2,2-Tetrachloroethane	ND	0.018	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Tetrachloroethene (PCE)	ND	0.014	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
trans-1,2-DCE	ND	0.019	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
trans-1,3-Dichloropropene	ND	0.011	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
1,2,3-Trichlorobenzene	ND	0.0081	0.10		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
1,2,4-Trichlorobenzene	ND	0.018	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
1,1,1-Trichloroethane	ND	0.018	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
1,1,2-Trichloroethane	ND	0.013	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Trichloroethene (TCE)	ND	0.018	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Trichlorofluoromethane	ND	0.012	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
1,2,3-Trichloropropane	ND	0.010	0.10		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Vinyl chloride	ND	0.029	0.052		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Xylenes, Total	ND	0.018	0.10		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
1,4-Dioxane	ND	0.27	0.52		mg/Kg	1	8/29/2023 1:39:28 PM	R9932C
Surr: Dibromofluoromethane	98.1	0	73-145		%Rec	1	8/29/2023 1:39:28 PM	R9932C
Surr: 1,2-Dichloroethane-d4	99.7	0	64.8-147		%Rec	1	8/29/2023 1:39:28 PM	R9932C
Surr: Toluene-d8	96.7	0	70-130		%Rec	1	8/29/2023 1:39:28 PM	R9932C
Surr: 4-Bromofluorobenzene	97.0	0	62.1-144		%Rec	1	8/29/2023 1:39:28 PM	R9932C

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0816-3
Project: AOC 26 27 **Collection Date:** 8/16/2023
Lab ID: 2308A58-041 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.062	0.10		µg/Kg	1	8/25/2023 10:56:33 AM	77038
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	8.0	9.3		mg/Kg	1	8/29/2023 4:58:16 AM	77108
Motor Oil Range Organics (MRO)	ND	26	47		mg/Kg	1	8/29/2023 4:58:16 AM	77108
Surr: DNOP	96.8	0	69-147		%Rec	1	8/29/2023 4:58:16 AM	77108
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	1.9	7.6		mg/Kg	1	8/29/2023 12:24:00 PM	GS993
Surr: BFB	97.5	0	15-244		%Rec	1	8/29/2023 12:24:00 PM	GS993
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	60	60		mg/Kg	20	8/23/2023 10:38:19 AM	77012
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.49	0.98		mg/Kg	10	9/7/2023 7:57:27 PM	77030
Arsenic	0.69	0.49	0.98	J	mg/Kg	10	9/8/2023 1:53:28 PM	77030
Lead	8.2	0.49	0.98		mg/Kg	10	9/7/2023 7:57:27 PM	77030
Nickel	12	0.69	0.98		mg/Kg	10	9/7/2023 7:57:27 PM	77030
Selenium	3.0	0.98	0.98		mg/Kg	10	9/12/2023 2:53:34 PM	77030
Silver	ND	0.49	0.98		mg/Kg	10	9/7/2023 7:57:27 PM	77030
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.072	0.072		mg/Kg	1	8/24/2023 3:47:40 PM	77024
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	210	0.20	0.20		mg/Kg	2	8/28/2023 5:19:57 PM	77030
Beryllium	1.0	0.095	0.29		mg/Kg	2	8/28/2023 5:19:57 PM	77030
Cadmium	ND	0.41	0.49		mg/Kg	2	8/28/2023 5:19:57 PM	77030
Chromium	12	0.59	0.59		mg/Kg	2	8/28/2023 5:19:57 PM	77030
Cobalt	3.5	0.29	0.59		mg/Kg	2	8/28/2023 5:19:57 PM	77030
Iron	19000	980	980		mg/Kg	100	8/28/2023 8:49:50 PM	77030
Manganese	810	0.99	1.2		mg/Kg	5	8/28/2023 5:22:03 PM	77030
Vanadium	33	0.29	4.9		mg/Kg	2	8/28/2023 5:19:57 PM	77030
Zinc	14	4.9	4.9		mg/Kg	2	8/28/2023 5:19:57 PM	77030
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.19	0.20		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Aniline	ND	0.12	0.20		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Anthracene	ND	0.19	0.20		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Azobenzene	ND	0.21	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Benz(a)anthracene	ND	0.21	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0816-3
Project: AOC 26 27 **Collection Date:** 8/16/2023
Lab ID: 2308A58-041 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Benzo(b)fluoranthene	ND	0.20	0.20		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Benzo(g,h,i)perylene	ND	0.22	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Benzo(k)fluoranthene	ND	0.20	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Benzoic acid	ND	0.20	0.49		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Benzyl alcohol	ND	0.18	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Bis(2-chloroethoxy)methane	ND	0.17	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Bis(2-chloroethyl)ether	ND	0.23	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Bis(2-chloroisopropyl)ether	ND	0.16	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Bis(2-ethylhexyl)phthalate	ND	0.31	0.49		mg/Kg	1	9/8/2023 3:46:00 PM	77165
4-Bromophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Butyl benzyl phthalate	ND	0.21	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Carbazole	ND	0.22	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
4-Chloro-3-methylphenol	ND	0.19	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
4-Chloroaniline	ND	0.14	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
2-Chloronaphthalene	ND	0.17	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
2-Chlorophenol	ND	0.14	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
4-Chlorophenyl phenyl ether	ND	0.19	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Chrysene	ND	0.22	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Di-n-butyl phthalate	ND	0.59	0.99		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Di-n-octyl phthalate	ND	0.21	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Dibenz(a,h)anthracene	ND	0.22	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Dibenzofuran	ND	0.19	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
1,2-Dichlorobenzene	ND	0.16	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
1,3-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
1,4-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
3,3´-Dichlorobenzidine	ND	0.25	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Diethyl phthalate	ND	1.8	3.0		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Dimethyl phthalate	ND	0.23	0.39		mg/Kg	1	9/8/2023 3:46:00 PM	77165
2,4-Dichlorophenol	ND	0.20	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
2,4-Dimethylphenol	ND	0.16	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
4,6-Dinitro-2-methylphenol	ND	0.22	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
2,4-Dinitrophenol	ND	0.23	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
2,4-Dinitrotoluene	ND	0.20	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
2,6-Dinitrotoluene	ND	0.22	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Fluoranthene	ND	0.21	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Fluorene	ND	0.19	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Hexachlorobenzene	ND	0.17	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Hexachlorobutadiene	ND	0.15	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0816-3
Project: AOC 26 27
Collection Date: 8/16/2023
Lab ID: 2308A58-041
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.090	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Hexachloroethane	ND	0.20	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Indeno(1,2,3-cd)pyrene	ND	0.22	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Isophorone	ND	0.17	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
1-Methylnaphthalene	ND	0.16	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
2-Methylnaphthalene	ND	0.17	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
2-Methylphenol	ND	0.15	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
3+4-Methylphenol	ND	0.16	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
N-Nitrosodi-n-propylamine	ND	0.19	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
N-Nitrosodimethylamine	ND	0.15	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
N-Nitrosodiphenylamine	ND	0.22	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Naphthalene	ND	0.15	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
2-Nitroaniline	ND	0.19	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
3-Nitroaniline	ND	0.14	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
4-Nitroaniline	ND	0.12	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Nitrobenzene	ND	0.15	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
2-Nitrophenol	ND	0.16	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
4-Nitrophenol	ND	0.19	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Pentachlorophenol	ND	0.24	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Phenanthrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Phenol	ND	0.24	0.30		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Pyridine	ND	0.19	0.99		mg/Kg	1	9/8/2023 3:46:00 PM	77165
1,2,4-Trichlorobenzene	ND	0.14	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
2,4,5-Trichlorophenol	ND	0.21	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
2,4,6-Trichlorophenol	ND	0.18	0.25		mg/Kg	1	9/8/2023 3:46:00 PM	77165
Surr: 2-Fluorophenol	43.0		15-123		%Rec	1	9/8/2023 3:46:00 PM	77165
Surr: Phenol-d5	52.1		15-141		%Rec	1	9/8/2023 3:46:00 PM	77165
Surr: 2,4,6-Tribromophenol	56.8		23-118		%Rec	1	9/8/2023 3:46:00 PM	77165
Surr: Nitrobenzene-d5	40.9		15-125		%Rec	1	9/8/2023 3:46:00 PM	77165
Surr: 2-Fluorobiphenyl	42.5		15-129		%Rec	1	9/8/2023 3:46:00 PM	77165
Surr: 4-Terphenyl-d14	66.1		31.1-134		%Rec	1	9/8/2023 3:46:00 PM	77165
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.012	0.038		mg/Kg	1	8/29/2023 2:07:51 PM	R99320
Toluene	ND	0.014	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R99320
Ethylbenzene	ND	0.0090	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R99320
Methyl tert-butyl ether (MTBE)	ND	0.043	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R99320
1,2,4-Trimethylbenzene	ND	0.011	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R99320
1,3,5-Trimethylbenzene	ND	0.017	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R99320

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0816-3
Project: AOC 26 27 **Collection Date:** 8/16/2023
Lab ID: 2308A58-041 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.017	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
1,2-Dibromoethane (EDB)	ND	0.012	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Naphthalene	ND	0.028	0.15		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
1-Methylnaphthalene	ND	0.022	0.30		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
2-Methylnaphthalene	ND	0.078	0.30		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Acetone	ND	1.1	1.1		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Bromobenzene	ND	0.016	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Bromodichloromethane	ND	0.016	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Bromoform	ND	0.018	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Bromomethane	ND	0.25	0.30		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
2-Butanone	ND	0.42	0.76		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Carbon disulfide	ND	0.018	0.76		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Carbon tetrachloride	ND	0.021	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Chlorobenzene	ND	0.0075	0.15		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Chloroethane	ND	0.010	0.15		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Chloroform	ND	0.010	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Chloromethane	ND	0.075	0.23		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
2-Chlorotoluene	ND	0.020	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
4-Chlorotoluene	ND	0.016	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
cis-1,2-DCE	ND	0.037	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
cis-1,3-Dichloropropene	ND	0.0099	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
1,2-Dibromo-3-chloropropane	ND	0.033	0.15		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Dibromochloromethane	ND	0.0099	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Dibromomethane	ND	0.011	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
1,2-Dichlorobenzene	ND	0.016	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
1,3-Dichlorobenzene	ND	0.014	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
1,4-Dichlorobenzene	ND	0.020	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Dichlorodifluoromethane	ND	0.030	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
1,1-Dichloroethane	ND	0.0061	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
1,1-Dichloroethene	ND	0.043	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
1,2-Dichloropropane	ND	0.013	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
1,3-Dichloropropane	ND	0.0080	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
2,2-Dichloropropane	ND	0.0088	0.15		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
1,1-Dichloropropene	ND	0.0080	0.15		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Hexachlorobutadiene	ND	0.15	0.15		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
2-Hexanone	ND	0.033	0.76		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Isopropylbenzene	ND	0.014	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
4-Isopropyltoluene	ND	0.0076	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
4-Methyl-2-pentanone	ND	0.088	0.76		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C

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ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0816-3
Project: AOC 26 27
Collection Date: 8/16/2023
Lab ID: 2308A58-041
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.18	0.23		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
n-Butylbenzene	ND	0.020	0.23		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
n-Propylbenzene	ND	0.012	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
sec-Butylbenzene	ND	0.020	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Styrene	ND	0.0095	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
tert-Butylbenzene	ND	0.025	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
1,1,1,2-Tetrachloroethane	ND	0.011	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
1,1,2,2-Tetrachloroethane	ND	0.025	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Tetrachloroethene (PCE)	ND	0.021	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
trans-1,2-DCE	ND	0.027	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
trans-1,3-Dichloropropene	ND	0.015	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
1,2,3-Trichlorobenzene	ND	0.012	0.15		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
1,2,4-Trichlorobenzene	ND	0.026	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
1,1,1-Trichloroethane	ND	0.025	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
1,1,2-Trichloroethane	ND	0.019	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Trichloroethene (TCE)	ND	0.026	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Trichlorofluoromethane	ND	0.017	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
1,2,3-Trichloropropane	ND	0.014	0.15		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Vinyl chloride	ND	0.041	0.076		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Xylenes, Total	ND	0.026	0.15		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
1,4-Dioxane	ND	0.38	0.76		mg/Kg	1	8/29/2023 2:07:51 PM	R9932C
Surr: Dibromofluoromethane	96.9	0	73-145		%Rec	1	8/29/2023 2:07:51 PM	R9932C
Surr: 1,2-Dichloroethane-d4	99.9	0	64.8-147		%Rec	1	8/29/2023 2:07:51 PM	R9932C
Surr: Toluene-d8	95.7	0	70-130		%Rec	1	8/29/2023 2:07:51 PM	R9932C
Surr: 4-Bromofluorobenzene	98.8	0	62.1-144		%Rec	1	8/29/2023 2:07:51 PM	R9932C

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0816-4
Project: AOC 26 27 **Collection Date:** 8/16/2023
Lab ID: 2308A58-042 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.056	0.090		µg/Kg	1	8/25/2023 11:11:21 AM	77038
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	7.9	9.2		mg/Kg	1	8/29/2023 5:08:53 AM	77108
Motor Oil Range Organics (MRO)	ND	25	46		mg/Kg	1	8/29/2023 5:08:53 AM	77108
Surr: DNOP	98.2	0	69-147		%Rec	1	8/29/2023 5:08:53 AM	77108
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	1.1	4.5		mg/Kg	1	8/29/2023 12:46:00 PM	GS993
Surr: BFB	97.9	0	15-244		%Rec	1	8/29/2023 12:46:00 PM	GS993
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	61	61		mg/Kg	20	8/23/2023 10:50:43 AM	77012
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.49		mg/Kg	5	9/7/2023 8:01:52 PM	77030
Arsenic	0.96	0.24	0.49		mg/Kg	5	9/8/2023 1:57:00 PM	77030
Lead	10	0.24	0.49		mg/Kg	5	9/7/2023 8:01:52 PM	77030
Nickel	12	0.34	0.49		mg/Kg	5	9/7/2023 8:01:52 PM	77030
Selenium	3.0	0.49	0.49		mg/Kg	5	9/12/2023 2:57:06 PM	77030
Silver	ND	0.24	0.49		mg/Kg	5	9/7/2023 8:01:52 PM	77030
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.070	0.070		mg/Kg	1	8/24/2023 1:54:25 PM	77024
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	270	0.20	0.20		mg/Kg	2	8/28/2023 5:23:56 PM	77030
Beryllium	1.2	0.095	0.29		mg/Kg	2	8/28/2023 5:23:56 PM	77030
Cadmium	ND	0.41	0.49		mg/Kg	2	8/28/2023 5:23:56 PM	77030
Chromium	11	0.59	0.59		mg/Kg	2	8/28/2023 5:23:56 PM	77030
Cobalt	5.1	0.29	0.59		mg/Kg	2	8/28/2023 5:23:56 PM	77030
Iron	16000	980	980		mg/Kg	100	8/28/2023 8:53:46 PM	77030
Manganese	370	0.40	0.49		mg/Kg	2	8/28/2023 5:23:56 PM	77030
Vanadium	17	0.29	4.9		mg/Kg	2	8/28/2023 5:23:56 PM	77030
Zinc	19	4.9	4.9		mg/Kg	2	8/28/2023 5:23:56 PM	77030
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Aniline	ND	0.12	0.19		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Anthracene	ND	0.19	0.19		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Azobenzene	ND	0.20	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Benz(a)anthracene	ND	0.21	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0816-4
Project: AOC 26 27
Collection Date: 8/16/2023
Lab ID: 2308A58-042
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Benzo(g,h,i)perylene	ND	0.22	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Benzoic acid	ND	0.19	0.49		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Benzyl alcohol	ND	0.17	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Bis(2-ethylhexyl)phthalate	ND	0.30	0.49		mg/Kg	1	9/8/2023 4:28:41 PM	77165
4-Bromophenyl phenyl ether	ND	0.20	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Butyl benzyl phthalate	ND	0.21	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Carbazole	ND	0.22	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Chrysene	ND	0.22	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Di-n-butyl phthalate	ND	0.58	0.97		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Dibenz(a,h)anthracene	ND	0.22	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
3,3´-Dichlorobenzidine	ND	0.24	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Dimethyl phthalate	ND	0.22	0.39		mg/Kg	1	9/8/2023 4:28:41 PM	77165
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Fluoranthene	ND	0.20	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Fluorene	ND	0.19	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0816-4
Project: AOC 26 27
Collection Date: 8/16/2023
Lab ID: 2308A58-042
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.089	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Isophorone	ND	0.17	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
2-Methylnaphthalene	ND	0.17	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
N-Nitrosodimethylamine	ND	0.14	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Naphthalene	ND	0.15	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
4-Nitrophenol	ND	0.18	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Phenanthrene	ND	0.20	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Phenol	ND	0.23	0.29		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Pyridine	ND	0.18	0.97		mg/Kg	1	9/8/2023 4:28:41 PM	77165
1,2,4-Trichlorobenzene	ND	0.14	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
2,4,5-Trichlorophenol	ND	0.21	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	9/8/2023 4:28:41 PM	77165
Surr: 2-Fluorophenol	47.9		15-123		%Rec	1	9/8/2023 4:28:41 PM	77165
Surr: Phenol-d5	54.9		15-141		%Rec	1	9/8/2023 4:28:41 PM	77165
Surr: 2,4,6-Tribromophenol	57.4		23-118		%Rec	1	9/8/2023 4:28:41 PM	77165
Surr: Nitrobenzene-d5	43.8		15-125		%Rec	1	9/8/2023 4:28:41 PM	77165
Surr: 2-Fluorobiphenyl	40.9		15-129		%Rec	1	9/8/2023 4:28:41 PM	77165
Surr: 4-Terphenyl-d14	61.0		31.1-134		%Rec	1	9/8/2023 4:28:41 PM	77165
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0073	0.023		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Toluene	ND	0.0082	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Ethylbenzene	ND	0.0054	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Methyl tert-butyl ether (MTBE)	ND	0.026	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1,2,4-Trimethylbenzene	ND	0.0064	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1,3,5-Trimethylbenzene	ND	0.010	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0816-4
Project: AOC 26 27
Collection Date: 8/16/2023
Lab ID: 2308A58-042
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.010	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1,2-Dibromoethane (EDB)	ND	0.0073	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Naphthalene	ND	0.017	0.091		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1-Methylnaphthalene	ND	0.013	0.18		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
2-Methylnaphthalene	ND	0.047	0.18		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Acetone	ND	0.68	0.68		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Bromobenzene	ND	0.0096	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Bromodichloromethane	ND	0.0097	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Bromoform	ND	0.011	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Bromomethane	ND	0.15	0.18		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
2-Butanone	ND	0.25	0.45		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Carbon disulfide	ND	0.011	0.45		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Carbon tetrachloride	ND	0.013	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Chlorobenzene	ND	0.0045	0.091		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Chloroethane	ND	0.0063	0.091		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Chloroform	ND	0.0062	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Chloromethane	ND	0.045	0.14		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
2-Chlorotoluene	ND	0.012	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
4-Chlorotoluene	ND	0.0095	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
cis-1,2-DCE	ND	0.022	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
cis-1,3-Dichloropropene	ND	0.0060	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1,2-Dibromo-3-chloropropane	ND	0.020	0.091		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Dibromochloromethane	ND	0.0059	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Dibromomethane	ND	0.0069	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1,2-Dichlorobenzene	ND	0.0094	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1,3-Dichlorobenzene	ND	0.0085	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1,4-Dichlorobenzene	ND	0.012	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Dichlorodifluoromethane	ND	0.018	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1,1-Dichloroethane	ND	0.0037	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1,1-Dichloroethene	ND	0.026	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1,2-Dichloropropane	ND	0.0078	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1,3-Dichloropropane	ND	0.0048	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
2,2-Dichloropropane	ND	0.0053	0.091		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1,1-Dichloropropene	ND	0.0048	0.091		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Hexachlorobutadiene	ND	0.091	0.091		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
2-Hexanone	ND	0.020	0.45		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Isopropylbenzene	ND	0.0084	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
4-Isopropyltoluene	ND	0.0045	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
4-Methyl-2-pentanone	ND	0.053	0.45		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0816-4
Project: AOC 26 27
Collection Date: 8/16/2023
Lab ID: 2308A58-042
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.11	0.14		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
n-Butylbenzene	ND	0.012	0.14		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
n-Propylbenzene	ND	0.0073	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
sec-Butylbenzene	ND	0.012	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Styrene	ND	0.0057	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
tert-Butylbenzene	ND	0.015	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1,1,1,2-Tetrachloroethane	ND	0.0066	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1,1,2,2-Tetrachloroethane	ND	0.015	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Tetrachloroethene (PCE)	ND	0.012	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
trans-1,2-DCE	ND	0.016	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
trans-1,3-Dichloropropene	ND	0.0092	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1,2,3-Trichlorobenzene	ND	0.0070	0.091		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1,2,4-Trichlorobenzene	ND	0.016	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1,1,1-Trichloroethane	ND	0.015	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1,1,2-Trichloroethane	ND	0.011	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Trichloroethene (TCE)	ND	0.015	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Trichlorofluoromethane	ND	0.010	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1,2,3-Trichloropropane	ND	0.0086	0.091		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Vinyl chloride	ND	0.025	0.045		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Xylenes, Total	ND	0.015	0.091		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
1,4-Dioxane	ND	0.23	0.45		mg/Kg	1	8/29/2023 2:36:23 PM	R9932C
Surr: Dibromofluoromethane	101	0	73-145		%Rec	1	8/29/2023 2:36:23 PM	R9932C
Surr: 1,2-Dichloroethane-d4	102	0	64.8-147		%Rec	1	8/29/2023 2:36:23 PM	R9932C
Surr: Toluene-d8	95.7	0	70-130		%Rec	1	8/29/2023 2:36:23 PM	R9932C
Surr: 4-Bromofluorobenzene	100	0	62.1-144		%Rec	1	8/29/2023 2:36:23 PM	R9932C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0816-5
Project: AOC 26 27 **Collection Date:** 8/16/2023
Lab ID: 2308A58-043 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.060	0.097		µg/Kg	1	8/25/2023 11:26:07 AM	77038
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	8.4	9.8		mg/Kg	1	8/29/2023 5:19:31 AM	77108
Motor Oil Range Organics (MRO)	ND	27	49		mg/Kg	1	8/29/2023 5:19:31 AM	77108
Surr: DNOP	92.8	0	69-147		%Rec	1	8/29/2023 5:19:31 AM	77108
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **CCM**	
Gasoline Range Organics (GRO)	5.1	1.3	5.0		mg/Kg	1	8/29/2023 1:08:00 PM	GS993
Surr: BFB	149	0	15-244		%Rec	1	8/29/2023 1:08:00 PM	GS993
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	130	60	60		mg/Kg	20	8/23/2023 11:27:58 AM	77012
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.52		mg/Kg	5	9/7/2023 8:10:41 PM	77030
Arsenic	1.1	0.26	0.52		mg/Kg	5	9/8/2023 2:18:15 PM	77030
Lead	11	0.26	0.52		mg/Kg	5	9/7/2023 8:10:41 PM	77030
Nickel	11	0.36	0.52		mg/Kg	5	9/7/2023 8:10:41 PM	77030
Selenium	2.9	0.52	0.52		mg/Kg	5	9/12/2023 3:00:37 PM	77030
Silver	ND	0.26	0.52		mg/Kg	5	9/7/2023 8:10:41 PM	77030
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.070	0.070		mg/Kg	1	8/24/2023 3:51:58 PM	77024
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	230	0.21	0.21		mg/Kg	2	8/28/2023 5:28:00 PM	77030
Beryllium	1.1	0.10	0.31		mg/Kg	2	8/28/2023 5:28:00 PM	77030
Cadmium	ND	0.43	0.52		mg/Kg	2	8/28/2023 5:28:00 PM	77030
Chromium	10	0.62	0.62		mg/Kg	2	8/28/2023 5:28:00 PM	77030
Cobalt	4.8	0.31	0.62		mg/Kg	2	8/28/2023 5:28:00 PM	77030
Iron	14000	1000	1000		mg/Kg	100	8/28/2023 8:57:45 PM	77030
Manganese	890	1.0	1.3		mg/Kg	5	8/28/2023 5:37:54 PM	77030
Vanadium	15	0.31	5.2		mg/Kg	2	8/28/2023 5:28:00 PM	77030
Zinc	16	5.2	5.2		mg/Kg	2	8/28/2023 5:28:00 PM	77030
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Aniline	ND	0.12	0.19		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Anthracene	ND	0.19	0.19		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Azobenzene	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Benz(a)anthracene	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0816-5
Project: AOC 26 27
Collection Date: 8/16/2023
Lab ID: 2308A58-043
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Benzo(g,h,i)perylene	ND	0.22	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Benzoic acid	ND	0.19	0.49		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Benzyl alcohol	ND	0.18	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Bis(2-ethylhexyl)phthalate	ND	0.30	0.49		mg/Kg	1	9/8/2023 5:10:42 PM	77165
4-Bromophenyl phenyl ether	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Butyl benzyl phthalate	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Carbazole	ND	0.22	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Chrysene	ND	0.22	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Di-n-butyl phthalate	ND	0.58	0.97		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Dibenz(a,h)anthracene	ND	0.22	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
1,4-Dichlorobenzene	ND	0.18	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
3,3´-Dichlorobenzidine	ND	0.25	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Dimethyl phthalate	ND	0.22	0.39		mg/Kg	1	9/8/2023 5:10:42 PM	77165
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Fluoranthene	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Fluorene	ND	0.19	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0816-5
Project: AOC 26 27
Collection Date: 8/16/2023
Lab ID: 2308A58-043
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.089	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Isophorone	ND	0.17	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
2-Methylnaphthalene	ND	0.17	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
N-Nitrosodimethylamine	ND	0.15	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Naphthalene	ND	0.15	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
4-Nitrophenol	ND	0.19	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Phenanthrene	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Phenol	ND	0.23	0.29		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Pyridine	ND	0.18	0.97		mg/Kg	1	9/8/2023 5:10:42 PM	77165
1,2,4-Trichlorobenzene	ND	0.14	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
2,4,5-Trichlorophenol	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	9/8/2023 5:10:42 PM	77165
Surr: 2-Fluorophenol	40.9		15-123		%Rec	1	9/8/2023 5:10:42 PM	77165
Surr: Phenol-d5	50.3		15-141		%Rec	1	9/8/2023 5:10:42 PM	77165
Surr: 2,4,6-Tribromophenol	59.8		23-118		%Rec	1	9/8/2023 5:10:42 PM	77165
Surr: Nitrobenzene-d5	38.1		15-125		%Rec	1	9/8/2023 5:10:42 PM	77165
Surr: 2-Fluorobiphenyl	38.9		15-129		%Rec	1	9/8/2023 5:10:42 PM	77165
Surr: 4-Terphenyl-d14	64.8		31.1-134		%Rec	1	9/8/2023 5:10:42 PM	77165
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	0.10	0.0081	0.025		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Toluene	0.011	0.0091	0.050	J	mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Ethylbenzene	0.058	0.0060	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Methyl tert-butyl ether (MTBE)	ND	0.028	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1,2,4-Trimethylbenzene	0.028	0.0071	0.050	J	mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1,3,5-Trimethylbenzene	ND	0.011	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0816-5
Project: AOC 26 27
Collection Date: 8/16/2023
Lab ID: 2308A58-043
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.011	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1,2-Dibromoethane (EDB)	ND	0.0081	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Naphthalene	ND	0.019	0.10		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1-Methylnaphthalene	0.048	0.015	0.20	J	mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
2-Methylnaphthalene	ND	0.052	0.20		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Acetone	ND	0.75	0.75		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Bromobenzene	ND	0.011	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Bromodichloromethane	ND	0.011	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Bromoform	ND	0.012	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Bromomethane	ND	0.16	0.20		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
2-Butanone	ND	0.28	0.50		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Carbon disulfide	ND	0.012	0.50		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Carbon tetrachloride	ND	0.014	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Chlorobenzene	ND	0.0050	0.10		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Chloroethane	ND	0.0070	0.10		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Chloroform	0.010	0.0069	0.050	J	mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Chloromethane	ND	0.050	0.15		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
2-Chlorotoluene	ND	0.013	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
4-Chlorotoluene	ND	0.011	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
cis-1,2-DCE	ND	0.025	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
cis-1,3-Dichloropropene	ND	0.0066	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1,2-Dibromo-3-chloropropane	ND	0.022	0.10		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Dibromochloromethane	ND	0.0066	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Dibromomethane	ND	0.0076	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1,2-Dichlorobenzene	ND	0.010	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1,3-Dichlorobenzene	ND	0.0095	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1,4-Dichlorobenzene	ND	0.013	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Dichlorodifluoromethane	ND	0.020	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1,1-Dichloroethane	ND	0.0041	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1,1-Dichloroethene	ND	0.029	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1,2-Dichloropropane	ND	0.0086	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1,3-Dichloropropane	ND	0.0053	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
2,2-Dichloropropane	ND	0.0059	0.10		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1,1-Dichloropropene	ND	0.0053	0.10		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Hexachlorobutadiene	ND	0.10	0.10		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
2-Hexanone	ND	0.022	0.50		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Isopropylbenzene	0.018	0.0093	0.050	J	mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
4-Isopropyltoluene	0.014	0.0050	0.050	J	mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
4-Methyl-2-pentanone	ND	0.059	0.50		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0816-5
Project: AOC 26 27
Collection Date: 8/16/2023
Lab ID: 2308A58-043
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.12	0.15		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
n-Butylbenzene	0.022	0.013	0.15	J	mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
n-Propylbenzene	0.040	0.0081	0.050	J	mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
sec-Butylbenzene	0.024	0.013	0.050	J	mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Styrene	ND	0.0063	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
tert-Butylbenzene	ND	0.017	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1,1,1,2-Tetrachloroethane	ND	0.0074	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1,1,2,2-Tetrachloroethane	ND	0.017	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Tetrachloroethene (PCE)	ND	0.014	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
trans-1,2-DCE	ND	0.018	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
trans-1,3-Dichloropropene	ND	0.010	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1,2,3-Trichlorobenzene	ND	0.0078	0.10		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1,2,4-Trichlorobenzene	ND	0.017	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1,1,1-Trichloroethane	ND	0.017	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1,1,2-Trichloroethane	ND	0.013	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Trichloroethene (TCE)	ND	0.017	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Trichlorofluoromethane	ND	0.011	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1,2,3-Trichloropropane	ND	0.0096	0.10		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Vinyl chloride	ND	0.027	0.050		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Xylenes, Total	0.034	0.017	0.10	J	mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
1,4-Dioxane	ND	0.25	0.50		mg/Kg	1	8/29/2023 3:04:50 PM	R9932C
Surr: Dibromofluoromethane	101	0	73-145		%Rec	1	8/29/2023 3:04:50 PM	R9932C
Surr: 1,2-Dichloroethane-d4	106	0	64.8-147		%Rec	1	8/29/2023 3:04:50 PM	R9932C
Surr: Toluene-d8	95.8	0	70-130		%Rec	1	8/29/2023 3:04:50 PM	R9932C
Surr: 4-Bromofluorobenzene	102	0	62.1-144		%Rec	1	8/29/2023 3:04:50 PM	R9932C

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: EB-0816
Project: AOC 26 27
Collection Date: 8/16/2023 5:00:00 PM
Lab ID: 2308A58-044
Matrix: AQUEOUS
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **SB**	
1,2-Dibromoethane	ND	0.0040	0.0095		µg/L	1	8/24/2023 4:17:13 PM	77041
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	0.58	1.0		mg/L	1	8/23/2023 5:11:56 PM	76954
Motor Oil Range Organics (MRO)	ND	1.3	5.0		mg/L	1	8/23/2023 5:11:56 PM	76954
Surr: DNOP	66.1	0	54.5-177		%Rec	1	8/23/2023 5:11:56 PM	76954
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	0.0090	0.050		mg/L	1	8/22/2023 3:41:00 PM	GW991
Surr: BFB	106	0	15-270		%Rec	1	8/22/2023 3:41:00 PM	GW991
EPA METHOD 300.0: ANIONS							Analyst: **JTT**	
Chloride	ND	0.25	0.50		mg/L	1	8/18/2023 5:01:57 PM	R99082
EPA METHOD 200.7: METALS							Analyst: **ELS**	
Barium	ND	0.0018	0.0030		mg/L	1	8/25/2023 12:32:24 PM	B99256
Beryllium	ND	0.0011	0.0020		mg/L	1	8/23/2023 2:23:55 PM	A99201
Cadmium	ND	0.0017	0.0020		mg/L	1	8/23/2023 2:23:55 PM	A99201
Chromium	ND	0.0030	0.0060		mg/L	1	8/25/2023 12:32:24 PM	B99256
Cobalt	ND	0.0033	0.0060		mg/L	1	8/25/2023 12:32:24 PM	B99256
Iron	ND	0.0092	0.050		mg/L	1	8/23/2023 2:23:55 PM	A99201
Manganese	ND	0.0012	0.0020		mg/L	1	8/23/2023 2:23:55 PM	A99201
Vanadium	ND	0.0018	0.050		mg/L	1	8/23/2023 2:23:55 PM	A99201
Zinc	ND	0.0075	0.010		mg/L	1	8/23/2023 2:23:55 PM	A99201
EPA 200.8: METALS							Analyst: **bcv**	
Antimony	ND	0.00036	0.0010		mg/L	1	8/28/2023 11:39:51 AM	77101
Arsenic	ND	0.00020	0.00050		mg/L	1	8/28/2023 11:39:51 AM	77101
Lead	ND	0.000069	0.00050		mg/L	1	8/28/2023 11:39:51 AM	77101
Nickel	ND	0.00038	0.00050		mg/L	1	8/28/2023 11:39:51 AM	77101
Selenium	ND	0.00092	0.0010		mg/L	1	8/28/2023 11:39:51 AM	77101
Silver	ND	0.000097	0.00050		mg/L	1	8/28/2023 11:39:51 AM	77101
EPA METHOD 245.1: MERCURY							Analyst: **tem**	
Mercury	ND	0.000081	0.00020		mg/L	1	8/22/2023 1:36:41 PM	76963
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.3	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
Acenaphthylene	ND	4.6	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
Aniline	ND	5.4	10		µg/L	1	8/24/2023 12:38:20 PM	76988
Anthracene	ND	3.9	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
Azobenzene	ND	3.8	10		µg/L	1	8/24/2023 12:38:20 PM	76988
Benz(a)anthracene	ND	6.7	10		µg/L	1	8/24/2023 12:38:20 PM	76988

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: EB-0816
Project: AOC 26 27
Collection Date: 8/16/2023 5:00:00 PM
Lab ID: 2308A58-044
Matrix: AQUEOUS
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	4.9	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
Benzo(b)fluoranthene	ND	5.7	10		µg/L	1	8/24/2023 12:38:20 PM	76988
Benzo(g,h,i)perylene	ND	4.9	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
Benzo(k)fluoranthene	ND	4.5	10		µg/L	1	8/24/2023 12:38:20 PM	76988
Benzoic acid	ND	15	20		µg/L	1	8/24/2023 12:38:20 PM	76988
Benzyl alcohol	ND	4.8	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	8/24/2023 12:38:20 PM	76988
Bis(2-chloroethyl)ether	ND	5.0	10		µg/L	1	8/24/2023 12:38:20 PM	76988
Bis(2-chloroisopropyl)ether	ND	3.6	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
Bis(2-ethylhexyl)phthalate	ND	7.0	10		µg/L	1	8/24/2023 12:38:20 PM	76988
4-Bromophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
Butyl benzyl phthalate	ND	6.5	10		µg/L	1	8/24/2023 12:38:20 PM	76988
Carbazole	ND	5.3	10		µg/L	1	8/24/2023 12:38:20 PM	76988
4-Chloro-3-methylphenol	ND	4.6	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
4-Chloroaniline	ND	4.7	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
2-Chloronaphthalene	ND	3.2	10		µg/L	1	8/24/2023 12:38:20 PM	76988
2-Chlorophenol	ND	4.5	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
4-Chlorophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
Chrysene	ND	4.7	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
Di-n-butyl phthalate	ND	19	20		µg/L	1	8/24/2023 12:38:20 PM	76988
Di-n-octyl phthalate	ND	5.6	10		µg/L	1	8/24/2023 12:38:20 PM	76988
Dibenz(a,h)anthracene	ND	4.9	10		µg/L	1	8/24/2023 12:38:20 PM	76988
Dibenzofuran	ND	4.9	10		µg/L	1	8/24/2023 12:38:20 PM	76988
1,2-Dichlorobenzene	ND	2.9	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
1,3-Dichlorobenzene	ND	3.0	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
1,4-Dichlorobenzene	ND	1.8	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
3,3´-Dichlorobenzidine	ND	5.9	10		µg/L	1	8/24/2023 12:38:20 PM	76988
Diethyl phthalate	ND	5.6	10		µg/L	1	8/24/2023 12:38:20 PM	76988
Dimethyl phthalate	ND	5.4	10		µg/L	1	8/24/2023 12:38:20 PM	76988
2,4-Dichlorophenol	ND	3.8	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
2,4-Dimethylphenol	ND	4.8	10		µg/L	1	8/24/2023 12:38:20 PM	76988
4,6-Dinitro-2-methylphenol	ND	4.2	10		µg/L	1	8/24/2023 12:38:20 PM	76988
2,4-Dinitrophenol	ND	4.7	10		µg/L	1	8/24/2023 12:38:20 PM	76988
2,4-Dinitrotoluene	ND	5.0	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
2,6-Dinitrotoluene	ND	5.3	10		µg/L	1	8/24/2023 12:38:20 PM	76988
Fluoranthene	ND	5.5	10		µg/L	1	8/24/2023 12:38:20 PM	76988
Fluorene	ND	4.7	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
Hexachlorobenzene	ND	4.6	20		µg/L	1	8/24/2023 12:38:20 PM	76988
Hexachlorobutadiene	ND	2.5	20		µg/L	1	8/24/2023 12:38:20 PM	76988

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: EB-0816
Project: AOC 26 27
Collection Date: 8/16/2023 5:00:00 PM
Lab ID: 2308A58-044
Matrix: AQUEOUS
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	2.2	20		µg/L	1	8/24/2023 12:38:20 PM	76988
Hexachloroethane	ND	2.8	20		µg/L	1	8/24/2023 12:38:20 PM	76988
Indeno(1,2,3-cd)pyrene	ND	5.3	10		µg/L	1	8/24/2023 12:38:20 PM	76988
Isophorone	ND	4.3	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
1-Methylnaphthalene	ND	3.1	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
2-Methylnaphthalene	ND	2.4	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
2-Methylphenol	ND	4.7	10		µg/L	1	8/24/2023 12:38:20 PM	76988
3+4-Methylphenol	ND	4.9	10		µg/L	1	8/24/2023 12:38:20 PM	76988
N-Nitrosodi-n-propylamine	ND	3.7	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
N-Nitrosodimethylamine	ND	3.1	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
N-Nitrosodiphenylamine	ND	5.2	10		µg/L	1	8/24/2023 12:38:20 PM	76988
Naphthalene	ND	3.2	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
2-Nitroaniline	ND	5.0	10		µg/L	1	8/24/2023 12:38:20 PM	76988
3-Nitroaniline	ND	5.0	10		µg/L	1	8/24/2023 12:38:20 PM	76988
4-Nitroaniline	ND	4.5	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
Nitrobenzene	ND	3.6	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
2-Nitrophenol	ND	4.4	10		µg/L	1	8/24/2023 12:38:20 PM	76988
4-Nitrophenol	ND	2.9	10		µg/L	1	8/24/2023 12:38:20 PM	76988
Pentachlorophenol	ND	4.9	20		µg/L	1	8/24/2023 12:38:20 PM	76988
Phenanthrene	ND	4.8	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
Phenol	ND	3.9	10		µg/L	1	8/24/2023 12:38:20 PM	76988
Pyrene	ND	5.2	10		µg/L	1	8/24/2023 12:38:20 PM	76988
Pyridine	ND	31	40		µg/L	1	8/24/2023 12:38:20 PM	76988
1,2,4-Trichlorobenzene	ND	2.6	5.0		µg/L	1	8/24/2023 12:38:20 PM	76988
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	8/24/2023 12:38:20 PM	76988
2,4,6-Trichlorophenol	ND	4.1	10		µg/L	1	8/24/2023 12:38:20 PM	76988
Surr: 2-Fluorophenol	67.9	0	15-84.1		%Rec	1	8/24/2023 12:38:20 PM	76988
Surr: Phenol-d5	51.4	0	16.5-50.7	S	%Rec	1	8/24/2023 12:38:20 PM	76988
Surr: 2,4,6-Tribromophenol	61.5	0	15-133		%Rec	1	8/24/2023 12:38:20 PM	76988
Surr: Nitrobenzene-d5	72.8	0	30.9-86.8		%Rec	1	8/24/2023 12:38:20 PM	76988
Surr: 2-Fluorobiphenyl	73.3	0	24.3-77.2		%Rec	1	8/24/2023 12:38:20 PM	76988
Surr: 4-Terphenyl-d14	103	0	52.3-118		%Rec	1	8/24/2023 12:38:20 PM	76988
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	ND	0.23	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Toluene	ND	0.20	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Ethylbenzene	ND	0.21	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
1,2,4-Trimethylbenzene	0.16	0.12	1.0	J	µg/L	1	8/22/2023 1:20:00 PM	R99167
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167

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Qualifiers:

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B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: EB-0816
Project: AOC 26 27
Collection Date: 8/16/2023 5:00:00 PM
Lab ID: 2308A58-044
Matrix: AQUEOUS
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
1,2-Dichloroethane (EDC)	ND	0.30	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Naphthalene	ND	0.24	2.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
1-Methylnaphthalene	1.3	0.84	4.0	J	µg/L	1	8/22/2023 1:20:00 PM	R99167
2-Methylnaphthalene	1.4	0.69	4.0	J	µg/L	1	8/22/2023 1:20:00 PM	R99167
Acetone	ND	2.5	10		µg/L	1	8/22/2023 1:20:00 PM	R99167
Bromobenzene	ND	0.28	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Bromodichloromethane	ND	0.20	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Bromoform	ND	0.31	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Bromomethane	ND	0.85	3.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
2-Butanone	ND	2.0	10		µg/L	1	8/22/2023 1:20:00 PM	R99167
Carbon disulfide	ND	0.59	10		µg/L	1	8/22/2023 1:20:00 PM	R99167
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Chlorobenzene	ND	0.46	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Chloroethane	ND	0.38	2.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Chloroform	ND	0.13	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Chloromethane	ND	0.41	3.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
cis-1,3-Dichloropropene	ND	0.12	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Dibromochloromethane	ND	0.28	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Dibromomethane	ND	0.31	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
1,4-Dichlorobenzene	ND	0.10	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
1,1-Dichloroethane	ND	0.30	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
1,1-Dichloroethene	ND	0.20	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
1,2-Dichloropropane	ND	0.20	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
1,1-Dichloropropene	ND	0.18	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Hexachlorobutadiene	ND	0.42	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
2-Hexanone	ND	1.8	10		µg/L	1	8/22/2023 1:20:00 PM	R99167
Isopropylbenzene	ND	0.18	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
4-Methyl-2-pentanone	ND	0.67	10		µg/L	1	8/22/2023 1:20:00 PM	R99167

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: EB-0816
Project: AOC 26 27
Collection Date: 8/16/2023 5:00:00 PM
Lab ID: 2308A58-044 **Matrix:** AQUEOUS **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Methylene Chloride	ND	0.50	3.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
n-Butylbenzene	ND	0.13	3.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
n-Propylbenzene	ND	0.11	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
sec-Butylbenzene	ND	0.14	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Styrene	ND	0.14	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Tetrachloroethene (PCE)	ND	0.18	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
trans-1,2-DCE	ND	0.19	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
1,2,3-Trichlorobenzene	ND	0.25	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
1,1,1-Trichloroethane	ND	0.081	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
1,1,2-Trichloroethane	ND	0.20	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Trichloroethene (TCE)	ND	0.20	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Trichlorofluoromethane	ND	0.16	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
1,2,3-Trichloropropane	ND	0.16	2.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Vinyl chloride	ND	0.32	1.0		µg/L	1	8/22/2023 1:20:00 PM	R99167
Xylenes, Total	ND	0.37	1.5		µg/L	1	8/22/2023 1:20:00 PM	R99167
Surr: 1,2-Dichloroethane-d4	110	0	70-130		%Rec	1	8/22/2023 1:20:00 PM	R99167
Surr: 4-Bromofluorobenzene	112	0	70-130		%Rec	1	8/22/2023 1:20:00 PM	R99167
Surr: Dibromofluoromethane	112	0	70-130		%Rec	1	8/22/2023 1:20:00 PM	R99167
Surr: Toluene-d8	106	0	70-130		%Rec	1	8/22/2023 1:20:00 PM	R99167

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-15(10-15)
Project: AOC 26 27 **Collection Date:** 8/15/2023 3:40:00 PM
Lab ID: 2308A58-045 **Matrix:** MEOH (SOIL) **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.060	0.096		µg/Kg	1	8/25/2023 11:40:55 AM	77038
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	730	8.5	9.9		mg/Kg	1	8/29/2023 5:30:10 AM	77108
Motor Oil Range Organics (MRO)	ND	27	49		mg/Kg	1	8/29/2023 5:30:10 AM	77108
Surr: DNOP	96.0	0	69-147		%Rec	1	8/29/2023 5:30:10 AM	77108
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	110	1.4	5.7		mg/Kg	1	8/28/2023 9:09:04 PM	GS992
Surr: BFB	871	0	15-244	S	%Rec	1	8/28/2023 9:09:04 PM	GS992
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	60	60		mg/Kg	20	8/23/2023 12:05:12 PM	77012
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.53	1.1		mg/Kg	10	9/7/2023 8:19:31 PM	77030
Arsenic	3.3	0.53	1.1		mg/Kg	10	9/8/2023 2:21:46 PM	77030
Lead	8.2	0.53	1.1		mg/Kg	10	9/7/2023 8:19:31 PM	77030
Nickel	6.7	0.74	1.1		mg/Kg	10	9/7/2023 8:19:31 PM	77030
Selenium	5.1	1.1	1.1		mg/Kg	10	9/12/2023 3:04:10 PM	77030
Silver	ND	0.53	1.1		mg/Kg	10	9/7/2023 8:19:31 PM	77030
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.070	0.070		mg/Kg	1	8/24/2023 3:54:07 PM	77024
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	1600	1.1	1.1		mg/Kg	10	8/30/2023 4:45:07 PM	77030
Beryllium	0.55	0.10	0.32		mg/Kg	2	8/28/2023 5:39:49 PM	77030
Cadmium	ND	0.44	0.53		mg/Kg	2	8/28/2023 5:39:49 PM	77030
Chromium	4.2	0.63	0.63		mg/Kg	2	8/28/2023 5:39:49 PM	77030
Cobalt	3.3	0.31	0.63		mg/Kg	2	8/28/2023 5:39:49 PM	77030
Iron	10000	530	530		mg/Kg	50	8/28/2023 8:59:43 PM	77030
Manganese	2000	2.1	2.6		mg/Kg	10	8/30/2023 4:45:07 PM	77030
Vanadium	19	0.31	5.3		mg/Kg	2	8/28/2023 5:39:49 PM	77030
Zinc	11	5.3	5.3		mg/Kg	2	8/28/2023 5:39:49 PM	77030
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Aniline	ND	0.12	0.19		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Anthracene	ND	0.19	0.19		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Azobenzene	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Benz(a)anthracene	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-15(10-15)
Project: AOC 26 27
Collection Date: 8/15/2023 3:40:00 PM
Lab ID: 2308A58-045
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Benzo(g,h,i)perylene	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Benzoic acid	ND	0.19	0.48		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Benzyl alcohol	ND	0.17	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Bis(2-ethylhexyl)phthalate	ND	0.30	0.48		mg/Kg	1	9/8/2023 5:54:14 PM	77165
4-Bromophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Butyl benzyl phthalate	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Carbazole	ND	0.22	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Chrysene	ND	0.22	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Di-n-butyl phthalate	ND	0.57	0.96		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Dibenz(a,h)anthracene	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
3,3´-Dichlorobenzidine	ND	0.24	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Dimethyl phthalate	ND	0.22	0.38		mg/Kg	1	9/8/2023 5:54:14 PM	77165
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Fluoranthene	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Fluorene	ND	0.19	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165

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Qualifiers:

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B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
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S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-15(10-15)
Project: AOC 26 27
Collection Date: 8/15/2023 3:40:00 PM
Lab ID: 2308A58-045
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.088	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Isophorone	ND	0.16	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
1-Methylnaphthalene	0.50	0.16	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
2-Methylnaphthalene	0.76	0.16	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
N-Nitrosodimethylamine	ND	0.14	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Naphthalene	ND	0.14	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
4-Nitrophenol	ND	0.18	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Pentachlorophenol	ND	0.23	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Phenanthrene	0.34	0.20	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Phenol	ND	0.23	0.29		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Pyridine	ND	0.18	0.96		mg/Kg	1	9/8/2023 5:54:14 PM	77165
1,2,4-Trichlorobenzene	ND	0.13	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
2,4,5-Trichlorophenol	ND	0.20	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	9/8/2023 5:54:14 PM	77165
Surr: 2-Fluorophenol	52.3		15-123		%Rec	1	9/8/2023 5:54:14 PM	77165
Surr: Phenol-d5	58.8		15-141		%Rec	1	9/8/2023 5:54:14 PM	77165
Surr: 2,4,6-Tribromophenol	75.4		23-118		%Rec	1	9/8/2023 5:54:14 PM	77165
Surr: Nitrobenzene-d5	50.9		15-125		%Rec	1	9/8/2023 5:54:14 PM	77165
Surr: 2-Fluorobiphenyl	48.1		15-129		%Rec	1	9/8/2023 5:54:14 PM	77165
Surr: 4-Terphenyl-d14	70.9		31.1-134		%Rec	1	9/8/2023 5:54:14 PM	77165
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.0091	0.028		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Toluene	ND	0.010	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Ethylbenzene	0.29	0.0067	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Methyl tert-butyl ether (MTBE)	ND	0.032	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1,2,4-Trimethylbenzene	0.012	0.0080	0.057	J	mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1,3,5-Trimethylbenzene	0.014	0.013	0.057	J	mg/Kg	1	8/28/2023 11:04:27 PM	R99297

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-15(10-15)
Project: AOC 26 27
Collection Date: 8/15/2023 3:40:00 PM
Lab ID: 2308A58-045
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloroethane (EDC)	ND	0.013	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1,2-Dibromoethane (EDB)	ND	0.0091	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Naphthalene	0.36	0.021	0.11		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1-Methylnaphthalene	1.3	0.017	0.23		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
2-Methylnaphthalene	2.0	0.059	0.23		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Acetone	ND	0.85	0.85		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Bromobenzene	ND	0.012	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Bromodichloromethane	ND	0.012	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Bromoform	ND	0.014	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Bromomethane	ND	0.18	0.23		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
2-Butanone	ND	0.32	0.57		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Carbon disulfide	ND	0.014	0.57		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Carbon tetrachloride	ND	0.016	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Chlorobenzene	ND	0.0056	0.11		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Chloroethane	ND	0.0079	0.11		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Chloroform	ND	0.0078	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Chloromethane	ND	0.056	0.17		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
2-Chlorotoluene	ND	0.015	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
4-Chlorotoluene	ND	0.012	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
cis-1,2-DCE	ND	0.028	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
cis-1,3-Dichloropropene	ND	0.0075	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1,2-Dibromo-3-chloropropane	ND	0.024	0.11		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Dibromochloromethane	ND	0.0074	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Dibromomethane	ND	0.0086	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1,2-Dichlorobenzene	ND	0.012	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1,3-Dichlorobenzene	ND	0.011	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1,4-Dichlorobenzene	ND	0.015	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Dichlorodifluoromethane	ND	0.023	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1,1-Dichloroethane	ND	0.0046	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1,1-Dichloroethene	ND	0.032	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1,2-Dichloropropane	ND	0.0097	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1,3-Dichloropropane	ND	0.0060	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
2,2-Dichloropropane	ND	0.0066	0.11		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1,1-Dichloropropene	ND	0.0060	0.11		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Hexachlorobutadiene	ND	0.11	0.11		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
2-Hexanone	ND	0.025	0.57		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Isopropylbenzene	0.69	0.011	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
4-Isopropyltoluene	0.087	0.0057	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
4-Methyl-2-pentanone	0.22	0.066	0.57	J	mg/Kg	1	8/28/2023 11:04:27 PM	R99297

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

CLIENT: Marathon
Client Sample ID: SB-15(10-15)
Project: AOC 26 27
Collection Date: 8/15/2023 3:40:00 PM
Lab ID: 2308A58-045
Matrix: MEOH (SOIL)
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Methylene chloride	ND	0.13	0.17		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
n-Butylbenzene	0.32	0.015	0.17		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
n-Propylbenzene	0.84	0.0091	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
sec-Butylbenzene	0.70	0.015	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Styrene	ND	0.0071	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
tert-Butylbenzene	0.023	0.019	0.057	J	mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1,1,1,2-Tetrachloroethane	ND	0.0083	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1,1,2,2-Tetrachloroethane	ND	0.019	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Tetrachloroethene (PCE)	ND	0.016	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
trans-1,2-DCE	ND	0.020	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
trans-1,3-Dichloropropene	ND	0.011	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1,2,3-Trichlorobenzene	ND	0.0088	0.11		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1,2,4-Trichlorobenzene	ND	0.020	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1,1,1-Trichloroethane	ND	0.019	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1,1,2-Trichloroethane	ND	0.014	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Trichloroethene (TCE)	ND	0.019	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Trichlorofluoromethane	ND	0.013	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1,2,3-Trichloropropane	ND	0.011	0.11		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Vinyl chloride	ND	0.031	0.057		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Xylenes, Total	0.056	0.019	0.11	J	mg/Kg	1	8/28/2023 11:04:27 PM	R99297
1,4-Dioxane	ND	0.29	0.57		mg/Kg	1	8/28/2023 11:04:27 PM	R99297
Surr: Dibromofluoromethane	78.1	0	73-145		%Rec	1	8/28/2023 11:04:27 PM	R99297
Surr: 1,2-Dichloroethane-d4	83.8	0	64.8-147		%Rec	1	8/28/2023 11:04:27 PM	R99297
Surr: Toluene-d8	140	0	70-130	S	%Rec	1	8/28/2023 11:04:27 PM	R99297
Surr: 4-Bromofluorobenzene	184	0	62.1-144	S	%Rec	1	8/28/2023 11:04:27 PM	R99297

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: MEOH Blank
Project: AOC 26 27
Collection Date:
Lab ID: 2308A58-046
Matrix: MEOH BLAN
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.0080	0.025		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Toluene	ND	0.0090	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Ethylbenzene	ND	0.0059	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Methyl tert-butyl ether (MTBE)	ND	0.028	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
1,2,4-Trimethylbenzene	ND	0.0071	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
1,3,5-Trimethylbenzene	ND	0.011	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
1,2-Dichloroethane (EDC)	ND	0.011	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
1,2-Dibromoethane (EDB)	ND	0.0080	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Naphthalene	ND	0.019	0.10		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
1-Methylnaphthalene	ND	0.015	0.20		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
2-Methylnaphthalene	ND	0.052	0.20		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Acetone	ND	0.75	0.75		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Bromobenzene	ND	0.011	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Bromodichloromethane	ND	0.011	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Bromoform	ND	0.012	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Bromomethane	ND	0.16	0.20		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
2-Butanone	ND	0.28	0.50		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Carbon disulfide	ND	0.012	0.50		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Carbon tetrachloride	ND	0.014	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Chlorobenzene	ND	0.0050	0.10		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Chloroethane	ND	0.0069	0.10		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Chloroform	ND	0.0069	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Chloromethane	ND	0.049	0.15		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
2-Chlorotoluene	ND	0.013	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
4-Chlorotoluene	ND	0.010	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
cis-1,2-DCE	ND	0.025	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
cis-1,3-Dichloropropene	ND	0.0066	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
1,2-Dibromo-3-chloropropane	ND	0.022	0.10		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Dibromochloromethane	ND	0.0066	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Dibromomethane	ND	0.0076	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
1,2-Dichlorobenzene	ND	0.010	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
1,3-Dichlorobenzene	ND	0.0094	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
1,4-Dichlorobenzene	ND	0.013	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Dichlorodifluoromethane	ND	0.020	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
1,1-Dichloroethane	ND	0.0041	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
1,1-Dichloroethene	ND	0.028	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
1,2-Dichloropropane	ND	0.0086	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
1,3-Dichloropropane	ND	0.0053	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
2,2-Dichloropropane	ND	0.0059	0.10		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: MEOH Blank
Project: AOC 26 27
Collection Date:
Lab ID: 2308A58-046
Matrix: MEOH BLAN
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.0053	0.10		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Hexachlorobutadiene	ND	0.10	0.10		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
2-Hexanone	ND	0.022	0.50		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Isopropylbenzene	ND	0.0093	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
4-Isopropyltoluene	ND	0.0050	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
4-Methyl-2-pentanone	ND	0.058	0.50		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Methylene chloride	ND	0.12	0.15		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
n-Butylbenzene	ND	0.013	0.15		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
n-Propylbenzene	ND	0.0081	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
sec-Butylbenzene	ND	0.013	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Styrene	ND	0.0063	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
tert-Butylbenzene	ND	0.017	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
1,1,1,2-Tetrachloroethane	ND	0.0073	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
1,1,2,2-Tetrachloroethane	ND	0.017	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Tetrachloroethene (PCE)	ND	0.014	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
trans-1,2-DCE	ND	0.018	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
trans-1,3-Dichloropropene	ND	0.010	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
1,2,3-Trichlorobenzene	ND	0.0077	0.10		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
1,2,4-Trichlorobenzene	ND	0.017	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
1,1,1-Trichloroethane	ND	0.017	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
1,1,2-Trichloroethane	ND	0.013	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Trichloroethene (TCE)	ND	0.017	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Trichlorofluoromethane	ND	0.011	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
1,2,3-Trichloropropane	ND	0.0095	0.10		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Vinyl chloride	ND	0.027	0.050		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Xylenes, Total	ND	0.017	0.10		mg/Kg	1	8/29/2023 6:06:44 PM	R9933C
Surr: Dibromofluoromethane	97.6	0	73-145		%Rec	1	8/29/2023 6:06:44 PM	R9933C
Surr: 1,2-Dichloroethane-d4	102	0	64.8-147		%Rec	1	8/29/2023 6:06:44 PM	R9933C
Surr: Toluene-d8	113	0	70-130		%Rec	1	8/29/2023 6:06:44 PM	R9933C
Surr: 4-Bromofluorobenzene	97.2	0	62.1-144		%Rec	1	8/29/2023 6:06:44 PM	R9933C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: MEOH Blank
Project: AOC 26 27
Collection Date:
Lab ID: 2308A58-047
Matrix: MEOH BLAN
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.0080	0.025		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Toluene	ND	0.0090	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Ethylbenzene	ND	0.0059	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Methyl tert-butyl ether (MTBE)	ND	0.028	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
1,2,4-Trimethylbenzene	ND	0.0071	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
1,3,5-Trimethylbenzene	ND	0.011	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
1,2-Dichloroethane (EDC)	ND	0.011	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
1,2-Dibromoethane (EDB)	ND	0.0080	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Naphthalene	ND	0.019	0.10		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
1-Methylnaphthalene	ND	0.015	0.20		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
2-Methylnaphthalene	ND	0.052	0.20		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Acetone	ND	0.75	0.75		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Bromobenzene	ND	0.011	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Bromodichloromethane	ND	0.011	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Bromoform	ND	0.012	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Bromomethane	ND	0.16	0.20		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
2-Butanone	ND	0.28	0.50		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Carbon disulfide	ND	0.012	0.50		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Carbon tetrachloride	ND	0.014	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Chlorobenzene	ND	0.0050	0.10		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Chloroethane	ND	0.0069	0.10		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Chloroform	ND	0.0069	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Chloromethane	ND	0.049	0.15		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
2-Chlorotoluene	ND	0.013	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
4-Chlorotoluene	ND	0.010	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
cis-1,2-DCE	ND	0.025	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
cis-1,3-Dichloropropene	ND	0.0066	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
1,2-Dibromo-3-chloropropane	ND	0.022	0.10		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Dibromochloromethane	ND	0.0066	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Dibromomethane	ND	0.0076	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
1,2-Dichlorobenzene	ND	0.010	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
1,3-Dichlorobenzene	ND	0.0094	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
1,4-Dichlorobenzene	ND	0.013	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Dichlorodifluoromethane	ND	0.020	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
1,1-Dichloroethane	ND	0.0041	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
1,1-Dichloroethene	ND	0.028	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
1,2-Dichloropropane	ND	0.0086	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
1,3-Dichloropropane	ND	0.0053	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
2,2-Dichloropropane	ND	0.0059	0.10		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: MEOH Blank
Project: AOC 26 27
Collection Date:
Lab ID: 2308A58-047
Matrix: MEOH BLAN
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.0053	0.10		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Hexachlorobutadiene	ND	0.10	0.10		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
2-Hexanone	ND	0.022	0.50		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Isopropylbenzene	ND	0.0093	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
4-Isopropyltoluene	ND	0.0050	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
4-Methyl-2-pentanone	ND	0.058	0.50		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Methylene chloride	ND	0.12	0.15		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
n-Butylbenzene	ND	0.013	0.15		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
n-Propylbenzene	ND	0.0081	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
sec-Butylbenzene	ND	0.013	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Styrene	ND	0.0063	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
tert-Butylbenzene	ND	0.017	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
1,1,1,2-Tetrachloroethane	ND	0.0073	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
1,1,2,2-Tetrachloroethane	ND	0.017	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Tetrachloroethene (PCE)	ND	0.014	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
trans-1,2-DCE	ND	0.018	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
trans-1,3-Dichloropropene	ND	0.010	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
1,2,3-Trichlorobenzene	ND	0.0077	0.10		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
1,2,4-Trichlorobenzene	ND	0.017	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
1,1,1-Trichloroethane	ND	0.017	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
1,1,2-Trichloroethane	ND	0.013	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Trichloroethene (TCE)	ND	0.017	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Trichlorofluoromethane	ND	0.011	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
1,2,3-Trichloropropane	ND	0.0095	0.10		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Vinyl chloride	ND	0.027	0.050		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Xylenes, Total	ND	0.017	0.10		mg/Kg	1	8/29/2023 6:34:03 PM	R9933C
Surr: Dibromofluoromethane	108	0	73-145		%Rec	1	8/29/2023 6:34:03 PM	R9933C
Surr: 1,2-Dichloroethane-d4	110	0	64.8-147		%Rec	1	8/29/2023 6:34:03 PM	R9933C
Surr: Toluene-d8	110	0	70-130		%Rec	1	8/29/2023 6:34:03 PM	R9933C
Surr: 4-Bromofluorobenzene	95.2	0	62.1-144		%Rec	1	8/29/2023 6:34:03 PM	R9933C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: MEOH Blank
Project: AOC 26 27
Collection Date:
Lab ID: 2308A58-048
Matrix: MEOH BLAN
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.0080	0.025		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Toluene	ND	0.0090	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Ethylbenzene	ND	0.0059	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Methyl tert-butyl ether (MTBE)	ND	0.028	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
1,2,4-Trimethylbenzene	ND	0.0071	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
1,3,5-Trimethylbenzene	ND	0.011	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
1,2-Dichloroethane (EDC)	ND	0.011	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
1,2-Dibromoethane (EDB)	ND	0.0080	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Naphthalene	ND	0.019	0.10		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
1-Methylnaphthalene	ND	0.015	0.20		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
2-Methylnaphthalene	ND	0.052	0.20		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Acetone	ND	0.75	0.75		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Bromobenzene	ND	0.011	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Bromodichloromethane	ND	0.011	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Bromoform	ND	0.012	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Bromomethane	ND	0.16	0.20		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
2-Butanone	ND	0.28	0.50		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Carbon disulfide	ND	0.012	0.50		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Carbon tetrachloride	ND	0.014	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Chlorobenzene	ND	0.0050	0.10		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Chloroethane	ND	0.0069	0.10		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Chloroform	ND	0.0069	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Chloromethane	ND	0.049	0.15		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
2-Chlorotoluene	ND	0.013	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
4-Chlorotoluene	ND	0.010	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
cis-1,2-DCE	ND	0.025	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
cis-1,3-Dichloropropene	ND	0.0066	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
1,2-Dibromo-3-chloropropane	ND	0.022	0.10		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Dibromochloromethane	ND	0.0066	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Dibromomethane	ND	0.0076	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
1,2-Dichlorobenzene	ND	0.010	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
1,3-Dichlorobenzene	ND	0.0094	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
1,4-Dichlorobenzene	ND	0.013	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Dichlorodifluoromethane	ND	0.020	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
1,1-Dichloroethane	ND	0.0041	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
1,1-Dichloroethene	ND	0.028	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
1,2-Dichloropropane	ND	0.0086	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
1,3-Dichloropropane	ND	0.0053	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
2,2-Dichloropropane	ND	0.0059	0.10		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: MEOH Blank
Project: AOC 26 27
Collection Date:
Lab ID: 2308A58-048
Matrix: MEOH BLAN
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.0053	0.10		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Hexachlorobutadiene	ND	0.10	0.10		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
2-Hexanone	ND	0.022	0.50		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Isopropylbenzene	ND	0.0093	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
4-Isopropyltoluene	ND	0.0050	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
4-Methyl-2-pentanone	ND	0.058	0.50		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Methylene chloride	ND	0.12	0.15		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
n-Butylbenzene	ND	0.013	0.15		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
n-Propylbenzene	ND	0.0081	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
sec-Butylbenzene	ND	0.013	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Styrene	ND	0.0063	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
tert-Butylbenzene	ND	0.017	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
1,1,1,2-Tetrachloroethane	ND	0.0073	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
1,1,2,2-Tetrachloroethane	ND	0.017	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Tetrachloroethene (PCE)	ND	0.014	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
trans-1,2-DCE	ND	0.018	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
trans-1,3-Dichloropropene	ND	0.010	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
1,2,3-Trichlorobenzene	ND	0.0077	0.10		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
1,2,4-Trichlorobenzene	ND	0.017	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
1,1,1-Trichloroethane	ND	0.017	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
1,1,2-Trichloroethane	ND	0.013	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Trichloroethene (TCE)	ND	0.017	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Trichlorofluoromethane	ND	0.011	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
1,2,3-Trichloropropane	ND	0.0095	0.10		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Vinyl chloride	ND	0.027	0.050		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Xylenes, Total	ND	0.017	0.10		mg/Kg	1	8/29/2023 7:01:20 PM	R9933C
Surr: Dibromofluoromethane	103	0	73-145		%Rec	1	8/29/2023 7:01:20 PM	R9933C
Surr: 1,2-Dichloroethane-d4	109	0	64.8-147		%Rec	1	8/29/2023 7:01:20 PM	R9933C
Surr: Toluene-d8	114	0	70-130		%Rec	1	8/29/2023 7:01:20 PM	R9933C
Surr: 4-Bromofluorobenzene	96.4	0	62.1-144		%Rec	1	8/29/2023 7:01:20 PM	R9933C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: MEOH Blank
Project: AOC 26 27
Collection Date:
Lab ID: 2308A58-049
Matrix: MEOH BLAN
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.0080	0.025		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Toluene	ND	0.0090	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Ethylbenzene	ND	0.0059	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Methyl tert-butyl ether (MTBE)	ND	0.028	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
1,2,4-Trimethylbenzene	ND	0.0071	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
1,3,5-Trimethylbenzene	ND	0.011	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
1,2-Dichloroethane (EDC)	ND	0.011	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
1,2-Dibromoethane (EDB)	ND	0.0080	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Naphthalene	ND	0.019	0.10		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
1-Methylnaphthalene	ND	0.015	0.20		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
2-Methylnaphthalene	ND	0.052	0.20		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Acetone	ND	0.75	0.75		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Bromobenzene	ND	0.011	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Bromodichloromethane	ND	0.011	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Bromoform	ND	0.012	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Bromomethane	ND	0.16	0.20		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
2-Butanone	ND	0.28	0.50		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Carbon disulfide	ND	0.012	0.50		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Carbon tetrachloride	ND	0.014	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Chlorobenzene	ND	0.0050	0.10		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Chloroethane	ND	0.0069	0.10		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Chloroform	ND	0.0069	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Chloromethane	ND	0.049	0.15		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
2-Chlorotoluene	ND	0.013	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
4-Chlorotoluene	ND	0.010	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
cis-1,2-DCE	ND	0.025	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
cis-1,3-Dichloropropene	ND	0.0066	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
1,2-Dibromo-3-chloropropane	ND	0.022	0.10		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Dibromochloromethane	ND	0.0066	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Dibromomethane	ND	0.0076	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
1,2-Dichlorobenzene	ND	0.010	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
1,3-Dichlorobenzene	ND	0.0094	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
1,4-Dichlorobenzene	ND	0.013	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Dichlorodifluoromethane	ND	0.020	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
1,1-Dichloroethane	ND	0.0041	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
1,1-Dichloroethene	ND	0.028	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
1,2-Dichloropropane	ND	0.0086	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
1,3-Dichloropropane	ND	0.0053	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
2,2-Dichloropropane	ND	0.0059	0.10		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308A58**
Date Reported: **9/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: MEOH Blank
Project: AOC 26 27
Collection Date:
Lab ID: 2308A58-049
Matrix: MEOH BLAN
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.0053	0.10		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Hexachlorobutadiene	ND	0.10	0.10		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
2-Hexanone	ND	0.022	0.50		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Isopropylbenzene	ND	0.0093	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
4-Isopropyltoluene	ND	0.0050	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
4-Methyl-2-pentanone	ND	0.058	0.50		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Methylene chloride	ND	0.12	0.15		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
n-Butylbenzene	ND	0.013	0.15		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
n-Propylbenzene	ND	0.0081	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
sec-Butylbenzene	ND	0.013	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Styrene	ND	0.0063	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
tert-Butylbenzene	ND	0.017	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
1,1,1,2-Tetrachloroethane	ND	0.0073	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
1,1,2,2-Tetrachloroethane	ND	0.017	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Tetrachloroethene (PCE)	ND	0.014	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
trans-1,2-DCE	ND	0.018	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
trans-1,3-Dichloropropene	ND	0.010	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
1,2,3-Trichlorobenzene	ND	0.0077	0.10		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
1,2,4-Trichlorobenzene	ND	0.017	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
1,1,1-Trichloroethane	ND	0.017	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
1,1,2-Trichloroethane	ND	0.013	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Trichloroethene (TCE)	ND	0.017	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Trichlorofluoromethane	ND	0.011	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
1,2,3-Trichloropropane	ND	0.0095	0.10		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Vinyl chloride	ND	0.027	0.050		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Xylenes, Total	ND	0.017	0.10		mg/Kg	1	8/29/2023 7:28:36 PM	R9933C
Surr: Dibromofluoromethane	102	0	73-145		%Rec	1	8/29/2023 7:28:36 PM	R9933C
Surr: 1,2-Dichloroethane-d4	104	0	64.8-147		%Rec	1	8/29/2023 7:28:36 PM	R9933C
Surr: Toluene-d8	112	0	70-130		%Rec	1	8/29/2023 7:28:36 PM	R9933C
Surr: 4-Bromofluorobenzene	92.5	0	62.1-144		%Rec	1	8/29/2023 7:28:36 PM	R9933C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Metals**
Client ID: **PBW**	Batch ID: **A99201**	RunNo: **99201**
Prep Date:	Analysis Date: **8/23/2023**	SeqNo: **3616909** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Iron	0.0095	0.050								J
Manganese	ND	0.0020								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Sample ID: **LCSLL**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Metals**
Client ID: **BatchQC**	Batch ID: **A99201**	RunNo: **99201**
Prep Date:	Analysis Date: **8/23/2023**	SeqNo: **3616910** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.0019	0.0020	0.002000	0	95.6	50	150			J
Cadmium	0.0020	0.0020	0.002000	0	101	50	150			
Iron	0.018	0.050	0.02000	0	92.3	50	150			J
Manganese	0.0020	0.0020	0.002000	0	99.5	50	150			J
Vanadium	0.0091	0.050	0.01000	0	91.5	50	150			J
Zinc	0.0087	0.010	0.01000	0	87.4	50	150			J

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Metals**
Client ID: **LCSW**	Batch ID: **A99201**	RunNo: **99201**
Prep Date:	Analysis Date: **8/23/2023**	SeqNo: **3616911** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.48	0.0020	0.5000	0	97.0	85	115			
Cadmium	0.48	0.0020	0.5000	0	95.4	85	115			
Iron	0.49	0.050	0.5000	0	98.0	85	115			
Manganese	0.49	0.0020	0.5000	0	97.2	85	115			
Vanadium	0.48	0.050	0.5000	0	95.4	85	115			
Zinc	0.45	0.010	0.5000	0	90.9	85	115			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Metals**
Client ID: **PBW**	Batch ID: **B99256**	RunNo: **99256**
Prep Date:	Analysis Date: **8/25/2023**	SeqNo: **3620103** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0030								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **LCSLL**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Metals**							
Client ID: **BatchQC**	Batch ID: **B99256**	RunNo: **99256**							
Prep Date:	Analysis Date: **8/25/2023**	SeqNo: **3620104**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0030	0.0030	0.002000	0	148	50	150			J
Chromium	0.0059	0.0060	0.006000	0	98.5	50	150			J
Cobalt	0.0049	0.0060	0.006000	0	81.7	50	150			J

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Metals**							
Client ID: **LCSW**	Batch ID: **B99256**	RunNo: **99256**							
Prep Date:	Analysis Date: **8/25/2023**	SeqNo: **3620105**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0030	0.5000	0	98.2	85	115			
Chromium	0.49	0.0060	0.5000	0	97.9	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.1	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **MB-77101**	SampType: **MBLK**	TestCode: **EPA 200.8: Metals**
Client ID: **PBW**	Batch ID: **77101**	RunNo: **99275**
Prep Date: **8/25/2023**	Analysis Date: **8/28/2023**	SeqNo: **3621320** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.00050								
Lead	ND	0.00050								
Nickel	ND	0.00050								
Selenium	ND	0.0010								
Silver	ND	0.00050								

Sample ID: **MSLCSLL-77101**	SampType: **LCSLL**	TestCode: **EPA 200.8: Metals**
Client ID: **BatchQC**	Batch ID: **77101**	RunNo: **99275**
Prep Date: **8/25/2023**	Analysis Date: **8/28/2023**	SeqNo: **3621321** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00094	0.0010	0.001000	0	93.6	50	150			J
Lead	0.00049	0.00050	0.0005000	0	98.3	50	150			J
Selenium	0.0010	0.0010	0.001000	0	101	50	150			
Silver	0.00045	0.00050	0.0005000	0	89.9	50	150			J

Sample ID: **MSLCS-77101**	SampType: **LCS**	TestCode: **EPA 200.8: Metals**
Client ID: **LCSW**	Batch ID: **77101**	RunNo: **99275**
Prep Date: **8/25/2023**	Analysis Date: **8/28/2023**	SeqNo: **3621322** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	100	85	115			
Arsenic	0.025	0.00050	0.02500	0	98.4	85	115			
Lead	0.012	0.00050	0.01250	0	99.5	85	115			
Nickel	0.024	0.00050	0.02500	0	97.2	85	115			
Selenium	0.025	0.0010	0.02500	0	98.2	85	115			
Silver	0.012	0.00050	0.01250	0	98.5	85	115			

Sample ID: **MSLCSLL-TL-77101**	SampType: **LCSLL**	TestCode: **EPA 200.8: Metals**
Client ID: **BatchQC**	Batch ID: **77101**	RunNo: **99275**
Prep Date: **8/25/2023**	Analysis Date: **8/28/2023**	SeqNo: **3621323** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00039	0.00050	0.0005000	0	77.9	50	150			J
Nickel	0.00051	0.00050	0.0005000	0	101	50	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **MB-76963**	SampType: **MBLK**	TestCode: **EPA Method 245.1: Mercury**
Client ID: **PBW**	Batch ID: **76963**	RunNo: **99142**
Prep Date: **8/21/2023**	Analysis Date: **8/22/2023**	SeqNo: **3613925** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: **LCSLL-76963**	SampType: **LCSLL**	TestCode: **EPA Method 245.1: Mercury**
Client ID: **BatchQC**	Batch ID: **76963**	RunNo: **99142**
Prep Date: **8/21/2023**	Analysis Date: **8/22/2023**	SeqNo: **3613926** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00017	0.00020	0.0001500	0	112	50	150			J

Sample ID: **LCS-76963**	SampType: **LCS**	TestCode: **EPA Method 245.1: Mercury**
Client ID: **LCSW**	Batch ID: **76963**	RunNo: **99142**
Prep Date: **8/21/2023**	Analysis Date: **8/22/2023**	SeqNo: **3613927** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.6	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID:	**MB-76974**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**76974**	RunNo:	**99163**					
Prep Date:	**8/21/2023**	Analysis Date:	**8/22/2023**	SeqNo:	**3615280**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID:	**LCS-76974**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**76974**	RunNo:	**99163**					
Prep Date:	**8/21/2023**	Analysis Date:	**8/22/2023**	SeqNo:	**3615281**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.5	90	110			

Sample ID:	**MB-76980**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**76980**	RunNo:	**99163**					
Prep Date:	**8/21/2023**	Analysis Date:	**8/22/2023**	SeqNo:	**3615282**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID:	**LCS-76980**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**76980**	RunNo:	**99163**					
Prep Date:	**8/21/2023**	Analysis Date:	**8/22/2023**	SeqNo:	**3615283**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.0	90	110			

Sample ID:	**MB-77012**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**77012**	RunNo:	**99202**					
Prep Date:	**8/22/2023**	Analysis Date:	**8/23/2023**	SeqNo:	**3617115**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID:	**LCS-77012**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**77012**	RunNo:	**99202**					
Prep Date:	**8/22/2023**	Analysis Date:	**8/23/2023**	SeqNo:	**3617117**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.0	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R99082**	RunNo: **99082**
Prep Date:	Analysis Date: **8/18/2023**	SeqNo: **3611579** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R99082**	RunNo: **99082**
Prep Date:	Analysis Date: **8/18/2023**	SeqNo: **3611580** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	95.9	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB-76925**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **PBS**	Batch ID: **76925**	RunNo: **99194**
Prep Date: **8/23/2023**	Analysis Date: **8/23/2023**	SeqNo: **3616517** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.10								

Sample ID: **MB-76952**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **PBS**	Batch ID: **76952**	RunNo: **99194**
Prep Date: **8/23/2023**	Analysis Date: **8/23/2023**	SeqNo: **3616518** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.10								

Sample ID: **LCS-76925**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **LCSS**	Batch ID: **76925**	RunNo: **99194**
Prep Date: **8/23/2023**	Analysis Date: **8/23/2023**	SeqNo: **3616519** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.62	0.10	1.000	0	61.5	70	130			S

Sample ID: **LCS-76952**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **LCSS**	Batch ID: **76952**	RunNo: **99194**
Prep Date: **8/23/2023**	Analysis Date: **8/23/2023**	SeqNo: **3616520** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.64	0.10	1.000	0	63.6	70	130			S

Sample ID: **LCSD-76952**	SampType: **LCSD**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **LCSS02**	Batch ID: **76952**	RunNo: **99194**
Prep Date: **8/23/2023**	Analysis Date: **8/23/2023**	SeqNo: **3616521** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.63	0.10	1.000	0	63.5	70	130	0.275	20	S

Sample ID: **MB-76925**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **PBS**	Batch ID: **76925**	RunNo: **99194**
Prep Date: **8/23/2023**	Analysis Date: **8/23/2023**	SeqNo: **3616529** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB-76952**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **PBS**	Batch ID: **76952**	RunNo: **99194**
Prep Date: **8/23/2023**	Analysis Date: **8/23/2023**	SeqNo: **3616530** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.10								

Sample ID: **LCS-76925**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **LCSS**	Batch ID: **76925**	RunNo: **99194**
Prep Date: **8/23/2023**	Analysis Date: **8/23/2023**	SeqNo: **3616531** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	1.1	0.10	1.000	0	114	70	130			

Sample ID: **LCS-76952**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **LCSS**	Batch ID: **76952**	RunNo: **99194**
Prep Date: **8/23/2023**	Analysis Date: **8/23/2023**	SeqNo: **3616532** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	1.1	0.10	1.000	0	114	70	130			

Sample ID: **LCSD-76952**	SampType: **LCSD**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **LCSS02**	Batch ID: **76952**	RunNo: **99194**
Prep Date: **8/23/2023**	Analysis Date: **8/23/2023**	SeqNo: **3616533** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	1.1	0.10	1.000	0	108	70	130	5.06	20	

Sample ID: **2308A58-020AMS**	SampType: **MS**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **SB-03(18-19)**	Batch ID: **76952**	RunNo: **99194**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3616698** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.66	0.091	0.9091	0	72.5	65	135			

Sample ID: **2308A58-020AMSD**	SampType: **MSD**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **SB-03(18-19)**	Batch ID: **76952**	RunNo: **99194**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3616700** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.81	0.089	0.8861	0	91.0	65	135	20.0	20	R

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **LCS-77038**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **LCSS**	Batch ID: **77038**	RunNo: **99237**
Prep Date: **8/24/2023**	Analysis Date: **8/25/2023**	SeqNo: **3619184** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	1.1	0.10	1.000	0	106	70	130			

Sample ID: **MB-77038**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **PBS**	Batch ID: **77038**	RunNo: **99237**
Prep Date: **8/24/2023**	Analysis Date: **8/25/2023**	SeqNo: **3619185** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.10								

Sample ID: **MB-77038**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **PBS**	Batch ID: **77038**	RunNo: **99237**
Prep Date: **8/24/2023**	Analysis Date: **8/25/2023**	SeqNo: **3619196** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.10								

Sample ID: **LCS-77038**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **LCSS**	Batch ID: **77038**	RunNo: **99237**
Prep Date: **8/24/2023**	Analysis Date: **8/25/2023**	SeqNo: **3619197** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	1.1	0.10	1.000	0	108	70	130			

Sample ID: **2308A58-040AMS**	SampType: **MS**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **DUP-0816-2**	Batch ID: **77038**	RunNo: **99237**
Prep Date: **8/24/2023**	Analysis Date: **8/25/2023**	SeqNo: **3619198** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.86	0.099	0.9887	0	87.2	65	135			

Sample ID: **2308A58-040AMSD**	SampType: **MSD**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **DUP-0816-2**	Batch ID: **77038**	RunNo: **99237**
Prep Date: **8/24/2023**	Analysis Date: **8/25/2023**	SeqNo: **3619199** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.84	0.089	0.8883	0	94.1	65	135	3.12	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB-77041**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **PBW**	Batch ID: **77041**	RunNo: **99225**
Prep Date: **8/24/2023**	Analysis Date: **8/24/2023**	SeqNo: **3618289** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: **LCS-77041**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **LCSW**	Batch ID: **77041**	RunNo: **99225**
Prep Date: **8/24/2023**	Analysis Date: **8/24/2023**	SeqNo: **3618290** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.10	0.010	0.1000	0	100	70	130			

Sample ID: **LCSD-77041**	SampType: **LCSD**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **LCSS02**	Batch ID: **77041**	RunNo: **99225**
Prep Date: **8/24/2023**	Analysis Date: **8/24/2023**	SeqNo: **3618291** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.1000	0	108	70	130	7.62	20	

Sample ID: **MB-77041**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **PBW**	Batch ID: **77041**	RunNo: **99225**
Prep Date: **8/24/2023**	Analysis Date: **8/24/2023**	SeqNo: **3618300** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: **LCS-77041**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **LCSW**	Batch ID: **77041**	RunNo: **99225**
Prep Date: **8/24/2023**	Analysis Date: **8/24/2023**	SeqNo: **3618301** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.10	0.010	0.1000	0	99.9	70	130			

Sample ID: **LCSD-77041**	SampType: **LCSD**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **LCSS02**	Batch ID: **77041**	RunNo: **99225**
Prep Date: **8/24/2023**	Analysis Date: **8/24/2023**	SeqNo: **3618302** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.10	0.010	0.1000	0	103	70	130	3.11	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **MB-77030**	SampType: **MBLK**	TestCode: **EPA Method 6020A: Total Metals**
Client ID: **PBS**	Batch ID: **77030**	RunNo: **99336**
Prep Date: **8/23/2023**	Analysis Date: **8/29/2023**	SeqNo: **3624456** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.20								
Arsenic	ND	0.20								
Lead	ND	0.20								
Nickel	ND	0.20								
Selenium	ND	0.20								
Silver	ND	0.20								

Sample ID: **MSLCSLL-77030**	SampType: **LCSLL**	TestCode: **EPA Method 6020A: Total Metals**
Client ID: **BatchQC**	Batch ID: **77030**	RunNo: **99336**
Prep Date: **8/23/2023**	Analysis Date: **8/29/2023**	SeqNo: **3624457** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.11	0.20	0.1000	0	112	70	130			J
Arsenic	0.10	0.20	0.1000	0	100	70	130			J
Lead	0.11	0.20	0.1000	0	112	70	130			J
Nickel	0.10	0.20	0.1000	0	103	70	130			J
Silver	0.10	0.20	0.1000	0	100	70	130			J

Sample ID: **MSLCS-77030**	SampType: **LCS**	TestCode: **EPA Method 6020A: Total Metals**
Client ID: **LCSS**	Batch ID: **77030**	RunNo: **99336**
Prep Date: **8/23/2023**	Analysis Date: **8/29/2023**	SeqNo: **3624458** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	5.5	0.20	5.000	0	110	80	120			
Arsenic	4.9	0.20	5.000	0	98.6	80	120			
Lead	5.7	0.20	5.000	0	113	80	120			
Nickel	5.2	0.20	5.000	0	105	80	120			
Selenium	4.9	0.20	5.000	0	98.0	80	120			
Silver	2.5	0.20	2.500	0	102	80	120			

Sample ID: **MB-76999**	SampType: **MBLK**	TestCode: **EPA Method 6020A: Total Metals**
Client ID: **PBS**	Batch ID: **76999**	RunNo: **99336**
Prep Date: **8/22/2023**	Analysis Date: **8/29/2023**	SeqNo: **3624461** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.20								
Arsenic	ND	0.20								
Lead	ND	0.20								
Nickel	ND	0.20								
Selenium	ND	0.20								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB-76999** SampType: **MBLK** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **PBS** Batch ID: **76999** RunNo: **99336**
Prep Date: **8/22/2023** Analysis Date: **8/29/2023** SeqNo: **3624461** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	ND	0.20								

Sample ID: **MSLCSLL-76999** SampType: **LCSLL** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **BatchQC** Batch ID: **76999** RunNo: **99336**
Prep Date: **8/22/2023** Analysis Date: **8/29/2023** SeqNo: **3624462** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.11	0.20	0.1000	0	114	70	130			J
Arsenic	0.090	0.20	0.1000	0	89.7	70	130			J
Lead	0.11	0.20	0.1000	0	112	70	130			J
Nickel	0.11	0.20	0.1000	0	110	70	130			J
Selenium	0.094	0.20	0.1000	0	94.2	70	130			J
Silver	0.10	0.20	0.1000	0	103	70	130			J

Sample ID: **MSLCS-76999** SampType: **LCS** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **LCSS** Batch ID: **76999** RunNo: **99336**
Prep Date: **8/22/2023** Analysis Date: **8/29/2023** SeqNo: **3624463** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	5.1	0.20	5.000	0	103	80	120			
Arsenic	4.6	0.20	5.000	0	91.3	80	120			
Lead	5.6	0.20	5.000	0	112	80	120			
Nickel	5.0	0.20	5.000	0	101	80	120			
Selenium	4.1	0.20	5.000	0	82.4	80	120			
Silver	2.4	0.20	2.500	0	97.6	80	120			

Sample ID: **MB-76998** SampType: **MBLK** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **PBS** Batch ID: **76998** RunNo: **99336**
Prep Date: **8/22/2023** Analysis Date: **8/29/2023** SeqNo: **3624470** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.20								
Arsenic	ND	0.20								
Lead	ND	0.20								
Nickel	ND	0.20								
Silver	ND	0.20								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID:	**MSLCSLL-76998**	SampType:	**LCSLL**	TestCode:	**EPA Method 6020A: Total Metals**
Client ID:	**BatchQC**	Batch ID:	**76998**	RunNo:	**99336**
Prep Date:	**8/22/2023**	Analysis Date:	**8/29/2023**	SeqNo:	**3624475** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.10	0.20	0.1000	0	101	70	130			J
Arsenic	0.092	0.20	0.1000	0	92.4	70	130			J
Lead	0.11	0.20	0.1000	0	111	70	130			J
Silver	0.11	0.20	0.1000	0	107	70	130			J

Sample ID:	**MSLCS-76998**	SampType:	**LCS**	TestCode:	**EPA Method 6020A: Total Metals**
Client ID:	**LCSS**	Batch ID:	**76998**	RunNo:	**99336**
Prep Date:	**8/22/2023**	Analysis Date:	**8/29/2023**	SeqNo:	**3624476** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	5.5	0.20	5.000	0	110	80	120			
Arsenic	4.9	0.20	5.000	0	98.1	80	120			
Lead	5.7	0.20	5.000	0	114	80	120			
Nickel	5.5	0.20	5.000	0	110	80	120			
Silver	2.5	0.20	2.500	0	102	80	120			

Sample ID:	**MSLCSLL-77030**	SampType:	**LCSLL**	TestCode:	**EPA Method 6020A: Total Metals**
Client ID:	**BatchQC**	Batch ID:	**77030**	RunNo:	**99336**
Prep Date:	**8/23/2023**	Analysis Date:	**8/29/2023**	SeqNo:	**3624505** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.084	0.20	0.1000	0	84.4	70	130			J

Sample ID:	**MSLCSLL-76998**	SampType:	**LCSLL**	TestCode:	**EPA Method 6020A: Total Metals**
Client ID:	**BatchQC**	Batch ID:	**76998**	RunNo:	**99336**
Prep Date:	**8/22/2023**	Analysis Date:	**8/29/2023**	SeqNo:	**3624506** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nickel	0.12	0.20	0.1000	0	117	70	130			J

Sample ID:	**MB-76998**	SampType:	**MBLK**	TestCode:	**EPA Method 6020A: Total Metals**
Client ID:	**PBS**	Batch ID:	**76998**	RunNo:	**99364**
Prep Date:	**8/22/2023**	Analysis Date:	**8/30/2023**	SeqNo:	**3625968** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.20								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MSLCSLL-76998**	SampType: **LCSLL**	TestCode: **EPA Method 6020A: Total Metals**
Client ID: **BatchQC**	Batch ID: **76998**	RunNo: **99364**
Prep Date: **8/22/2023**	Analysis Date: **8/30/2023**	SeqNo: **3625969** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.11	0.20	0.1000	0	109	70	130			J

Sample ID: **MSLCS-76998**	SampType: **LCS**	TestCode: **EPA Method 6020A: Total Metals**
Client ID: **LCSS**	Batch ID: **76998**	RunNo: **99364**
Prep Date: **8/22/2023**	Analysis Date: **8/30/2023**	SeqNo: **3625972** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	4.5	0.20	5.000	0	90.4	80	120			

Sample ID: **2308A58-001AMSLL**	SampType: **MS**	TestCode: **EPA Method 6020A: Total Metals**
Client ID: **SB-14(0.5-1)**	Batch ID: **76998**	RunNo: **99493**
Prep Date: **8/22/2023**	Analysis Date: **9/6/2023**	SeqNo: **3632522** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	2.0	0.48	4.808	0	41.5	70	130			S
Arsenic	7.2	0.48	4.808	2.378	101	70	130			
Silver	2.5	0.48	2.404	0	105	70	130			

Sample ID: **2308A58-001AMSDL**	SampType: **MSD**	TestCode: **EPA Method 6020A: Total Metals**
Client ID: **SB-14(0.5-1)**	Batch ID: **76998**	RunNo: **99493**
Prep Date: **8/22/2023**	Analysis Date: **9/6/2023**	SeqNo: **3632525** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	1.9	0.48	4.841	0	39.5	70	130	4.15	20	S
Arsenic	8.2	0.48	4.841	2.378	121	70	130	12.7	20	
Silver	2.6	0.48	2.420	0	106	70	130	1.11	20	

Sample ID: **2308A58-030AMSLL**	SampType: **MS**	TestCode: **EPA Method 6020A: Total Metals**
Client ID: **SB-10(23.5-24.5)**	Batch ID: **77030**	RunNo: **99493**
Prep Date: **8/23/2023**	Analysis Date: **9/6/2023**	SeqNo: **3632609** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.73	0.50	5.039	0	14.6	70	130			S
Arsenic	5.0	0.50	5.039	1.230	75.2	70	130			

Sample ID: **2308A58-030AMSDL**	SampType: **MSD**	TestCode: **EPA Method 6020A: Total Metals**
Client ID: **SB-10(23.5-24.5)**	Batch ID: **77030**	RunNo: **99493**
Prep Date: **8/23/2023**	Analysis Date: **9/6/2023**	SeqNo: **3632611** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **2308A58-030AMSDL** SampType: **MSD** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **SB-10(23.5-24.5)** Batch ID: **77030** RunNo: **99493**
Prep Date: **8/23/2023** Analysis Date: **9/6/2023** SeqNo: **3632611** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.85	0.50	5.048	0	16.9	70	130	15.0	20	S
Arsenic	5.6	0.50	5.048	1.230	87.2	70	130	11.6	20	

Sample ID: **2308A58-001AMSLL** SampType: **MS** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **SB-14(0.5-1)** Batch ID: **76998** RunNo: **99532**
Prep Date: **8/22/2023** Analysis Date: **9/7/2023** SeqNo: **3634568** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nickel	13	0.48	4.808	7.016	116	70	130			

Sample ID: **2308A58-001AMSDL** SampType: **MSD** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **SB-14(0.5-1)** Batch ID: **76998** RunNo: **99532**
Prep Date: **8/22/2023** Analysis Date: **9/7/2023** SeqNo: **3634569** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nickel	12	0.48	4.841	7.016	107	70	130	3.22	20	

Sample ID: **2308A58-030AMSLL** SampType: **MS** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **SB-10(23.5-24.5)** Batch ID: **77030** RunNo: **99532**
Prep Date: **8/23/2023** Analysis Date: **9/7/2023** SeqNo: **3634606** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	15	0.50	5.039	10.84	81.0	70	130			
Nickel	17	0.50	5.039	12.10	90.4	70	130			
Selenium	4.9	0.50	5.039	1.937	59.1	70	130			S

Sample ID: **2308A58-030AMSDL** SampType: **MSD** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **SB-10(23.5-24.5)** Batch ID: **77030** RunNo: **99532**
Prep Date: **8/23/2023** Analysis Date: **9/7/2023** SeqNo: **3634607** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	14	0.50	5.048	10.84	69.7	70	130	3.85	20	S
Nickel	16	0.50	5.048	12.10	81.9	70	130	2.57	20	
Selenium	5.5	0.50	5.048	1.937	71.2	70	130	11.8	20	

Sample ID: **2308A58-001AMSLL** SampType: **MS** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **SB-14(0.5-1)** Batch ID: **76998** RunNo: **99629**
Prep Date: **8/22/2023** Analysis Date: **9/12/2023** SeqNo: **3639675** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID:	**2308A58-001AMSLL**	SampType:	**MS**	TestCode:	**EPA Method 6020A: Total Metals**					
Client ID:	**SB-14(0.5-1)**	Batch ID:	**76998**	RunNo:	**99629**					
Prep Date:	**8/22/2023**	Analysis Date:	**9/12/2023**	SeqNo:	**3639675**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	6.6	0.48	4.808	2.401	87.8	70	130			

Sample ID:	**2308A58-001AMSDL**	SampType:	**MSD**	TestCode:	**EPA Method 6020A: Total Metals**					
Client ID:	**SB-14(0.5-1)**	Batch ID:	**76998**	RunNo:	**99629**					
Prep Date:	**8/22/2023**	Analysis Date:	**9/12/2023**	SeqNo:	**3639676**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	7.3	0.48	4.841	2.401	101	70	130	9.55	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB-77049**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77049**	RunNo: **99199**
Prep Date: **8/23/2023**	Analysis Date: **8/25/2023**	SeqNo: **3617816** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		114	69	147			

Sample ID: **LCS-77049**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77049**	RunNo: **99199**
Prep Date: **8/23/2023**	Analysis Date: **8/25/2023**	SeqNo: **3617819** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.8	61.9	130			
Surr: DNOP	5.7		5.000		115	69	147			

Sample ID: **MB-77108**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77108**	RunNo: **99277**
Prep Date: **8/25/2023**	Analysis Date: **8/28/2023**	SeqNo: **3621283** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		106	69	147			

Sample ID: **LCS-77108**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77108**	RunNo: **99277**
Prep Date: **8/25/2023**	Analysis Date: **8/28/2023**	SeqNo: **3621284** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	109	61.9	130			
Surr: DNOP	5.4		5.000		108	69	147			

Sample ID: **2308A58-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SB-14(0.5-1)**	Batch ID: **77049**	RunNo: **99274**
Prep Date: **8/23/2023**	Analysis Date: **8/28/2023**	SeqNo: **3622675** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.6	48.17	23.38	54.7	54.2	135			
Surr: DNOP	5.6		4.817		116	69	147			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **2308A58-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SB-14(0.5-1)** Batch ID: **77049** RunNo: **99274**
Prep Date: **8/23/2023** Analysis Date: **8/28/2023** SeqNo: **3622676** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	49.80	23.38	60.1	54.2	135	6.96	29.2	
Surr: DNOP	5.5		4.980		110	69	147	0	0	

Sample ID: **2308A58-021AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SB-03(29-30)** Batch ID: **77051** RunNo: **99274**
Prep Date: **8/23/2023** Analysis Date: **8/28/2023** SeqNo: **3622681** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	760	9.3	46.60	503.1	562	54.2	135			S
Surr: DNOP	5.3		4.660		114	69	147			

Sample ID: **2308A58-021AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SB-03(29-30)** Batch ID: **77051** RunNo: **99274**
Prep Date: **8/23/2023** Analysis Date: **8/28/2023** SeqNo: **3622682** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	520	9.8	48.78	503.1	30.8	54.2	135	38.5	29.2	RS
Surr: DNOP	5.6		4.878		114	69	147	0	0	

Sample ID: **2308A58-040AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **DUP-0816-2** Batch ID: **77108** RunNo: **99274**
Prep Date: **8/25/2023** Analysis Date: **8/29/2023** SeqNo: **3622698** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.8	49.12	0	102	54.2	135			
Surr: DNOP	4.8		4.912		98.0	69	147			

Sample ID: **2308A58-040AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **DUP-0816-2** Batch ID: **77108** RunNo: **99274**
Prep Date: **8/25/2023** Analysis Date: **8/29/2023** SeqNo: **3622699** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.1	45.75	0	95.3	54.2	135	13.8	29.2	
Surr: DNOP	4.5		4.575		97.7	69	147	0	0	

Sample ID: **LCS-77051** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **77051** RunNo: **99274**
Prep Date: **8/23/2023** Analysis Date: **8/28/2023** SeqNo: **3622735** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **LCS-77051**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77051**	RunNo: **99274**
Prep Date: **8/23/2023**	Analysis Date: **8/28/2023**	SeqNo: **3622735** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	109	61.9	130			
Surr: DNOP	5.4		5.000		108	69	147			

Sample ID: **MB-77051**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77051**	RunNo: **99274**
Prep Date: **8/23/2023**	Analysis Date: **8/28/2023**	SeqNo: **3622737** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		114	69	147			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **MB-76954**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **76954**	RunNo: **99211**
Prep Date: **8/18/2023**	Analysis Date: **8/23/2023**	SeqNo: **3617529** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.44		0.5000		87.3	54.5	177			

Sample ID: **LCS-76954**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **76954**	RunNo: **99211**
Prep Date: **8/18/2023**	Analysis Date: **8/23/2023**	SeqNo: **3617530** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.6	1.0	2.500	0	103	68.4	146			
Surr: DNOP	0.20		0.2500		80.9	54.5	177			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **GS99204**	RunNo: **99204**
Prep Date:	Analysis Date: **8/24/2023**	SeqNo: **3618212** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.8	70	130			
Surr: BFB	2000		1000		198	15	244			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **GS99204**	RunNo: **99204**
Prep Date:	Analysis Date: **8/24/2023**	SeqNo: **3618213** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		92.2	15	244			

Sample ID: **2308a58-002ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SB-14(25-28)**	Batch ID: **GS99204**	RunNo: **99204**
Prep Date:	Analysis Date: **8/24/2023**	SeqNo: **3618216** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	800	31	155.5	588.1	136	70	130			S
Surr: BFB	17000		6219		274	15	244			S

Sample ID: **2308a58-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SB-14(25-28)**	Batch ID: **GS99204**	RunNo: **99204**
Prep Date:	Analysis Date: **8/25/2023**	SeqNo: **3618217** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	800	31	155.5	588.1	138	70	130	0.443	20	S
Surr: BFB	17000		6219		274	15	244	0	0	S

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **GS99270**	RunNo: **99270**
Prep Date:	Analysis Date: **8/28/2023**	SeqNo: **3621579** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.2	70	130			
Surr: BFB	2000		1000		199	15	244			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **GS99270**	RunNo: **99270**
Prep Date:	Analysis Date: **8/28/2023**	SeqNo: **3621581** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **GS99270**	RunNo: **99270**
Prep Date:	Analysis Date: **8/28/2023**	SeqNo: **3621581** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	960		1000		96.3	15	244			

Sample ID: **2308a58-021ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SB-03(29-30)**	Batch ID: **GS99270**	RunNo: **99270**
Prep Date:	Analysis Date: **8/28/2023**	SeqNo: **3622541** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	2200	120	584.8	1591	98.6	70	130			
Surr: BFB	68000		23390		291	15	244			S

Sample ID: **2308a58-021amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SB-03(29-30)**	Batch ID: **GS99270**	RunNo: **99270**
Prep Date:	Analysis Date: **8/28/2023**	SeqNo: **3622542** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	2100	120	584.8	1591	81.6	70	130	4.70	20	
Surr: BFB	66000		23390		283	15	244	0	0	S

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **GS99322**	RunNo: **99322**
Prep Date:	Analysis Date: **8/29/2023**	SeqNo: **3623514** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.8	70	130			
Surr: BFB	2100		1000		215	15	244			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **GS99322**	RunNo: **99322**
Prep Date:	Analysis Date: **8/29/2023**	SeqNo: **3623516** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		99.5	15	244			

Sample ID: **2308A58-040ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **DUP-0816-2**	Batch ID: **GS99322**	RunNo: **99322**
Prep Date:	Analysis Date: **8/29/2023**	SeqNo: **3623534** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **2308A58-040ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **DUP-0816-2**	Batch ID: **GS99322**	RunNo: **99322**
Prep Date:	Analysis Date: **8/29/2023**	SeqNo: **3623534** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.4	70	130			
Surr: BFB	2200		1000		220	15	244			

Sample ID: **2308A58-040amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **DUP-0816-2**	Batch ID: **GS99322**	RunNo: **99322**
Prep Date:	Analysis Date: **8/29/2023**	SeqNo: **3623535** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.9	70	130	0.530	20	
Surr: BFB	2200		1000		224	15	244	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **GW99157**	RunNo: **99157**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3615187** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.44	0.050	0.5000	0	88.5	70	130			
Surr: BFB	44		20.00		221	15	270			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **GW99157**	RunNo: **99157**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3615188** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	21		20.00		104	15	270			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles**

Client ID: **LCSS** Batch ID: **R99144** RunNo: **99144**

Prep Date: Analysis Date: **8/22/2023** SeqNo: **3614015** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	107	70	130			
Toluene	1.0	0.050	1.000	0	105	70	130			
Chlorobenzene	1.1	0.10	1.000	0	112	70	130			
1,1-Dichloroethene	0.96	0.050	1.000	0	96.2	42.1	158			
Trichloroethene (TCE)	1.0	0.050	1.000	0	99.6	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		99.1	73	145			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		103	64.8	147			
Surr: Toluene-d8	0.50		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		104	62.1	144			

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles**

Client ID: **PBS** Batch ID: **R99144** RunNo: **99144**

Prep Date: Analysis Date: **8/22/2023** SeqNo: **3614039** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.20								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.10								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99144**	RunNo: **99144**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3614039** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99144**	RunNo: **99144**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3614039** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.50		0.5000		101	73	145			
Surr: 1,2-Dichloroethane-d4	0.45		0.5000		89.8	64.8	147			
Surr: Toluene-d8	0.51		0.5000		102	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		100	62.1	144			

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **R99180**	RunNo: **99180**
Prep Date:	Analysis Date: **8/23/2023**	SeqNo: **3615728** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	112	70	130			
Toluene	1.1	0.050	1.000	0	111	70	130			
Chlorobenzene	1.1	0.10	1.000	0	113	70	130			
1,1-Dichloroethene	0.98	0.050	1.000	0	98.3	42.1	158			
Trichloroethene (TCE)	1.1	0.050	1.000	0	107	70	130			
Surr: Dibromofluoromethane	0.48		0.5000		95.9	73	145			
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		99.6	64.8	147			
Surr: Toluene-d8	0.50		0.5000		99.1	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.6	62.1	144			

Sample ID: **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **B99180**	RunNo: **99180**
Prep Date:	Analysis Date: **8/23/2023**	SeqNo: **3615729** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	110	70	130			
Toluene	1.1	0.050	1.000	0	111	70	130			
Chlorobenzene	1.1	0.10	1.000	0	114	70	130			
1,1-Dichloroethene	0.97	0.050	1.000	0	97.5	42.1	158			
Trichloroethene (TCE)	1.1	0.050	1.000	0	109	70	130			
Surr: Dibromofluoromethane	0.48		0.5000		96.4	73	145			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		102	64.8	147			
Surr: Toluene-d8	0.50		0.5000		100	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	62.1	144			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **2308a58-003ams**	SampType: **MS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **SB-14(27-28)**	Batch ID: **R99180**	RunNo: **99180**
Prep Date:	Analysis Date: **8/23/2023**	SeqNo: **3615731** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	7.2	0.16	6.452	0	112	60.8	141			
Toluene	7.0	0.32	6.452	0	109	15	261			
Chlorobenzene	7.3	0.65	6.452	0	114	60.6	133			
1,1-Dichloroethene	6.7	0.32	6.452	0	103	34.4	140			
Trichloroethene (TCE)	7.1	0.32	6.452	0	110	58.3	134			
Surr: Dibromofluoromethane	3.2		3.226		99.0	73	145			
Surr: 1,2-Dichloroethane-d4	3.3		3.226		104	64.8	147			
Surr: Toluene-d8	3.2		3.226		100	70	130			
Surr: 4-Bromofluorobenzene	3.2		3.226		98.6	62.1	144			

Sample ID: **2308a58-003amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **SB-14(27-28)**	Batch ID: **R99180**	RunNo: **99180**
Prep Date:	Analysis Date: **8/23/2023**	SeqNo: **3615732** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	7.0	0.16	6.452	0	109	60.8	141	2.11	20	
Toluene	6.8	0.32	6.452	0	106	15	261	2.81	20	
Chlorobenzene	7.1	0.65	6.452	0	110	60.6	133	3.80	20	
1,1-Dichloroethene	6.7	0.32	6.452	0	103	34.4	140	0.0949	20	
Trichloroethene (TCE)	6.9	0.32	6.452	0	107	58.3	134	2.79	20	
Surr: Dibromofluoromethane	3.1		3.226		97.5	73	145	0	0	
Surr: 1,2-Dichloroethane-d4	3.4		3.226		105	64.8	147	0	0	
Surr: Toluene-d8	3.1		3.226		97.1	70	130	0	0	
Surr: 4-Bromofluorobenzene	3.3		3.226		102	62.1	144	0	0	

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99180**	RunNo: **99180**
Prep Date:	Analysis Date: **8/23/2023**	SeqNo: **3615769** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99180**	RunNo: **99180**
Prep Date:	Analysis Date: **8/23/2023**	SeqNo: **3615769** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.20								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.10								
Chloroethane	ND	0.10								
Chloroform	0.014	0.050								J
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99180**	RunNo: **99180**
Prep Date:	Analysis Date: **8/23/2023**	SeqNo: **3615769** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.47		0.5000		93.1	73	145			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		93.2	64.8	147			
Surr: Toluene-d8	0.50		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		104	62.1	144			

Sample ID: **mb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **B99180**	RunNo: **99180**
Prep Date:	Analysis Date: **8/23/2023**	SeqNo: **3615770** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **B99180**	RunNo: **99180**
Prep Date:	Analysis Date: **8/23/2023**	SeqNo: **3615770** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.20								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.10								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **mb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **B99180**	RunNo: **99180**
Prep Date:	Analysis Date: **8/23/2023**	SeqNo: **3615770** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.47		0.5000		93.4	73	145			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		94.8	64.8	147			
Surr: Toluene-d8	0.50		0.5000		99.6	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		103	62.1	144			

Sample ID: **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **R99223**	RunNo: **99223**
Prep Date:	Analysis Date: **8/24/2023**	SeqNo: **3618106** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	108	70	130			
Toluene	1.1	0.050	1.000	0	112	70	130			
Chlorobenzene	1.1	0.10	1.000	0	110	70	130			
1,1-Dichloroethene	0.91	0.050	1.000	0	90.9	42.1	158			
Trichloroethene (TCE)	0.99	0.050	1.000	0	99.1	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		91.6	73	145			
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		100	64.8	147			
Surr: Toluene-d8	0.51		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		101	62.1	144			

Sample ID: **2308a58-008ams**	SampType: **MS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **SB-17(14-15)**	Batch ID: **R99223**	RunNo: **99223**
Prep Date:	Analysis Date: **8/24/2023**	SeqNo: **3618109** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.6	0.033	1.337	0	123	60.8	141			
Toluene	1.4	0.067	1.337	0	106	15	261			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **2308a58-008ams**	SampType: **MS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **SB-17(14-15)**	Batch ID: **R99223**	RunNo: **99223**
Prep Date:	Analysis Date: **8/24/2023**	SeqNo: **3618109** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chlorobenzene	1.5	0.13	1.337	0	111	60.6	133			
1,1-Dichloroethene	1.5	0.067	1.337	0	109	34.4	140			
Trichloroethene (TCE)	1.5	0.067	1.337	0	112	58.3	134			
Surr: Dibromofluoromethane	0.68		0.6684		102	73	145			
Surr: 1,2-Dichloroethane-d4	0.71		0.6684		106	64.8	147			
Surr: Toluene-d8	0.64		0.6684		95.2	70	130			
Surr: 4-Bromofluorobenzene	0.65		0.6684		96.9	62.1	144			

Sample ID: **2308a58-008amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **SB-17(14-15)**	Batch ID: **R99223**	RunNo: **99223**
Prep Date:	Analysis Date: **8/24/2023**	SeqNo: **3618110** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.5	0.033	1.337	0	114	60.8	141	8.34	20	
Toluene	1.3	0.067	1.337	0	98.8	15	261	7.21	20	
Chlorobenzene	1.4	0.13	1.337	0	106	60.6	133	4.95	20	
1,1-Dichloroethene	1.4	0.067	1.337	0	106	34.4	140	2.40	20	
Trichloroethene (TCE)	1.4	0.067	1.337	0	104	58.3	134	7.41	20	
Surr: Dibromofluoromethane	0.70		0.6684		104	73	145	0	0	
Surr: 1,2-Dichloroethane-d4	0.73		0.6684		110	64.8	147	0	0	
Surr: Toluene-d8	0.61		0.6684		91.1	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.61		0.6684		91.4	62.1	144	0	0	

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99223**	RunNo: **99223**
Prep Date:	Analysis Date: **8/24/2023**	SeqNo: **3618148** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99223**	RunNo: **99223**
Prep Date:	Analysis Date: **8/24/2023**	SeqNo: **3618148** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.20								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.10								
Chloroethane	ND	0.10								
Chloroform	0.012	0.050								J
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99223**	RunNo: **99223**
Prep Date:	Analysis Date: **8/24/2023**	SeqNo: **3618148** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.47		0.5000		94.8	73	145			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		94.7	64.8	147			
Surr: Toluene-d8	0.48		0.5000		96.5	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		103	62.1	144			

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **R99297**	RunNo: **99297**
Prep Date:	Analysis Date: **8/28/2023**	SeqNo: **3622483** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	110	70	130			
Toluene	1.1	0.050	1.000	0	107	70	130			
Chlorobenzene	0.98	0.10	1.000	0	97.6	70	130			
1,1-Dichloroethene	1.1	0.050	1.000	0	110	42.1	158			
Trichloroethene (TCE)	0.95	0.050	1.000	0	95.4	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		91.1	73	145			
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		98.8	64.8	147			
Surr: Toluene-d8	0.53		0.5000		107	70	130			
Surr: 4-Bromofluorobenzene	0.56		0.5000		113	62.1	144			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99297**	RunNo: **99297**
Prep Date:	Analysis Date: **8/28/2023**	SeqNo: **3622501** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99297**	RunNo: **99297**
Prep Date:	Analysis Date: **8/28/2023**	SeqNo: **3622501** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.20								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.10								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99297**	RunNo: **99297**
Prep Date:	Analysis Date: **8/28/2023**	SeqNo: **3622501** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.49		0.5000		98.8	73	145			
Surr: 1,2-Dichloroethane-d4	0.54		0.5000		108	64.8	147			
Surr: Toluene-d8	0.54		0.5000		108	70	130			
Surr: 4-Bromofluorobenzene	0.55		0.5000		109	62.1	144			

Sample ID: **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **R99320**	RunNo: **99320**
Prep Date:	Analysis Date: **8/29/2023**	SeqNo: **3623390** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	112	70	130			
Toluene	1.1	0.050	1.000	0	112	70	130			
Chlorobenzene	1.1	0.10	1.000	0	113	70	130			
1,1-Dichloroethene	1.0	0.050	1.000	0	103	42.1	158			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **R99320**	RunNo: **99320**
Prep Date:	Analysis Date: **8/29/2023**	SeqNo: **3623390** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	1.0	0.050	1.000	0	104	70	130			
Surr: Dibromofluoromethane	0.47		0.5000		93.5	73	145			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		102	64.8	147			
Surr: Toluene-d8	0.50		0.5000		99.7	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		101	62.1	144			

Sample ID: **2308a58-039ams**	SampType: **MS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **DUP-0816-1**	Batch ID: **R99320**	RunNo: **99320**
Prep Date:	Analysis Date: **8/29/2023**	SeqNo: **3623408** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.7	0.033	1.335	0.02944	123	60.8	141			
Toluene	1.4	0.067	1.335	0	108	15	261			
Chlorobenzene	1.5	0.13	1.335	0	112	60.6	133			
1,1-Dichloroethene	1.5	0.067	1.335	0	115	34.4	140			
Trichloroethene (TCE)	1.5	0.067	1.335	0	109	58.3	134			
Surr: Dibromofluoromethane	0.62		0.6676		92.6	73	145			
Surr: 1,2-Dichloroethane-d4	0.74		0.6676		112	64.8	147			
Surr: Toluene-d8	0.61		0.6676		92.0	70	130			
Surr: 4-Bromofluorobenzene	0.68		0.6676		102	62.1	144			

Sample ID: **2308a58-039amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **DUP-0816-1**	Batch ID: **R99320**	RunNo: **99320**
Prep Date:	Analysis Date: **8/29/2023**	SeqNo: **3623409** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.6	0.033	1.335	0.02944	119	60.8	141	2.63	20	
Toluene	1.4	0.067	1.335	0	108	15	261	0.111	20	
Chlorobenzene	1.5	0.13	1.335	0	111	60.6	133	0.836	20	
1,1-Dichloroethene	1.5	0.067	1.335	0	114	34.4	140	0.956	20	
Trichloroethene (TCE)	1.5	0.067	1.335	0	111	58.3	134	2.23	20	
Surr: Dibromofluoromethane	0.67		0.6676		101	73	145	0	0	
Surr: 1,2-Dichloroethane-d4	0.74		0.6676		111	64.8	147	0	0	
Surr: Toluene-d8	0.65		0.6676		97.6	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.63		0.6676		95.1	62.1	144	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99320**	RunNo: **99320**
Prep Date:	Analysis Date: **8/29/2023**	SeqNo: **3623429** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.20								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.10								
Chloroethane	ND	0.10								
Chloroform	0.0085	0.050								J
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99320**	RunNo: **99320**
Prep Date:	Analysis Date: **8/29/2023**	SeqNo: **3623429** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.46		0.5000		91.1	73	145			
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		99.4	64.8	147			
Surr: Toluene-d8	0.50		0.5000		99.5	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		104	62.1	144			

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **R99330**	RunNo: **99330**
Prep Date:	Analysis Date: **8/29/2023**	SeqNo: **3624243** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	108	70	130			
Toluene	1.1	0.050	1.000	0	108	70	130			
Chlorobenzene	1.0	0.10	1.000	0	101	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **R99330**	RunNo: **99330**
Prep Date:	Analysis Date: **8/29/2023**	SeqNo: **3624243** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	1.1	0.050	1.000	0	113	42.1	158			
Trichloroethene (TCE)	1.1	0.050	1.000	0	106	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		101	73	145			
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		106	64.8	147			
Surr: Toluene-d8	0.55		0.5000		110	70	130			
Surr: 4-Bromofluorobenzene	0.57		0.5000		113	62.1	144			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99330**	RunNo: **99330**
Prep Date:	Analysis Date: **8/29/2023**	SeqNo: **3624267** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.20								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.10								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99330**	RunNo: **99330**
Prep Date:	Analysis Date: **8/29/2023**	SeqNo: **3624267** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.46		0.5000		91.9	73	145			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99330**	RunNo: **99330**
Prep Date:	Analysis Date: **8/29/2023**	SeqNo: **3624267** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		96.8	64.8	147			
Surr: Toluene-d8	0.55		0.5000		110	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		105	62.1	144			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW** Batch ID: **R99167** RunNo: **99167**
Prep Date: Analysis Date: **8/22/2023** SeqNo: **3615372** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	70	130			
Toluene	20	1.0	20.00	0	99.4	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	96.8	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.9	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		112	70	130			
Surr: 4-Bromofluorobenzene	12		10.00		116	70	130			
Surr: Dibromofluoromethane	11		10.00		112	70	130			
Surr: Toluene-d8	11		10.00		107	70	130			

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW** Batch ID: **R99167** RunNo: **99167**
Prep Date: Analysis Date: **8/22/2023** SeqNo: **3615375** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	1.4	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R99167**	RunNo: **99167**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3615375** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R99167**	RunNo: **99167**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3615375** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		113	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		114	70	130			
Surr: Dibromofluoromethane	11		10.00		112	70	130			
Surr: Toluene-d8	10		10.00		105	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb-77079**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **77079**	RunNo: **99491**
Prep Date: **8/24/2023**	Analysis Date: **9/6/2023**	SeqNo: **3632297** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.25								
Benz(a)anthracene	ND	0.25								
Benzo(a)pyrene	ND	0.25								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.25								
Benzo(k)fluoranthene	ND	0.25								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.30								
Bis(2-chloroethoxy)methane	ND	0.25								
Bis(2-chloroethyl)ether	ND	0.30								
Bis(2-chloroisopropyl)ether	ND	0.30								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.25								
Butyl benzyl phthalate	ND	0.25								
Carbazole	ND	0.25								
4-Chloro-3-methylphenol	ND	0.30								
4-Chloroaniline	ND	0.30								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.25								
4-Chlorophenyl phenyl ether	ND	0.25								
Chrysene	ND	0.25								
Di-n-butyl phthalate	ND	1.0								
Di-n-octyl phthalate	ND	0.30								
Dibenz(a,h)anthracene	ND	0.25								
Dibenzofuran	ND	0.25								
1,2-Dichlorobenzene	ND	0.25								
1,3-Dichlorobenzene	ND	0.25								
1,4-Dichlorobenzene	ND	0.25								
3,3´-Dichlorobenzidine	ND	0.30								
Diethyl phthalate	ND	3.0								
Dimethyl phthalate	ND	0.40								
2,4-Dichlorophenol	ND	0.30								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.30								
2,4-Dinitrophenol	ND	0.30								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb-77079**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **77079**	RunNo: **99491**
Prep Date: **8/24/2023**	Analysis Date: **9/6/2023**	SeqNo: **3632297** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.30								
2,6-Dinitrotoluene	ND	0.30								
Fluoranthene	ND	0.25								
Fluorene	ND	0.25								
Hexachlorobenzene	ND	0.25								
Hexachlorobutadiene	ND	0.25								
Hexachlorocyclopentadiene	ND	0.25								
Hexachloroethane	ND	0.25								
Indeno(1,2,3-cd)pyrene	ND	0.25								
Isophorone	ND	0.30								
1-Methylnaphthalene	ND	0.25								
2-Methylnaphthalene	ND	0.25								
2-Methylphenol	ND	0.30								
3+4-Methylphenol	ND	0.30								
N-Nitrosodi-n-propylamine	ND	0.30								
N-Nitrosodimethylamine	ND	0.30								
N-Nitrosodiphenylamine	ND	0.30								
Naphthalene	ND	0.25								
2-Nitroaniline	ND	0.30								
3-Nitroaniline	ND	0.30								
4-Nitroaniline	ND	0.30								
Nitrobenzene	ND	0.30								
2-Nitrophenol	ND	0.30								
4-Nitrophenol	ND	0.30								
Pentachlorophenol	ND	0.30								
Phenanthrene	ND	0.25								
Phenol	ND	0.30								
Pyrene	ND	0.25								
Pyridine	ND	1.0								
1,2,4-Trichlorobenzene	ND	0.25								
2,4,5-Trichlorophenol	ND	0.25								
2,4,6-Trichlorophenol	ND	0.25								
Surr: 2-Fluorophenol	2.8		3.330		83.8	15	123			
Surr: Phenol-d5	3.2		3.330		96.8	15	141			
Surr: 2,4,6-Tribromophenol	2.4		3.330		72.3	23	118			
Surr: Nitrobenzene-d5	1.2		1.670		70.9	15	125			
Surr: 2-Fluorobiphenyl	1.2		1.670		74.8	15	129			
Surr: 4-Terphenyl-d14	1.4		1.670		81.5	31.1	134			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **lcs-77079** SampType: **LCS** TestCode: **EPA Method 8270C: Semivolatiles**

Client ID: **LCSS** Batch ID: **77079** RunNo: **99491**

Prep Date: **8/24/2023** Analysis Date: **9/6/2023** SeqNo: **3632298** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.4	0.20	1.670	0	82.4	29.4	105			
4-Chloro-3-methylphenol	2.6	0.30	3.330	0	77.9	28.6	109			
2-Chlorophenol	2.5	0.25	3.330	0	74.2	20.7	115			
1,4-Dichlorobenzene	1.0	0.25	1.670	0	62.7	17.1	94.6			
2,4-Dinitrotoluene	1.1	0.30	1.670	0	67.1	28.8	88.3			
N-Nitrosodi-n-propylamine	1.3	0.30	1.670	0	76.8	28.5	107			
4-Nitrophenol	2.9	0.30	3.330	0	86.7	38.5	116			
Pentachlorophenol	2.6	0.30	3.330	0	77.4	33.6	98.8			
Phenol	2.6	0.30	3.330	0	77.3	23.2	116			
Pyrene	1.4	0.25	1.670	0	83.0	40.6	117			
1,2,4-Trichlorobenzene	1.1	0.25	1.670	0	64.5	17.9	100			
Surr: 2-Fluorophenol	2.4		3.330		71.2	15	123			
Surr: Phenol-d5	2.7		3.330		81.9	15	141			
Surr: 2,4,6-Tribromophenol	3.0		3.330		91.2	23	118			
Surr: Nitrobenzene-d5	1.2		1.670		69.5	15	125			
Surr: 2-Fluorobiphenyl	1.2		1.670		73.5	15	129			
Surr: 4-Terphenyl-d14	1.5		1.670		86.9	31.1	134			

Sample ID: **mb-77104** SampType: **MBLK** TestCode: **EPA Method 8270C: Semivolatiles**

Client ID: **PBS** Batch ID: **77104** RunNo: **99525**

Prep Date: **8/25/2023** Analysis Date: **9/7/2023** SeqNo: **3634085** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.25								
Benz(a)anthracene	ND	0.25								
Benzo(a)pyrene	ND	0.25								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.25								
Benzo(k)fluoranthene	ND	0.25								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.30								
Bis(2-chloroethoxy)methane	ND	0.25								
Bis(2-chloroethyl)ether	ND	0.30								
Bis(2-chloroisopropyl)ether	ND	0.30								
Bis(2-ethylhexyl)phthalate	ND	0.50								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb-77104**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **77104**	RunNo: **99525**
Prep Date: **8/25/2023**	Analysis Date: **9/7/2023**	SeqNo: **3634085** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Bromophenyl phenyl ether	ND	0.25								
Butyl benzyl phthalate	ND	0.25								
Carbazole	ND	0.25								
4-Chloro-3-methylphenol	ND	0.30								
4-Chloroaniline	ND	0.30								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.25								
4-Chlorophenyl phenyl ether	ND	0.25								
Chrysene	ND	0.25								
Di-n-butyl phthalate	ND	1.0								
Di-n-octyl phthalate	ND	0.30								
Dibenz(a,h)anthracene	ND	0.25								
Dibenzofuran	ND	0.25								
1,2-Dichlorobenzene	ND	0.25								
1,3-Dichlorobenzene	ND	0.25								
1,4-Dichlorobenzene	ND	0.25								
3,3´-Dichlorobenzidine	ND	0.30								
Diethyl phthalate	ND	3.0								
Dimethyl phthalate	ND	0.40								
2,4-Dichlorophenol	ND	0.30								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.30								
2,4-Dinitrophenol	ND	0.30								
2,4-Dinitrotoluene	ND	0.30								
2,6-Dinitrotoluene	ND	0.30								
Fluoranthene	ND	0.25								
Fluorene	ND	0.25								
Hexachlorobenzene	ND	0.25								
Hexachlorobutadiene	ND	0.25								
Hexachlorocyclopentadiene	ND	0.25								
Hexachloroethane	ND	0.25								
Indeno(1,2,3-cd)pyrene	ND	0.25								
Isophorone	ND	0.30								
1-Methylnaphthalene	ND	0.25								
2-Methylnaphthalene	ND	0.25								
2-Methylphenol	ND	0.30								
3+4-Methylphenol	ND	0.30								
N-Nitrosodi-n-propylamine	ND	0.30								
N-Nitrosodimethylamine	ND	0.30								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb-77104** SampType: **MBLK** TestCode: **EPA Method 8270C: Semivolatiles**

Client ID: **PBS** Batch ID: **77104** RunNo: **99525**

Prep Date: **8/25/2023** Analysis Date: **9/7/2023** SeqNo: **3634085** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Nitrosodiphenylamine	ND	0.30								
Naphthalene	ND	0.25								
2-Nitroaniline	ND	0.30								
3-Nitroaniline	ND	0.30								
4-Nitroaniline	ND	0.30								
Nitrobenzene	ND	0.30								
2-Nitrophenol	ND	0.30								
4-Nitrophenol	ND	0.30								
Pentachlorophenol	ND	0.30								
Phenanthrene	ND	0.25								
Phenol	ND	0.30								
Pyrene	ND	0.25								
Pyridine	ND	1.0								
1,2,4-Trichlorobenzene	ND	0.25								
2,4,5-Trichlorophenol	ND	0.25								
2,4,6-Trichlorophenol	ND	0.25								
Surr: 2-Fluorophenol	1.9		3.330		56.0	15	123			
Surr: Phenol-d5	2.2		3.330		65.7	15	141			
Surr: 2,4,6-Tribromophenol	2.1		3.330		63.8	23	118			
Surr: Nitrobenzene-d5	0.85		1.670		50.9	15	125			
Surr: 2-Fluorobiphenyl	0.87		1.670		52.0	15	129			
Surr: 4-Terphenyl-d14	0.96		1.670		57.3	31.1	134			

Sample ID: **lcs-77104** SampType: **LCS** TestCode: **EPA Method 8270C: Semivolatiles**

Client ID: **LCSS** Batch ID: **77104** RunNo: **99525**

Prep Date: **8/25/2023** Analysis Date: **9/7/2023** SeqNo: **3634086** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.1	0.20	1.670	0	63.0	29.4	105			
4-Chloro-3-methylphenol	2.1	0.30	3.330	0	62.7	28.6	109			
2-Chlorophenol	1.9	0.25	3.330	0	56.9	20.7	115			
1,4-Dichlorobenzene	0.83	0.25	1.670	0	49.9	17.1	94.6			
2,4-Dinitrotoluene	0.89	0.30	1.670	0	53.0	28.8	88.3			
N-Nitrosodi-n-propylamine	1.1	0.30	1.670	0	63.9	28.5	107			
4-Nitrophenol	2.3	0.30	3.330	0	69.6	38.5	116			
Pentachlorophenol	2.0	0.30	3.330	0	60.3	33.6	98.8			
Phenol	2.0	0.30	3.330	0	61.1	23.2	116			
Pyrene	1.1	0.25	1.670	0	66.8	40.6	117			
1,2,4-Trichlorobenzene	0.85	0.25	1.670	0	51.0	17.9	100			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **lcs-77104**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS**	Batch ID: **77104**	RunNo: **99525**
Prep Date: **8/25/2023**	Analysis Date: **9/7/2023**	SeqNo: **3634086** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	1.8		3.330		54.1	15	123			
Surr: Phenol-d5	2.2		3.330		64.6	15	141			
Surr: 2,4,6-Tribromophenol	2.3		3.330		69.0	23	118			
Surr: Nitrobenzene-d5	0.89		1.670		53.4	15	125			
Surr: 2-Fluorobiphenyl	0.96		1.670		57.2	15	129			
Surr: 4-Terphenyl-d14	1.1		1.670		67.4	31.1	134			

Sample ID: **2308a58-017ams**	SampType: **MS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **SB-02(33.5-34.5)**	Batch ID: **77104**	RunNo: **99525**
Prep Date: **8/25/2023**	Analysis Date: **9/7/2023**	SeqNo: **3634090** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.72	0.20	1.643	0	43.8	15	108			
4-Chloro-3-methylphenol	1.4	0.30	3.275	0	43.9	19	114			
2-Chlorophenol	1.3	0.25	3.275	0	39.7	15	118			
1,4-Dichlorobenzene	0.38	0.25	1.643	0	22.8	15	98.7			
2,4-Dinitrotoluene	0.65	0.30	1.643	0	39.7	15.3	92.1			
N-Nitrosodi-n-propylamine	0.68	0.30	1.643	0	41.4	15	158			
4-Nitrophenol	1.8	0.30	3.275	0	54.3	23.8	124			
Pentachlorophenol	1.6	0.30	3.275	0	48.2	20	114			
Phenol	1.4	0.30	3.275	0	41.4	15	118			
Pyrene	0.83	0.25	1.643	0	50.3	24	128			
1,2,4-Trichlorobenzene	0.48	0.25	1.643	0	29.0	15	104			
Surr: 2-Fluorophenol	1.3		3.275		39.5	15	123			
Surr: Phenol-d5	1.4		3.275		44.0	15	141			
Surr: 2,4,6-Tribromophenol	1.7		3.275		52.6	23	118			
Surr: Nitrobenzene-d5	0.62		1.643		37.8	15	125			
Surr: 2-Fluorobiphenyl	0.64		1.643		39.3	15	129			
Surr: 4-Terphenyl-d14	0.85		1.643		51.7	31.1	134			

Sample ID: **2308a58-017amsd**	SampType: **MSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **SB-02(33.5-34.5)**	Batch ID: **77104**	RunNo: **99525**
Prep Date: **8/25/2023**	Analysis Date: **9/7/2023**	SeqNo: **3634091** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.84	0.20	1.649	0	50.7	15	108	15.0	20	
4-Chloro-3-methylphenol	1.8	0.30	3.288	0	53.3	19	114	19.6	20	
2-Chlorophenol	1.6	0.25	3.288	0	47.6	15	118	18.3	20	
1,4-Dichlorobenzene	0.42	0.25	1.649	0	25.3	15	98.7	10.7	20	
2,4-Dinitrotoluene	0.78	0.30	1.649	0	47.4	15.3	92.1	18.2	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **2308a58-017amsd** SampType: **MSD** TestCode: **EPA Method 8270C: Semivolatiles**

Client ID: **SB-02(33.5-34.5)** Batch ID: **77104** RunNo: **99525**

Prep Date: **8/25/2023** Analysis Date: **9/7/2023** SeqNo: **3634091** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Nitrosodi-n-propylamine	0.81	0.30	1.649	0	49.3	15	158	17.9	20	
4-Nitrophenol	2.1	0.30	3.288	0	64.8	23.8	124	18.1	20	
Pentachlorophenol	1.8	0.30	3.288	0	55.5	20	114	14.5	20	
Phenol	1.6	0.30	3.288	0	48.3	15	118	15.7	20	
Pyrene	0.95	0.25	1.649	0	57.9	24	128	14.4	20	
1,2,4-Trichlorobenzene	0.57	0.25	1.649	0	34.3	15	104	17.0	20	
Surr: 2-Fluorophenol	1.5		3.288		45.5	15	123	0	0	
Surr: Phenol-d5	1.8		3.288		53.8	15	141	0	0	
Surr: 2,4,6-Tribromophenol	2.1		3.288		64.2	23	118	0	0	
Surr: Nitrobenzene-d5	0.74		1.649		44.6	15	125	0	0	
Surr: 2-Fluorobiphenyl	0.79		1.649		48.1	15	129	0	0	
Surr: 4-Terphenyl-d14	0.98		1.649		59.3	31.1	134	0	0	

Sample ID: **mb-77165** SampType: **MBLK** TestCode: **EPA Method 8270C: Semivolatiles**

Client ID: **PBS** Batch ID: **77165** RunNo: **99553**

Prep Date: **8/29/2023** Analysis Date: **9/8/2023** SeqNo: **3635295** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.25								
Benz(a)anthracene	ND	0.25								
Benzo(a)pyrene	ND	0.25								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.25								
Benzo(k)fluoranthene	ND	0.25								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.30								
Bis(2-chloroethoxy)methane	ND	0.25								
Bis(2-chloroethyl)ether	ND	0.30								
Bis(2-chloroisopropyl)ether	ND	0.30								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.25								
Butyl benzyl phthalate	ND	0.25								
Carbazole	ND	0.25								
4-Chloro-3-methylphenol	ND	0.30								
4-Chloroaniline	ND	0.30								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb-77165**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **77165**	RunNo: **99553**
Prep Date: **8/29/2023**	Analysis Date: **9/8/2023**	SeqNo: **3635295** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.25								
4-Chlorophenyl phenyl ether	ND	0.25								
Chrysene	ND	0.25								
Di-n-butyl phthalate	ND	1.0								
Di-n-octyl phthalate	ND	0.30								
Dibenz(a,h)anthracene	ND	0.25								
Dibenzofuran	ND	0.25								
1,2-Dichlorobenzene	ND	0.25								
1,3-Dichlorobenzene	ND	0.25								
1,4-Dichlorobenzene	ND	0.25								
3,3´-Dichlorobenzidine	ND	0.30								
Diethyl phthalate	ND	3.0								
Dimethyl phthalate	ND	0.40								
2,4-Dichlorophenol	ND	0.30								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.30								
2,4-Dinitrophenol	ND	0.30								
2,4-Dinitrotoluene	ND	0.30								
2,6-Dinitrotoluene	ND	0.30								
Fluoranthene	ND	0.25								
Fluorene	ND	0.25								
Hexachlorobenzene	ND	0.25								
Hexachlorobutadiene	ND	0.25								
Hexachlorocyclopentadiene	ND	0.25								
Hexachloroethane	ND	0.25								
Indeno(1,2,3-cd)pyrene	ND	0.25								
Isophorone	ND	0.30								
1-Methylnaphthalene	ND	0.25								
2-Methylnaphthalene	ND	0.25								
2-Methylphenol	ND	0.30								
3+4-Methylphenol	ND	0.30								
N-Nitrosodi-n-propylamine	ND	0.30								
N-Nitrosodimethylamine	ND	0.30								
N-Nitrosodiphenylamine	ND	0.30								
Naphthalene	ND	0.25								
2-Nitroaniline	ND	0.30								
3-Nitroaniline	ND	0.30								
4-Nitroaniline	ND	0.30								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **mb-77165** SampType: **MBLK** TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS** Batch ID: **77165** RunNo: **99553**
Prep Date: **8/29/2023** Analysis Date: **9/8/2023** SeqNo: **3635295** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrobenzene	ND	0.30								
2-Nitrophenol	ND	0.30								
4-Nitrophenol	ND	0.30								
Pentachlorophenol	ND	0.30								
Phenanthrene	ND	0.25								
Phenol	ND	0.30								
Pyrene	ND	0.25								
Pyridine	ND	1.0								
1,2,4-Trichlorobenzene	ND	0.25								
2,4,5-Trichlorophenol	ND	0.25								
2,4,6-Trichlorophenol	ND	0.25								
Surr: 2-Fluorophenol	2.2		3.330		65.8	15	123			
Surr: Phenol-d5	2.7		3.330		80.0	15	141			
Surr: 2,4,6-Tribromophenol	2.3		3.330		69.8	23	118			
Surr: Nitrobenzene-d5	1.1		1.670		65.8	15	125			
Surr: 2-Fluorobiphenyl	1.1		1.670		66.5	15	129			
Surr: 4-Terphenyl-d14	1.4		1.670		82.8	31.1	134			

Sample ID: **lcs-77165** SampType: **LCS** TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS** Batch ID: **77165** RunNo: **99553**
Prep Date: **8/29/2023** Analysis Date: **9/8/2023** SeqNo: **3635297** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.4	0.20	1.670	0	81.7	29.4	105			
4-Chloro-3-methylphenol	2.7	0.30	3.330	0	79.8	28.6	109			
2-Chlorophenol	1.9	0.25	3.330	0	57.6	20.7	115			
1,4-Dichlorobenzene	0.77	0.25	1.670	0	46.3	17.1	94.6			
2,4-Dinitrotoluene	1.2	0.30	1.670	0	71.3	28.8	88.3			
N-Nitrosodi-n-propylamine	1.4	0.30	1.670	0	82.9	28.5	107			
4-Nitrophenol	3.0	0.30	3.330	0	90.2	38.5	116			
Pentachlorophenol	2.2	0.30	3.330	0	67.2	33.6	98.8			
Phenol	2.2	0.30	3.330	0	65.7	23.2	116			
Pyrene	1.4	0.25	1.670	0	85.7	40.6	117			
1,2,4-Trichlorobenzene	0.94	0.25	1.670	0	56.2	17.9	100			
Surr: 2-Fluorophenol	1.8		3.330		54.2	15	123			
Surr: Phenol-d5	2.3		3.330		69.2	15	141			
Surr: 2,4,6-Tribromophenol	2.5		3.330		75.2	23	118			
Surr: Nitrobenzene-d5	1.1		1.670		63.9	15	125			
Surr: 2-Fluorobiphenyl	1.2		1.670		70.9	15	129			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID:	**lcs-77165**	SampType:	**LCS**	TestCode:	**EPA Method 8270C: Semivolatiles**					
Client ID:	**LCSS**	Batch ID:	**77165**	RunNo:	**99553**					
Prep Date:	**8/29/2023**	Analysis Date:	**9/8/2023**	SeqNo:	**3635297**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	1.4		1.670		84.3	31.1	134			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb-76988**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **76988**	RunNo: **99219**
Prep Date: **8/22/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617922** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	5.0								
Acenaphthylene	ND	5.0								
Aniline	ND	10								
Anthracene	ND	5.0								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	5.0								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	5.0								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	5.0								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	5.0								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	5.0								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	5.0								
4-Chloroaniline	ND	5.0								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	5.0								
4-Chlorophenyl phenyl ether	ND	5.0								
Chrysene	ND	5.0								
Di-n-butyl phthalate	ND	20								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	5.0								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	10								
2,4-Dinitrophenol	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb-76988**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **76988**	RunNo: **99219**
Prep Date: **8/22/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617922** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	5.0								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	5.0								
Hexachlorobenzene	ND	20								
Hexachlorobutadiene	ND	20								
Hexachlorocyclopentadiene	ND	20								
Hexachloroethane	ND	20								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	5.0								
1-Methylnaphthalene	ND	5.0								
2-Methylnaphthalene	ND	5.0								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	5.0								
N-Nitrosodimethylamine	ND	5.0								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	5.0								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	5.0								
Nitrobenzene	ND	5.0								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	5.0								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	40								
1,2,4-Trichlorobenzene	ND	5.0								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	130		200.0		66.3	15	84.1			
Surr: Phenol-d5	100		200.0		51.2	16.5	50.7			S
Surr: 2,4,6-Tribromophenol	120		200.0		58.2	15	133			
Surr: Nitrobenzene-d5	67		100.0		66.6	30.9	86.8			
Surr: 2-Fluorobiphenyl	59		100.0		58.8	24.3	77.2			
Surr: 4-Terphenyl-d14	80		100.0		79.8	52.3	118			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **lcs-76988** SampType: **LCS** TestCode: **EPA Method 8270C: Semivolatiles**

Client ID: **LCSW** Batch ID: **76988** RunNo: **99219**

Prep Date: **8/22/2023** Analysis Date: **8/24/2023** SeqNo: **3617923** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	64	5.0	100.0	0	64.3	24.5	94.9			
4-Chloro-3-methylphenol	150	5.0	200.0	0	74.4	31.8	101			
2-Chlorophenol	150	5.0	200.0	0	73.4	23.2	109			
1,4-Dichlorobenzene	48	5.0	100.0	0	48.3	15	83.7			
2,4-Dinitrotoluene	57	5.0	100.0	0	56.8	26.7	83.2			
N-Nitrosodi-n-propylamine	76	5.0	100.0	0	75.6	26	99.8			
4-Nitrophenol	84	10	200.0	0	41.9	15	74			
Pentachlorophenol	90	20	200.0	0	44.9	15	101			
Phenol	88	10	200.0	0	44.2	15.5	62.1			
Pyrene	84	10	100.0	0	84.1	50	111			
1,2,4-Trichlorobenzene	46	5.0	100.0	0	46.2	15	85.4			
Surr: 2-Fluorophenol	130		200.0		62.9	15	84.1			
Surr: Phenol-d5	100		200.0		50.1	16.5	50.7			
Surr: 2,4,6-Tribromophenol	130		200.0		62.7	15	133			
Surr: Nitrobenzene-d5	72		100.0		72.2	30.9	86.8			
Surr: 2-Fluorobiphenyl	63		100.0		62.5	24.3	77.2			
Surr: 4-Terphenyl-d14	95		100.0		95.4	52.3	118			

Sample ID: **lcsd-76988** SampType: **LCSD** TestCode: **EPA Method 8270C: Semivolatiles**

Client ID: **LCSS02** Batch ID: **76988** RunNo: **99219**

Prep Date: **8/22/2023** Analysis Date: **8/24/2023** SeqNo: **3617924** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	70	5.0	100.0	0	69.6	24.5	94.9	7.97	44.2	
4-Chloro-3-methylphenol	140	5.0	200.0	0	72.0	31.8	101	3.30	45.4	
2-Chlorophenol	150	5.0	200.0	0	77.2	23.2	109	5.06	68.7	
1,4-Dichlorobenzene	49	5.0	100.0	0	49.0	15	83.7	1.57	45.5	
2,4-Dinitrotoluene	59	5.0	100.0	0	58.9	26.7	83.2	3.74	33.9	
N-Nitrosodi-n-propylamine	76	5.0	100.0	0	76.0	26	99.8	0.516	52.2	
4-Nitrophenol	88	10	200.0	0	44.1	15	74	5.01	86.9	
Pentachlorophenol	92	20	200.0	0	46.0	15	101	2.59	44.3	
Phenol	88	10	200.0	0	44.1	15.5	62.1	0.0729	44.2	
Pyrene	79	10	100.0	0	79.2	50	111	5.95	27.1	
1,2,4-Trichlorobenzene	46	5.0	100.0	0	45.8	15	85.4	0.883	55.3	
Surr: 2-Fluorophenol	130		200.0		63.6	15	84.1	0	0	
Surr: Phenol-d5	99		200.0		49.5	16.5	50.7	0	0	
Surr: 2,4,6-Tribromophenol	120		200.0		60.2	15	133	0	0	
Surr: Nitrobenzene-d5	67		100.0		67.3	30.9	86.8	0	0	
Surr: 2-Fluorobiphenyl	64		100.0		64.2	24.3	77.2	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID:	**lcsd-76988**	SampType:	**LCSD**	TestCode:	**EPA Method 8270C: Semivolatiles**					
Client ID:	**LCSS02**	Batch ID:	**76988**	RunNo:	**99219**					
Prep Date:	**8/22/2023**	Analysis Date:	**8/24/2023**	SeqNo:	**3617924**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	91		100.0		90.8	52.3	118	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **MB-77022**	SampType: **MBLK**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **PBS**	Batch ID: **77022**	RunNo: **99220**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617940** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.066								

Sample ID: **LCS-77022**	SampType: **LCS**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **LCSS**	Batch ID: **77022**	RunNo: **99220**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617942** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.34	0.066	0.3333	0	101	80	120			

Sample ID: **MB-77023**	SampType: **MBLK**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **PBS**	Batch ID: **77023**	RunNo: **99220**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617943** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.066								

Sample ID: **LCS-77023**	SampType: **LCS**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **LCSS**	Batch ID: **77023**	RunNo: **99220**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617945** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.34	0.066	0.3333	0	102	80	120			

Sample ID: **MB-77024**	SampType: **MBLK**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **PBS**	Batch ID: **77024**	RunNo: **99220**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617946** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.066								

Sample ID: **LCS-77024**	SampType: **LCS**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **LCSS**	Batch ID: **77024**	RunNo: **99220**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617948** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.34	0.066	0.3333	0	103	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **LCSLL-77024**	SampType: **LCSLL**	TestCode: **EPA Method 7471B: Mercury**							
Client ID: **BatchQC**	Batch ID: **77024**	RunNo: **99220**							
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617952**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.016	0.066	0.01332	0	118	70	130			J

Sample ID: **LCSLL-77023**	SampType: **LCSLL**	TestCode: **EPA Method 7471B: Mercury**							
Client ID: **BatchQC**	Batch ID: **77023**	RunNo: **99220**							
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617953**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.015	0.066	0.01332	0	112	70	130			J

Sample ID: **LCSLL-77022**	SampType: **LCSLL**	TestCode: **EPA Method 7471B: Mercury**							
Client ID: **BatchQC**	Batch ID: **77022**	RunNo: **99220**							
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617954**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.015	0.066	0.01332	0	113	70	130			J

Sample ID: **2308A58-020AMS**	SampType: **MS**	TestCode: **EPA Method 7471B: Mercury**							
Client ID: **SB-03(18-19)**	Batch ID: **77022**	RunNo: **99220**							
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617955**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.39	0.075	0.3769	0	102	80	120			

Sample ID: **2308A58-020AMSD**	SampType: **MSD**	TestCode: **EPA Method 7471B: Mercury**							
Client ID: **SB-03(18-19)**	Batch ID: **77022**	RunNo: **99220**							
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617956**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.38	0.073	0.3709	0	103	80	120	0.416	20	

Sample ID: **2308A58-040AMS**	SampType: **MS**	TestCode: **EPA Method 7471B: Mercury**							
Client ID: **DUP-0816-2**	Batch ID: **77023**	RunNo: **99220**							
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617958**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.39	0.073	0.3663	0	105	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID:	**2308A58-040AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 7471B: Mercury**
Client ID:	**DUP-0816-2**	Batch ID:	**77023**	RunNo:	**99220**
Prep Date:	**8/23/2023**	Analysis Date:	**8/24/2023**	SeqNo:	**3617959** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.39	0.073	0.3695	0	104	80	120	0.0195	20	

Sample ID:	**2308A58-042AMS**	SampType:	**MS**	TestCode:	**EPA Method 7471B: Mercury**
Client ID:	**DUP-0816-4**	Batch ID:	**77024**	RunNo:	**99220**
Prep Date:	**8/23/2023**	Analysis Date:	**8/24/2023**	SeqNo:	**3617961** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.37	0.070	0.3531	0	104	80	120			

Sample ID:	**2308A58-042AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 7471B: Mercury**
Client ID:	**DUP-0816-4**	Batch ID:	**77024**	RunNo:	**99220**
Prep Date:	**8/23/2023**	Analysis Date:	**8/24/2023**	SeqNo:	**3617964** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.36	0.070	0.3555	0	102	80	120	1.72	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB-76999** SampType: **MBLK** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS** Batch ID: **76999** RunNo: **99231**
Prep Date: **8/22/2023** Analysis Date: **8/24/2023** SeqNo: **3618796** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.10								
Beryllium	ND	0.15								
Cadmium	ND	0.25								
Chromium	ND	0.30								
Cobalt	ND	0.30								
Iron	ND	10								
Manganese	ND	0.25								
Vanadium	ND	2.5								
Zinc	ND	2.5								

Sample ID: **LCSLL-76999** SampType: **LCSLL** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **BatchQC** Batch ID: **76999** RunNo: **99231**
Prep Date: **8/22/2023** Analysis Date: **8/24/2023** SeqNo: **3618797** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.12	0.10	0.1000	0	120	50	150			
Beryllium	0.10	0.15	0.1000	0	105	50	150			J
Cadmium	0.11	0.25	0.1000	0	107	50	150			J
Chromium	0.31	0.30	0.3000	0	103	50	150			
Cobalt	0.32	0.30	0.3000	0	108	50	150			
Iron	1.8	10	1.000	0	180	50	150			JS
Manganese	0.13	0.25	0.1000	0	129	50	150			J
Vanadium	0.48	2.5	0.5000	0	96.9	50	150			J

Sample ID: **LCS-76999** SampType: **LCS** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS** Batch ID: **76999** RunNo: **99231**
Prep Date: **8/22/2023** Analysis Date: **8/24/2023** SeqNo: **3618798** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	25	0.10	25.00	0	98.7	80	120			
Beryllium	26	0.15	25.00	0	104	80	120			
Cadmium	25	0.25	25.00	0	99.2	80	120			
Chromium	25	0.30	25.00	0	100	80	120			
Cobalt	24	0.30	25.00	0	97.9	80	120			
Iron	26	10	25.00	0	104	80	120			
Manganese	25	0.25	25.00	0	101	80	120			
Vanadium	25	2.5	25.00	0	99.7	80	120			
Zinc	27	2.5	25.00	0	107	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **2308A58-021AMS** SampType: **MS** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **SB-03(29-30)** Batch ID: **76999** RunNo: **99231**

Prep Date: **8/22/2023** Analysis Date: **8/24/2023** SeqNo: **3618850** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	410	0.20	24.75	342.5	267	75	125			S
Beryllium	26	0.30	24.75	0.9203	100	75	125			
Cadmium	24	0.50	24.75	0	96.9	75	125			
Chromium	32	0.59	24.75	6.920	101	75	125			
Cobalt	28	0.59	24.75	4.132	97.4	75	125			
Vanadium	43	5.0	24.75	15.39	111	75	125			
Zinc	38	5.0	24.75	13.56	100	75	125			

Sample ID: **2308A58-021AMSD** SampType: **MSD** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **SB-03(29-30)** Batch ID: **76999** RunNo: **99231**

Prep Date: **8/22/2023** Analysis Date: **8/24/2023** SeqNo: **3618851** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	390	0.20	25.06	342.5	207	75	125	3.49	20	S
Beryllium	26	0.30	25.06	0.9203	98.3	75	125	0.529	20	
Cadmium	24	0.50	25.06	0	94.9	75	125	0.892	20	
Chromium	31	0.60	25.06	6.920	96.4	75	125	2.32	20	
Cobalt	28	0.60	25.06	4.132	94.7	75	125	1.42	20	
Vanadium	42	5.0	25.06	15.39	106	75	125	2.12	20	
Zinc	36	5.0	25.06	13.56	90.8	75	125	5.35	20	

Sample ID: **MB-76998** SampType: **MBLK** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **PBS** Batch ID: **76998** RunNo: **99276**

Prep Date: **8/22/2023** Analysis Date: **8/28/2023** SeqNo: **3621146** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.10								
Beryllium	ND	0.15								
Cadmium	ND	0.25								
Chromium	ND	0.30								
Cobalt	ND	0.30								
Iron	ND	10								
Manganese	ND	0.25								
Vanadium	ND	2.5								
Zinc	ND	2.5								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **LCSLL-76998** SampType: **LCSLL** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **BatchQC** Batch ID: **76998** RunNo: **99276**

Prep Date: **8/22/2023** Analysis Date: **8/28/2023** SeqNo: **3621147** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.13	0.10	0.1000	0	125	50	150			
Beryllium	0.099	0.15	0.1000	0	98.9	50	150			J
Cadmium	0.10	0.25	0.1000	0	102	50	150			J
Chromium	0.32	0.30	0.3000	0	107	50	150			
Cobalt	0.25	0.30	0.3000	0	85.0	50	150			J
Iron	1.9	10	1.000	0	193	50	150			JS
Manganese	0.12	0.25	0.1000	0	123	50	150			J
Vanadium	0.51	2.5	0.5000	0	102	50	150			J
Zinc	0.94	2.5	0.5000	0	187	50	150			JS

Sample ID: **LCS-76998** SampType: **LCS** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **LCSS** Batch ID: **76998** RunNo: **99276**

Prep Date: **8/22/2023** Analysis Date: **8/28/2023** SeqNo: **3621148** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	24	0.10	25.00	0	97.5	80	120			
Beryllium	25	0.15	25.00	0	102	80	120			
Cadmium	24	0.25	25.00	0	97.7	80	120			
Chromium	25	0.30	25.00	0	98.9	80	120			
Cobalt	24	0.30	25.00	0	94.9	80	120			
Iron	26	10	25.00	0	105	80	120			
Manganese	25	0.25	25.00	0	101	80	120			
Vanadium	25	2.5	25.00	0	101	80	120			
Zinc	24	2.5	25.00	0	97.9	80	120			

Sample ID: **MB-77030** SampType: **MBLK** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **PBS** Batch ID: **77030** RunNo: **99276**

Prep Date: **8/23/2023** Analysis Date: **8/28/2023** SeqNo: **3621149** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.10								
Beryllium	ND	0.15								
Cadmium	ND	0.25								
Chromium	ND	0.30								
Cobalt	ND	0.30								
Iron	ND	10								
Manganese	ND	0.25								
Vanadium	ND	2.5								
Zinc	ND	2.5								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **LCSLL-77030** SampType: **LCSLL** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **BatchQC** Batch ID: **77030** RunNo: **99276**

Prep Date: **8/23/2023** Analysis Date: **8/28/2023** SeqNo: **3621150** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.12	0.10	0.1000	0	122	50	150			
Beryllium	0.10	0.15	0.1000	0	105	50	150			J
Cadmium	0.096	0.25	0.1000	0	96.3	50	150			J
Chromium	0.34	0.30	0.3000	0	113	50	150			
Cobalt	0.29	0.30	0.3000	0	95.9	50	150			J
Iron	2.6	10	1.000	0	255	50	150			JS
Manganese	0.13	0.25	0.1000	0	127	50	150			J
Vanadium	0.48	2.5	0.5000	0	96.0	50	150			J
Zinc	1.2	2.5	0.5000	0	249	50	150			JS

Sample ID: **LCS-77030** SampType: **LCS** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **LCSS** Batch ID: **77030** RunNo: **99276**

Prep Date: **8/23/2023** Analysis Date: **8/28/2023** SeqNo: **3621151** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	25	0.10	25.00	0	98.0	80	120			
Beryllium	26	0.15	25.00	0	103	80	120			
Cadmium	25	0.25	25.00	0	100	80	120			
Chromium	25	0.30	25.00	0	98.5	80	120			
Cobalt	24	0.30	25.00	0	95.6	80	120			
Iron	27	10	25.00	0	109	80	120			
Manganese	25	0.25	25.00	0	101	80	120			
Vanadium	25	2.5	25.00	0	101	80	120			
Zinc	25	2.5	25.00	0	101	80	120			

Sample ID: **2308A58-021AMS** SampType: **MS** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **SB-03(29-30)** Batch ID: **76999** RunNo: **99276**

Prep Date: **8/22/2023** Analysis Date: **8/28/2023** SeqNo: **3621167** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	480	1.2	24.75	622.7	-589	75	125			S

Sample ID: **2308A58-021AMSD** SampType: **MSD** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **SB-03(29-30)** Batch ID: **76999** RunNo: **99276**

Prep Date: **8/22/2023** Analysis Date: **8/28/2023** SeqNo: **3621170** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	410	1.3	25.06	622.7	-829	75	125	13.9	20	S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **2308A58-002AMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **SB-14(25-28)**	Batch ID: **76998**	RunNo: **99276**
Prep Date: **8/22/2023**	Analysis Date: **8/28/2023**	SeqNo: **3621196** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	22	0.29	23.91	0.6048	88.2	75	125			
Cadmium	20	0.48	23.91	0	82.8	75	125			
Chromium	26	0.57	23.91	5.042	85.6	75	125			
Cobalt	21	0.57	23.91	2.668	78.5	75	125			
Zinc	30	4.8	23.91	10.32	81.5	75	125			

Sample ID: **2308A58-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **SB-14(25-28)**	Batch ID: **76998**	RunNo: **99276**
Prep Date: **8/22/2023**	Analysis Date: **8/28/2023**	SeqNo: **3621197** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	22	0.29	23.94	0.6048	88.4	75	125	0.408	20	
Cadmium	20	0.48	23.94	0	83.1	75	125	0.531	20	
Chromium	28	0.57	23.94	5.042	94.1	75	125	7.75	20	
Cobalt	22	0.57	23.94	2.668	80.6	75	125	2.41	20	
Zinc	30	4.8	23.94	10.32	82.2	75	125	0.695	20	

Sample ID: **2308A58-002AMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **SB-14(25-28)**	Batch ID: **76998**	RunNo: **99276**
Prep Date: **8/22/2023**	Analysis Date: **8/28/2023**	SeqNo: **3621200** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vanadium	63	12	23.91	25.03	161	75	125			S

Sample ID: **2308A58-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **SB-14(25-28)**	Batch ID: **76998**	RunNo: **99276**
Prep Date: **8/22/2023**	Analysis Date: **8/28/2023**	SeqNo: **3621201** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vanadium	52	12	23.94	25.03	112	75	125	20.0	20	

Sample ID: **2308A58-031AMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **SB-11(0.5-1)**	Batch ID: **77030**	RunNo: **99276**
Prep Date: **8/23/2023**	Analysis Date: **8/28/2023**	SeqNo: **3621666** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	23	0.29	24.24	0.6780	90.6	75	125			
Cadmium	21	0.48	24.24	0	85.7	75	125			
Chromium	33	0.58	24.24	6.491	108	75	125			
Cobalt	25	0.58	24.24	2.764	91.2	75	125			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A58**

18-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **2308A58-031AMS** SampType: **MS** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **SB-11(0.5-1)** Batch ID: **77030** RunNo: **99276**
Prep Date: **8/23/2023** Analysis Date: **8/28/2023** SeqNo: **3621666** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vanadium	42	4.8	24.24	17.23	103	75	125			

Sample ID: **2308A58-031AMSD** SampType: **MSD** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **SB-11(0.5-1)** Batch ID: **77030** RunNo: **99276**
Prep Date: **8/23/2023** Analysis Date: **8/28/2023** SeqNo: **3621667** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	23	0.29	24.25	0.6780	91.0	75	125	0.511	20	
Cadmium	21	0.48	24.25	0	88.6	75	125	3.34	20	
Chromium	36	0.58	24.25	6.491	120	75	125	8.63	20	
Cobalt	25	0.58	24.25	2.764	89.8	75	125	1.27	20	
Vanadium	41	4.8	24.25	17.23	97.3	75	125	3.42	20	

Sample ID: **2308A58-031AMS** SampType: **MS** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **SB-11(0.5-1)** Batch ID: **77030** RunNo: **99276**
Prep Date: **8/23/2023** Analysis Date: **8/28/2023** SeqNo: **3621670** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	570	0.48	24.24	1116	-2240	75	125			S

Sample ID: **2308A58-031AMSD** SampType: **MSD** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **SB-11(0.5-1)** Batch ID: **77030** RunNo: **99276**
Prep Date: **8/23/2023** Analysis Date: **8/28/2023** SeqNo: **3621671** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	390	0.48	24.25	1116	-3010	75	125	39.2	20	RS

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Marathon | Work Order Number: 2308A58 | RcptNo: 1

Received By: **Tracy Casarrubias** 8/18/2023 7:40:00 AM

Completed By: **Tracy Casarrubias** 8/18/2023 10:27:32 AM

Reviewed By: TM 8/18/23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 1 (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? NO
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: SCM 8/18/23 CMC 8/18/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

Poured off ~250mL from origial volume provided for 044E into a 250mL Glass Amber to create 044C- SCM 8/18/23

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.9	Good	Yes	Morty		
2	5.7	Good	Yes	Morty		
3	5.3	Good	Yes	Morty		

Received by OCD: 2/29/2024 3:49:46 PM

Released to Imaging: 2/7/2025 1:59:07 PM

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Marathon

Work Order Number: 2308A58

RcptNo: 1

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
4	2.6	Good	Yes	Morty		

Received by OCD: 2/29/2024 3:49:46 PM

Released to Imaging: 2/7/2025 1:59:07 PM

Chain-of-Custody Record

Client: Ma on Petroleum Company

Mailing Address: 92 Giant Crossing Rd.
Jamestown, NM 87347

Phone #: 808-640-1823

email or Fax#: econkling@trihydro.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: AOC 26/27

Project #: 00697-097-0020

Project Manager:
Emily Conkling

Sampler:

On Ice: ☑ Yes ☐ No

# of Coolers: 4

Cooler Temp(Including CF): See Checklist

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2308A58	8260/VOCs	8270/SVOCs	8011/ 1,2-dichloroethane	8270SIM / 1,4-dioxane	8015B TPH-DRO, TPH-GRO, TPH-MRO	6010/6020 /Skinner List Metals	6010/6020 /Total Iron	6010/6020 /Total Manganese	300.0 / Total Chloride
8.16	1245	S	SB-14 (0.5-1)	4		001	X	X	X	X	X	X	X	X	X
	1300		SB-14 (25-28)			002									
	1305		SB-14 (27-28)			003									
	0725		SB-16 (0.5-1)			004									
	0740		SB-16 (10-15)			005									
	0745		SB-16 (14-15)			006									
	1255		SB-14 (24-25)			007									
	1320		SB-17 (14-15)			008									
	1330		SB-17 (15-20)			009									
	1335		SB-17 (22.5-23.5)			010									
	0940		SB-05 (0.5-1)			011									
↓	0950	↓	SB-05 (20-25)	↓		012	↓	↓	↓	↓	↓	↓	↓	↓	↓

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
8.17.23	14:00	Emily Conkling		Courier		
					8/18/23	7:40
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Ma[illegible]on Petroleum Company

Mailing Address: 92 Giant Crossing Rd.
Jamestown, NM 87347

Phone #: 808-640-1823

email or Fax#: econkling@trihydro.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: AOC 26/27

Project #: 00697-097-0020

Project Manager: Emily Conkling

Sampler:

On Ice: ☒ Yes ☐ No

# of Coolers: 4

Cooler Temp (including CF): See Checklist

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2308A58	8260/VOCs	8270/SVOCs	8011/1,2-dichloroethane	8270SIM / 1,4-dioxane	8015B / TPH-DRO, TPH-GRO, TPH-MRO	6010/6020 /Skinner List Metals	6010/6020 /Total Iron	6010/6020 /Total Manganese	300.0 / Total Chloride
8.16	10:00	S	SB-05 (24-25)	4		013	X	X	X	X	X	X	X	X	X
	0750		SB-02 (0.5-1)			014									
	0800		SB-02 (15-20)			015									
	0810		SB-02 (19.7-20.7)			016									
	0825		SB-02 (33.5-34.5)			017									
	0835		SB-03 (0.5-1)			018									
	0840		SB-03 (15-20)			019									
	0845		SB-03 (18-19)			020									
	0850		SB-03 (29-30)			021									
	1015		SB-04 (15-20)			022									
	1020		SB-04 (19.5-20.5)			023									
↓	1030	↓	SB-04 (24-25)	↓		024	↓	↓	↓	↓	↓	↓	↓	↓	↓

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
8/17/23	14:00	Emily Conkling		courier		
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Phone #: 808-640-1823

email or Fax#: econkling@trihydro.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: AOC 26/27

Project #: 00697-097-0020

Project Manager: Emily Conkling

Sampler:

On Ice: ☑ Yes ☐ No

# of Coolers: 4

Cooler Temp(including CF): See Checklist

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2308158	8260/VOCs	8270/SVOCs	8011/ 1,2-dichloroethane	8270SIM / 1,4-dioxane	8015B / TPH-DRO, TPH-GRO, TPH-MRO	6010/6020 /Skinner List Metals	6010/6020 /Total Iron	6010/6020 /Total Manganese	300.0 / Total Chloride
8.16	0855	S	SB-09 (0.5-1)	4		025	X	X	X	X	X	X	X	X	X
	0915		SB-09 (15-20)			026									
	0905		SB-09 (10-15)			027									
	1040		SB-10 (0.5-1)			028									
	1050		SB-10 (15-20)			029									
	1100		SB-10 (23.5-24.5)			030									
	1200		SB-11 (0.5-1)			031									
	1205		SB-11 (1-5)			032									
	1210		SB-11 (17.5-18.5)			033									
	1215		SB-11 (19-20)			034									
	1220		SB-13 (0.5-1)			035									
▽	1230	▽	SB-13 (10-15)	▽		036	▽	▽	▽	▽	▽	▽	▽	▽	▽

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
8.17.23	14:00	Emily Conkling		Courier		
					8/18/23	7:40

Remarks:

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Chain-of-Custody Record

Client: Mar n Petroleum Company

Mailing Address: 92 Giant Crossing Rd.
Jamestown, NM 87347

Phone #: 808-640-1823

email or Fax#: econkling@trihydro.com

QA/QC Package:
☐ **Standard** ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ **EDD (Type)**

Turn-Around Time:
☐ Standard ☐ **Rush**

Project Name: AOC 26/27

Project #: 00697-097-0020

Project Manager: Emily Conkling

Sampler:

On Ice: ☑ Yes ☐ No

# of Coolers: 4

Cooler Temp(including CF): See Checklist

HALL ENVIRONMENTAL ANALYSIS LABORATORY
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4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2308A58	8260/VOCs	8270/SVOCs	8011/ 1,2-dichloroethane	8270SIM / 1,4-dioxane	8015B / TPH-DRO, TPH-GRO, TPH-MRO	6010/6020 /Skinner List Metals	6010/6020 /Total Iron	6010/6020 /Total Manganese	300.0 / Total Chloride
8.16	1235	S	SB-13 (14-15)	4		037	X	X	X	X	X	X	X	X	X
	1240		SB-13 (24-25)			038									
	—		Dup-0816-1			039									
	—		Dup-0816-2			040									
	—		Dup-0816-3			041									
	—		Dup-0816-4			042									
	—		Dup-0816-5			043									
	1700	W	EB-0816	10		044									
~~8.15~~	~~1630~~	~~W~~	~~EB-0815~~												
			Not put on rightful WO #2308975 - TMC 8/18/23												
8/15	15:40	Soil	SB15-(10-15)		Added per EC. - TMC 8/18/23	045									
			MEOH Blank			046									

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8.17.23	14:00	Emily Conkling		courier		
					8/18/23	7:40
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks:
MEOH BLANK - 047
MEOH BLANK - 048
MEOH BLANK - 049
> Added per EC. - TMC 8/18/23

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

QUOTATION

Quote#: **2840**
Date: **5/9/2023**

Company: Trihydro Corporation
Contact: Emily Conkling
Address: 1252 Commerce Dr.
Laramie, Wy 82072
Phone:
Fax:

Project: Soil and EQP blank testing
TAT: 12 working days
QC Level: LEVEL II
Project Manager: Andy Freeman
Sales Rep: Andy Freeman
Quote Expires: 11/5/2023

Item Description	Test	Matrix	Remarks	Qty	Unit Price	Total
EPA Method 8260B: Volatiles	SW8260B	Soil	+ I,4 Dioxane	106	[redacted]	[redacted]
EPA Method 8270C: Semivolatiles	SW8270C	Soil	Full list SVOC	106		
EPA Method 8011/504.1 Modified:	E504.1	Soil	EDB low level	106		
EPA Method 8015M/D: Diesel Ran	SW8015	Soil	DRO/MRO	106		
EPA Method 8015D: Gasoline Rang	SW8015	Soil	GRO	106		
EPA Method 6020A: Total Metals	E200.8	Soil	Sb, As, Co, Pb, Ni, Se, Ag	106		
EPA Method 7471B: Mercury	SW7471	Soil	Mercury	106		
EPA Method 300.0: Anions	E300	Soil	Chloride	106		
EPA Method 6010B: Soil Metals	SW6010B	Soil	Ba, Be, Cd, Co, Cr, Fe, Mn, V, Zn	106		
EPA Method 8260B: VOLATILES	SW8260B	Aqueous	+ 1,4 Dioxane	10		
EPA Method 8270C: Semivolatiles	SW8270C	Aqueous	Full list SVOC	10		
EPA Method 8015M/D: Diesel Ran	SW8015	Aqueous	DRO/MRO	10		
EPA Method 8015D: Gasoline Rang	SW8015	Aqueous	GRO	10		
EPA 200.8: Metals	E200.8	Aqueous	Sb, As, Pb, Ni, Se, Ag	10		
EPA Method 200.7: Metals	E200.7	Aqueous	Ba, Be, Cd, Co, Cr, Fe, Mn, V, Zn	10		
EPA Method 245.1: Mercury	E245.1	Aqueous	Mercury	10		
EPA Method 300.0: Anions	E300	Aqueous	Chloride	10		
EPA Method 8011/504.1: EDB	E504.1	Aqueous	EDB	10		

Miscellaneous Charge Summary

Item	Unit	Qty	Total
1 Sample Disposal and Bottle Charge	[redacted]	1	[redacted]

Sub Total: [redacted]
Misc: $6.00
Surcharge: 0%
TOTAL: [redacted]

Sincerely,

Andy Freeman
Laboratory Manager
Phone: 505-345-3975
Email: andy@hallenvironmental.com

Terms and Conditions:

Hall Environmental Analysis Laboratory (HEAL) will provide all sampling containers, coolers, chains of custody and labels. A standard data deliverables package and QC package will be provided with this report, including lab spikes and lab spike duplicates. NM State tax has not been included in this quotation. A $6 charge will be applied to all workorders/invoices for sample disposal/bottle charge. Thank you, for the opportunity to bid on this project. Please feel free to call with any questions (505) 345-3975. Invoices can be paid via Visa, Master Card, American Express, Company Check or Cash. If invoices are paid with a credit card a 2.5% charge will be applied.

Received by OCD: 2/29/2024 3:49:46 PM

Released to Imaging: 2/7/2025 1:59:07 PM

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 15, 2023

Emily Conkling

Marathon
92 Giant Crossing Rd
Gallup, NM 87301
TEL: (505) 722-3833
FAX:

RE: AOC 26 27 OrderNo.: 2308975

Dear Emily Conkling:

Hall Environmental Analysis Laboratory received 43 sample(s) on 8/17/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-24(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 8:20:00 AM
Lab ID: 2308975-001 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.057	0.092		µg/Kg	1	8/22/2023 2:28:27 PM	76927
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	22	8.5	10		mg/Kg	1	8/22/2023 1:26:04 PM	76950
Motor Oil Range Organics (MRO)	140	28	100		mg/Kg	1	8/22/2023 1:26:04 PM	76950
Surr: DNOP	98.8	0	69-147		%Rec	1	8/22/2023 1:26:04 PM	76950
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.6	6.4		mg/Kg	1	8/21/2023 10:59:42 PM	GS991
Surr: BFB	97.9	0	15-244		%Rec	1	8/21/2023 10:59:42 PM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **JTT**	
Chloride	ND	60	60		mg/Kg	20	8/19/2023 2:33:58 AM	76953
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.51		mg/Kg	5	8/30/2023 2:27:08 PM	76972
Arsenic	1.7	0.26	0.51		mg/Kg	5	8/30/2023 2:27:08 PM	76972
Lead	6.9	0.26	0.51		mg/Kg	5	8/30/2023 2:27:08 PM	76972
Nickel	7.1	0.36	0.51		mg/Kg	5	8/30/2023 2:27:08 PM	76972
Selenium	0.93	0.51	0.51		mg/Kg	5	8/30/2023 2:27:08 PM	76972
Silver	ND	0.26	0.51		mg/Kg	5	8/30/2023 2:27:08 PM	76972
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	0.086	0.077	0.077		mg/Kg	1	8/29/2023 1:53:58 PM	77142
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	420	0.10	0.20		mg/Kg	2	8/22/2023 9:53:30 AM	76972
Beryllium	0.35	0.10	0.20		mg/Kg	2	8/22/2023 9:53:30 AM	76972
Cadmium	ND	0.10	0.20		mg/Kg	2	8/22/2023 9:53:30 AM	76972
Chromium	6.8	0.31	0.41		mg/Kg	2	8/22/2023 9:53:30 AM	76972
Cobalt	2.0	0.10	0.20		mg/Kg	2	8/22/2023 9:53:30 AM	76972
Iron	5400	51	100		mg/Kg	50	8/22/2023 3:29:57 PM	76972
Manganese	340	0.20	0.20		mg/Kg	2	8/22/2023 9:53:30 AM	76972
Vanadium	13	0.10	0.20		mg/Kg	2	8/22/2023 9:53:30 AM	76972
Zinc	25	1.6	2.0		mg/Kg	2	8/22/2023 9:53:30 AM	76972
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	2.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Acenaphthylene	ND	1.8	2.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Aniline	ND	1.2	2.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Anthracene	ND	1.9	2.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Azobenzene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Benz(a)anthracene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-24(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 8:20:00 AM
Lab ID: 2308975-001 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Benzo(b)fluoranthene	ND	2.0	2.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Benzo(g,h,i)perylene	ND	2.2	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Benzo(k)fluoranthene	ND	2.0	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Benzoic acid	ND	2.0	4.9	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Benzyl alcohol	ND	1.8	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Bis(2-chloroethoxy)methane	ND	1.7	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Bis(2-chloroethyl)ether	ND	2.3	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Bis(2-chloroisopropyl)ether	ND	1.6	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Bis(2-ethylhexyl)phthalate	ND	3.1	4.9	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
4-Bromophenyl phenyl ether	ND	2.0	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Butyl benzyl phthalate	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Carbazole	ND	2.2	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
4-Chloro-3-methylphenol	ND	1.9	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
4-Chloroaniline	ND	1.4	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
2-Chloronaphthalene	ND	1.7	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
2-Chlorophenol	ND	1.3	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
4-Chlorophenyl phenyl ether	ND	1.9	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Chrysene	ND	2.2	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Di-n-butyl phthalate	ND	5.9	9.8	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Di-n-octyl phthalate	ND	2.1	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Dibenz(a,h)anthracene	ND	2.2	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Dibenzofuran	ND	1.9	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
1,2-Dichlorobenzene	ND	1.6	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
1,3-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
1,4-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
3,3´-Dichlorobenzidine	ND	2.5	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Diethyl phthalate	ND	18	30	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Dimethyl phthalate	ND	2.3	3.9	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
2,4-Dichlorophenol	ND	2.0	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
2,4-Dimethylphenol	ND	1.6	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
4,6-Dinitro-2-methylphenol	ND	2.2	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
2,4-Dinitrophenol	ND	2.3	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
2,4-Dinitrotoluene	ND	2.0	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
2,6-Dinitrotoluene	ND	2.2	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Fluoranthene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Fluorene	ND	1.9	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Hexachlorobenzene	ND	1.7	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Hexachlorobutadiene	ND	1.5	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-24(0.5-1)
Project: AOC 26 27
Collection Date: 8/15/2023 8:20:00 AM
Lab ID: 2308975-001
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.90	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Hexachloroethane	ND	2.0	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Indeno(1,2,3-cd)pyrene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Isophorone	ND	1.7	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
1-Methylnaphthalene	ND	1.6	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
2-Methylnaphthalene	ND	1.7	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
2-Methylphenol	ND	1.5	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
3+4-Methylphenol	ND	1.6	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
N-Nitrosodi-n-propylamine	ND	1.9	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
N-Nitrosodimethylamine	ND	1.5	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
N-Nitrosodiphenylamine	ND	2.2	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Naphthalene	ND	1.5	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
2-Nitroaniline	ND	1.9	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
3-Nitroaniline	ND	1.4	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
4-Nitroaniline	ND	1.2	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Nitrobenzene	ND	1.5	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
2-Nitrophenol	ND	1.6	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
4-Nitrophenol	ND	1.9	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Pentachlorophenol	ND	2.4	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Phenanthrene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Phenol	ND	2.4	3.0	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Pyrene	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Pyridine	ND	1.8	9.8	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
1,2,4-Trichlorobenzene	ND	1.4	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
2,4,5-Trichlorophenol	ND	2.1	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
2,4,6-Trichlorophenol	ND	1.8	2.5	D	mg/Kg	10	9/11/2023 3:36:46 PM	76962
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/11/2023 3:36:46 PM	76962
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/11/2023 3:36:46 PM	76962
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/11/2023 3:36:46 PM	76962
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/11/2023 3:36:46 PM	76962
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/11/2023 3:36:46 PM	76962
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/11/2023 3:36:46 PM	76962
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.010	0.032		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Toluene	ND	0.011	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Ethylbenzene	0.032	0.0076	0.064	J	mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Methyl tert-butyl ether (MTBE)	ND	0.036	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1,2,4-Trimethylbenzene	0.13	0.0090	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1,3,5-Trimethylbenzene	0.032	0.015	0.064	J	mg/Kg	1	8/21/2023 3:07:31 PM	R99117

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-24(0.5-1)
Project: AOC 26 27
Collection Date: 8/15/2023 8:20:00 AM
Lab ID: 2308975-001
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.014	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1,2-Dibromoethane (EDB)	ND	0.010	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Naphthalene	0.044	0.024	0.13	J	mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1-Methylnaphthalene	0.11	0.019	0.25	J	mg/Kg	1	8/21/2023 3:07:31 PM	R99117
2-Methylnaphthalene	0.15	0.066	0.25	J	mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Acetone	ND	0.95	0.95		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Bromobenzene	ND	0.013	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Bromodichloromethane	ND	0.014	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Bromoform	ND	0.015	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Bromomethane	ND	0.21	0.25		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
2-Butanone	ND	0.36	0.64		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Carbon disulfide	ND	0.015	0.64		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Carbon tetrachloride	ND	0.018	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Chlorobenzene	ND	0.0063	0.13		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Chloroethane	ND	0.0088	0.13		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Chloroform	ND	0.0088	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Chloromethane	ND	0.063	0.19		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
2-Chlorotoluene	ND	0.017	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
4-Chlorotoluene	ND	0.013	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
cis-1,2-DCE	ND	0.032	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
cis-1,3-Dichloropropene	ND	0.0084	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1,2-Dibromo-3-chloropropane	ND	0.027	0.13		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Dibromochloromethane	ND	0.0083	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Dibromomethane	ND	0.0097	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1,2-Dichlorobenzene	ND	0.013	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1,3-Dichlorobenzene	ND	0.012	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1,4-Dichlorobenzene	ND	0.017	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Dichlorodifluoromethane	ND	0.025	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1,1-Dichloroethane	ND	0.0052	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1,1-Dichloroethene	ND	0.036	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1,2-Dichloropropane	ND	0.011	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1,3-Dichloropropane	ND	0.0068	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
2,2-Dichloropropane	ND	0.0074	0.13		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1,1-Dichloropropene	ND	0.0067	0.13		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Hexachlorobutadiene	ND	0.13	0.13		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
2-Hexanone	ND	0.028	0.64		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Isopropylbenzene	0.018	0.012	0.064	J	mg/Kg	1	8/21/2023 3:07:31 PM	R99117
4-Isopropyltoluene	0.017	0.0064	0.064	J	mg/Kg	1	8/21/2023 3:07:31 PM	R99117
4-Methyl-2-pentanone	ND	0.074	0.64		mg/Kg	1	8/21/2023 3:07:31 PM	R99117

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-24(0.5-1)
Project: AOC 26 27
Collection Date: 8/15/2023 8:20:00 AM
Lab ID: 2308975-001
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.15	0.19		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
n-Butylbenzene	0.040	0.017	0.19	J	mg/Kg	1	8/21/2023 3:07:31 PM	R99117
n-Propylbenzene	0.040	0.010	0.064	J	mg/Kg	1	8/21/2023 3:07:31 PM	R99117
sec-Butylbenzene	0.024	0.016	0.064	J	mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Styrene	ND	0.0080	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
tert-Butylbenzene	ND	0.021	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1,1,1,2-Tetrachloroethane	ND	0.0093	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1,1,2,2-Tetrachloroethane	ND	0.021	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Tetrachloroethene (PCE)	ND	0.017	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
trans-1,2-DCE	ND	0.023	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
trans-1,3-Dichloropropene	ND	0.013	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1,2,3-Trichlorobenzene	ND	0.0098	0.13		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1,2,4-Trichlorobenzene	ND	0.022	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1,1,1-Trichloroethane	ND	0.021	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1,1,2-Trichloroethane	ND	0.016	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Trichloroethene (TCE)	ND	0.022	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Trichlorofluoromethane	ND	0.014	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1,2,3-Trichloropropane	ND	0.012	0.13		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Vinyl chloride	ND	0.035	0.064		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Xylenes, Total	0.037	0.021	0.13	J	mg/Kg	1	8/21/2023 3:07:31 PM	R99117
1,4-Dioxane	ND	0.32	0.64		mg/Kg	1	8/21/2023 3:07:31 PM	R99117
Surr: Dibromofluoromethane	93.9	0	73-145		%Rec	1	8/21/2023 3:07:31 PM	R99117
Surr: 1,2-Dichloroethane-d4	92.9	0	64.8-147		%Rec	1	8/21/2023 3:07:31 PM	R99117
Surr: Toluene-d8	94.2	0	70-130		%Rec	1	8/21/2023 3:07:31 PM	R99117
Surr: 4-Bromofluorobenzene	97.4	0	62.1-144		%Rec	1	8/21/2023 3:07:31 PM	R99117

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-24(25-27)
Project: AOC 26 27 **Collection Date:** 8/15/2023 8:50:00 AM
Lab ID: 2308975-002 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.059	0.095		µg/Kg	1	8/22/2023 3:12:33 PM	76927
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	7.9	9.2		mg/Kg	1	9/1/2023 4:02:03 PM	76950
Motor Oil Range Organics (MRO)	ND	25	46		mg/Kg	1	9/1/2023 4:02:03 PM	76950
Surr: DNOP	92.8	0	69-147		%Rec	1	9/1/2023 4:02:03 PM	76950
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.6	6.5		mg/Kg	1	8/21/2023 11:23:04 PM	GS991
Surr: BFB	92.9	0	15-244		%Rec	1	8/21/2023 11:23:04 PM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **JTT**	
Chloride	ND	59	59		mg/Kg	20	8/19/2023 2:46:23 AM	76953
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.25	0.50		mg/Kg	5	8/30/2023 2:53:35 PM	76972
Arsenic	0.84	0.25	0.50		mg/Kg	5	8/30/2023 2:53:35 PM	76972
Lead	15	0.25	0.50		mg/Kg	5	8/30/2023 2:53:35 PM	76972
Nickel	23	0.35	0.50		mg/Kg	5	8/30/2023 2:53:35 PM	76972
Selenium	2.1	0.50	0.50		mg/Kg	5	8/31/2023 1:38:36 PM	76972
Silver	ND	0.25	0.50		mg/Kg	5	8/30/2023 2:53:35 PM	76972
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.073	0.073		mg/Kg	1	8/29/2023 2:02:28 PM	77142
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	210	0.10	0.20		mg/Kg	2	8/22/2023 9:57:35 AM	76972
Beryllium	1.5	0.10	0.20		mg/Kg	2	8/22/2023 9:57:35 AM	76972
Cadmium	ND	0.10	0.20		mg/Kg	2	8/22/2023 9:57:35 AM	76972
Chromium	10	0.30	0.40		mg/Kg	2	8/22/2023 9:57:35 AM	76972
Cobalt	7.4	0.10	0.20		mg/Kg	2	8/22/2023 9:57:35 AM	76972
Iron	21000	100	200		mg/Kg	100	8/22/2023 3:55:05 PM	76972
Manganese	200	0.20	0.20		mg/Kg	2	8/22/2023 9:57:35 AM	76972
Vanadium	30	0.10	0.20		mg/Kg	2	8/22/2023 9:57:35 AM	76972
Zinc	30	1.6	2.0		mg/Kg	2	8/22/2023 9:57:35 AM	76972
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.19	0.20		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Acenaphthylene	ND	0.19	0.20		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Aniline	ND	0.12	0.20		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Anthracene	ND	0.20	0.20		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Azobenzene	ND	0.21	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Benz(a)anthracene	ND	0.21	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
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P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-24(25-27)
Project: AOC 26 27
Collection Date: 8/15/2023 8:50:00 AM
Lab ID: 2308975-002
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.22	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Benzo(b)fluoranthene	ND	0.20	0.20		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Benzo(g,h,i)perylene	ND	0.23	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Benzo(k)fluoranthene	ND	0.21	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Benzoic acid	ND	0.20	0.51		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Benzyl alcohol	ND	0.18	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Bis(2-chloroethoxy)methane	ND	0.17	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Bis(2-chloroethyl)ether	ND	0.24	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Bis(2-chloroisopropyl)ether	ND	0.17	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Bis(2-ethylhexyl)phthalate	ND	0.32	0.51		mg/Kg	1	8/23/2023 7:06:35 PM	76962
4-Bromophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Butyl benzyl phthalate	ND	0.21	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Carbazole	ND	0.23	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
4-Chloro-3-methylphenol	ND	0.20	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
4-Chloroaniline	ND	0.14	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
2-Chloronaphthalene	ND	0.18	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
2-Chlorophenol	ND	0.14	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
4-Chlorophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Chrysene	ND	0.23	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Di-n-butyl phthalate	ND	0.60	1.0		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Di-n-octyl phthalate	ND	0.21	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Dibenz(a,h)anthracene	ND	0.22	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Dibenzofuran	ND	0.20	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
1,2-Dichlorobenzene	ND	0.17	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
1,3-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
1,4-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
3,3´-Dichlorobenzidine	ND	0.25	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Diethyl phthalate	ND	1.8	3.0		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Dimethyl phthalate	ND	0.23	0.40		mg/Kg	1	8/23/2023 7:06:35 PM	76962
2,4-Dichlorophenol	ND	0.21	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
2,4-Dimethylphenol	ND	0.17	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
4,6-Dinitro-2-methylphenol	ND	0.23	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
2,4-Dinitrophenol	ND	0.23	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
2,4-Dinitrotoluene	ND	0.20	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
2,6-Dinitrotoluene	ND	0.23	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Fluoranthene	ND	0.21	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Fluorene	ND	0.20	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Hexachlorobenzene	ND	0.18	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Hexachlorobutadiene	ND	0.15	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-24(25-27)
Project: AOC 26 27
Collection Date: 8/15/2023 8:50:00 AM
Lab ID: 2308975-002
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.093	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Hexachloroethane	ND	0.20	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Indeno(1,2,3-cd)pyrene	ND	0.22	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Isophorone	ND	0.17	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
1-Methylnaphthalene	ND	0.17	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
2-Methylnaphthalene	ND	0.17	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
2-Methylphenol	ND	0.15	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
3+4-Methylphenol	ND	0.17	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
N-Nitrosodi-n-propylamine	ND	0.20	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
N-Nitrosodimethylamine	ND	0.15	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
N-Nitrosodiphenylamine	ND	0.22	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Naphthalene	ND	0.15	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
2-Nitroaniline	ND	0.20	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
3-Nitroaniline	ND	0.15	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
4-Nitroaniline	ND	0.13	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Nitrobenzene	ND	0.16	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
2-Nitrophenol	ND	0.17	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
4-Nitrophenol	ND	0.19	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Pentachlorophenol	ND	0.25	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Phenanthrene	ND	0.21	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Phenol	ND	0.24	0.30		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Pyrene	ND	0.22	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Pyridine	ND	0.19	1.0		mg/Kg	1	8/23/2023 7:06:35 PM	76962
1,2,4-Trichlorobenzene	ND	0.14	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
2,4,5-Trichlorophenol	ND	0.22	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
2,4,6-Trichlorophenol	ND	0.18	0.25		mg/Kg	1	8/23/2023 7:06:35 PM	76962
Surr: 2-Fluorophenol	42.4		15-123		%Rec	1	8/23/2023 7:06:35 PM	76962
Surr: Phenol-d5	51.9		15-141		%Rec	1	8/23/2023 7:06:35 PM	76962
Surr: 2,4,6-Tribromophenol	53.6		23-118		%Rec	1	8/23/2023 7:06:35 PM	76962
Surr: Nitrobenzene-d5	36.9		15-125		%Rec	1	8/23/2023 7:06:35 PM	76962
Surr: 2-Fluorobiphenyl	43.5		15-129		%Rec	1	8/23/2023 7:06:35 PM	76962
Surr: 4-Terphenyl-d14	61.1		31.1-134		%Rec	1	8/23/2023 7:06:35 PM	76962
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.010	0.032		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Toluene	ND	0.012	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Ethylbenzene	ND	0.0077	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Methyl tert-butyl ether (MTBE)	ND	0.036	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1,2,4-Trimethylbenzene	ND	0.0091	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1,3,5-Trimethylbenzene	ND	0.015	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-24(25-27)
Project: AOC 26 27
Collection Date: 8/15/2023 8:50:00 AM
Lab ID: 2308975-002
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.015	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1,2-Dibromoethane (EDB)	ND	0.010	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Naphthalene	ND	0.024	0.13		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1-Methylnaphthalene	ND	0.019	0.26		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
2-Methylnaphthalene	ND	0.067	0.26		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Acetone	ND	0.97	0.97		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Bromobenzene	ND	0.014	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Bromodichloromethane	ND	0.014	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Bromoform	ND	0.016	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Bromomethane	ND	0.21	0.26		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
2-Butanone	ND	0.36	0.65		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Carbon disulfide	ND	0.016	0.65		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Carbon tetrachloride	ND	0.018	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Chlorobenzene	ND	0.0064	0.13		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Chloroethane	ND	0.0090	0.13		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Chloroform	ND	0.0089	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Chloromethane	ND	0.064	0.19		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
2-Chlorotoluene	ND	0.017	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
4-Chlorotoluene	ND	0.014	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
cis-1,2-DCE	ND	0.032	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
cis-1,3-Dichloropropene	ND	0.0085	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1,2-Dibromo-3-chloropropane	ND	0.028	0.13		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Dibromochloromethane	ND	0.0085	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Dibromomethane	ND	0.0098	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1,2-Dichlorobenzene	ND	0.013	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1,3-Dichlorobenzene	ND	0.012	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1,4-Dichlorobenzene	ND	0.017	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Dichlorodifluoromethane	ND	0.026	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1,1-Dichloroethane	ND	0.0052	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1,1-Dichloroethene	ND	0.037	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1,2-Dichloropropane	ND	0.011	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1,3-Dichloropropane	ND	0.0069	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
2,2-Dichloropropane	ND	0.0076	0.13		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1,1-Dichloropropene	ND	0.0068	0.13		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Hexachlorobutadiene	ND	0.13	0.13		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
2-Hexanone	ND	0.028	0.65		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Isopropylbenzene	ND	0.012	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
4-Isopropyltoluene	ND	0.0065	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
4-Methyl-2-pentanone	ND	0.075	0.65		mg/Kg	1	8/21/2023 4:32:57 PM	R99117

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-24(25-27)
Project: AOC 26 27
Collection Date: 8/15/2023 8:50:00 AM
Lab ID: 2308975-002
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.15	0.19		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
n-Butylbenzene	ND	0.017	0.19		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
n-Propylbenzene	ND	0.010	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
sec-Butylbenzene	ND	0.017	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Styrene	ND	0.0081	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
tert-Butylbenzene	ND	0.022	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1,1,1,2-Tetrachloroethane	ND	0.0095	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1,1,2,2-Tetrachloroethane	ND	0.022	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Tetrachloroethene (PCE)	ND	0.018	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
trans-1,2-DCE	ND	0.023	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
trans-1,3-Dichloropropene	ND	0.013	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1,2,3-Trichlorobenzene	ND	0.010	0.13		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1,2,4-Trichlorobenzene	ND	0.022	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1,1,1-Trichloroethane	ND	0.022	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1,1,2-Trichloroethane	ND	0.016	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Trichloroethene (TCE)	ND	0.022	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Trichlorofluoromethane	ND	0.015	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1,2,3-Trichloropropane	ND	0.012	0.13		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Vinyl chloride	ND	0.035	0.065		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Xylenes, Total	ND	0.022	0.13		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
1,4-Dioxane	ND	0.33	0.65		mg/Kg	1	8/21/2023 4:32:57 PM	R99117
Surr: Dibromofluoromethane	94.6	0	73-145		%Rec	1	8/21/2023 4:32:57 PM	R99117
Surr: 1,2-Dichloroethane-d4	97.1	0	64.8-147		%Rec	1	8/21/2023 4:32:57 PM	R99117
Surr: Toluene-d8	96.5	0	70-130		%Rec	1	8/21/2023 4:32:57 PM	R99117
Surr: 4-Bromofluorobenzene	99.5	0	62.1-144		%Rec	1	8/21/2023 4:32:57 PM	R99117

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ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-24(19.5-20.5)
Project: AOC 26 27 **Collection Date:** 8/15/2023 8:40:00 AM
Lab ID: 2308975-003 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.061	0.098		µg/Kg	1	8/22/2023 3:27:16 PM	76927
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	7.8	9.1		mg/Kg	1	9/1/2023 4:25:52 PM	76950
Motor Oil Range Organics (MRO)	ND	25	46		mg/Kg	1	9/1/2023 4:25:52 PM	76950
Surr: DNOP	90.0	0	69-147		%Rec	1	9/1/2023 4:25:52 PM	76950
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.5	5.7		mg/Kg	1	8/21/2023 11:46:23 PM	GS991
Surr: BFB	95.6	0	15-244		%Rec	1	8/21/2023 11:46:23 PM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **JTT**	
Chloride	ND	60	60		mg/Kg	20	8/19/2023 2:58:47 AM	76953
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.48		mg/Kg	5	8/30/2023 2:58:00 PM	76972
Arsenic	1.5	0.24	0.48		mg/Kg	5	8/30/2023 2:58:00 PM	76972
Lead	9.0	0.24	0.48		mg/Kg	5	8/30/2023 2:58:00 PM	76972
Nickel	7.9	0.34	0.48		mg/Kg	5	8/30/2023 2:58:00 PM	76972
Selenium	2.0	0.48	0.48		mg/Kg	5	8/31/2023 1:43:02 PM	76972
Silver	ND	0.24	0.48		mg/Kg	5	8/30/2023 2:58:00 PM	76972
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.070	0.070		mg/Kg	1	8/29/2023 2:04:36 PM	77142
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	430	0.097	0.19		mg/Kg	2	8/22/2023 10:14:13 AM	76972
Beryllium	0.74	0.097	0.19		mg/Kg	2	8/22/2023 10:14:13 AM	76972
Cadmium	ND	0.097	0.19		mg/Kg	2	8/22/2023 10:14:13 AM	76972
Chromium	5.9	0.29	0.39		mg/Kg	2	8/22/2023 10:14:13 AM	76972
Cobalt	3.1	0.097	0.19		mg/Kg	2	8/22/2023 10:14:13 AM	76972
Iron	9400	48	97		mg/Kg	50	8/22/2023 3:32:51 PM	76972
Manganese	1100	0.48	0.48		mg/Kg	5	8/22/2023 10:16:22 AM	76972
Vanadium	12	0.097	0.19		mg/Kg	2	8/22/2023 10:14:13 AM	76972
Zinc	9.4	1.5	1.9		mg/Kg	2	8/22/2023 10:14:13 AM	76972
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.19	0.20		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Acenaphthylene	ND	0.19	0.20		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Aniline	ND	0.12	0.20		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Anthracene	ND	0.20	0.20		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Azobenzene	ND	0.21	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Benz(a)anthracene	ND	0.21	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-24(19.5-20.5)
Project: AOC 26 27
Collection Date: 8/15/2023 8:40:00 AM
Lab ID: 2308975-003
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.22	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Benzo(b)fluoranthene	ND	0.20	0.20		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Benzo(g,h,i)perylene	ND	0.22	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Benzo(k)fluoranthene	ND	0.21	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Benzoic acid	ND	0.20	0.50		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Benzyl alcohol	ND	0.18	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Bis(2-chloroethoxy)methane	ND	0.17	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Bis(2-chloroethyl)ether	ND	0.24	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Bis(2-chloroisopropyl)ether	ND	0.17	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Bis(2-ethylhexyl)phthalate	ND	0.31	0.50		mg/Kg	1	8/23/2023 7:49:05 PM	76962
4-Bromophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Butyl benzyl phthalate	ND	0.21	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Carbazole	ND	0.23	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
4-Chloro-3-methylphenol	ND	0.20	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
4-Chloroaniline	ND	0.14	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
2-Chloronaphthalene	ND	0.18	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
2-Chlorophenol	ND	0.14	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
4-Chlorophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Chrysene	ND	0.22	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Di-n-butyl phthalate	ND	0.60	1.0		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Di-n-octyl phthalate	ND	0.21	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Dibenz(a,h)anthracene	ND	0.22	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Dibenzofuran	ND	0.20	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
1,2-Dichlorobenzene	ND	0.16	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
1,3-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
1,4-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
3,3´-Dichlorobenzidine	ND	0.25	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Diethyl phthalate	ND	1.8	3.0		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Dimethyl phthalate	ND	0.23	0.40		mg/Kg	1	8/23/2023 7:49:05 PM	76962
2,4-Dichlorophenol	ND	0.21	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
2,4-Dimethylphenol	ND	0.17	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
4,6-Dinitro-2-methylphenol	ND	0.23	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
2,4-Dinitrophenol	ND	0.23	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
2,4-Dinitrotoluene	ND	0.20	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
2,6-Dinitrotoluene	ND	0.22	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Fluoranthene	ND	0.21	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Fluorene	ND	0.19	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Hexachlorobenzene	ND	0.17	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Hexachlorobutadiene	ND	0.15	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-24(19.5-20.5)
Project: AOC 26 27
Collection Date: 8/15/2023 8:40:00 AM
Lab ID: 2308975-003
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.092	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Hexachloroethane	ND	0.20	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Indeno(1,2,3-cd)pyrene	ND	0.22	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Isophorone	ND	0.17	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
1-Methylnaphthalene	ND	0.16	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
2-Methylnaphthalene	ND	0.17	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
2-Methylphenol	ND	0.15	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
3+4-Methylphenol	ND	0.17	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
N-Nitrosodi-n-propylamine	ND	0.20	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
N-Nitrosodimethylamine	ND	0.15	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
N-Nitrosodiphenylamine	ND	0.22	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Naphthalene	ND	0.15	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
2-Nitroaniline	ND	0.19	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
3-Nitroaniline	ND	0.14	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
4-Nitroaniline	ND	0.12	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Nitrobenzene	ND	0.16	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
2-Nitrophenol	ND	0.16	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
4-Nitrophenol	ND	0.19	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Pentachlorophenol	ND	0.24	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Phenanthrene	ND	0.21	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Phenol	ND	0.24	0.30		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Pyrene	ND	0.21	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Pyridine	ND	0.19	1.0		mg/Kg	1	8/23/2023 7:49:05 PM	76962
1,2,4-Trichlorobenzene	ND	0.14	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
2,4,5-Trichlorophenol	ND	0.21	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
2,4,6-Trichlorophenol	ND	0.18	0.25		mg/Kg	1	8/23/2023 7:49:05 PM	76962
Surr: 2-Fluorophenol	49.3		15-123		%Rec	1	8/23/2023 7:49:05 PM	76962
Surr: Phenol-d5	60.3		15-141		%Rec	1	8/23/2023 7:49:05 PM	76962
Surr: 2,4,6-Tribromophenol	48.1		23-118		%Rec	1	8/23/2023 7:49:05 PM	76962
Surr: Nitrobenzene-d5	41.3		15-125		%Rec	1	8/23/2023 7:49:05 PM	76962
Surr: 2-Fluorobiphenyl	43.4		15-129		%Rec	1	8/23/2023 7:49:05 PM	76962
Surr: 4-Terphenyl-d14	62.8		31.1-134		%Rec	1	8/23/2023 7:49:05 PM	76962
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0092	0.029		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Toluene	ND	0.010	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Ethylbenzene	ND	0.0068	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Methyl tert-butyl ether (MTBE)	ND	0.032	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1,2,4-Trimethylbenzene	ND	0.0081	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1,3,5-Trimethylbenzene	ND	0.013	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117

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B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
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J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-24(19.5-20.5)
Project: AOC 26 27
Collection Date: 8/15/2023 8:40:00 AM
Lab ID: 2308975-003
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.013	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1,2-Dibromoethane (EDB)	ND	0.0092	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Naphthalene	ND	0.021	0.11		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1-Methylnaphthalene	ND	0.017	0.23		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
2-Methylnaphthalene	ND	0.059	0.23		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Acetone	ND	0.86	0.86		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Bromobenzene	ND	0.012	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Bromodichloromethane	ND	0.012	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Bromoform	ND	0.014	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Bromomethane	ND	0.19	0.23		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
2-Butanone	ND	0.32	0.57		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Carbon disulfide	ND	0.014	0.57		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Carbon tetrachloride	ND	0.016	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Chlorobenzene	ND	0.0057	0.11		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Chloroethane	ND	0.0080	0.11		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Chloroform	ND	0.0079	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Chloromethane	ND	0.057	0.17		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
2-Chlorotoluene	ND	0.015	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
4-Chlorotoluene	ND	0.012	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
cis-1,2-DCE	ND	0.028	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
cis-1,3-Dichloropropene	ND	0.0075	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1,2-Dibromo-3-chloropropane	ND	0.025	0.11		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Dibromochloromethane	ND	0.0075	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Dibromomethane	ND	0.0087	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1,2-Dichlorobenzene	ND	0.012	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1,3-Dichlorobenzene	ND	0.011	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1,4-Dichlorobenzene	ND	0.015	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Dichlorodifluoromethane	ND	0.023	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1,1-Dichloroethane	ND	0.0047	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1,1-Dichloroethene	ND	0.033	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1,2-Dichloropropane	ND	0.0098	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1,3-Dichloropropane	ND	0.0061	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
2,2-Dichloropropane	ND	0.0067	0.11		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1,1-Dichloropropene	ND	0.0061	0.11		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Hexachlorobutadiene	ND	0.11	0.11		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
2-Hexanone	ND	0.025	0.57		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Isopropylbenzene	ND	0.011	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
4-Isopropyltoluene	ND	0.0058	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
4-Methyl-2-pentanone	ND	0.067	0.57		mg/Kg	1	8/21/2023 5:01:30 PM	R99117

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-24(19.5-20.5)
Project: AOC 26 27
Collection Date: 8/15/2023 8:40:00 AM
Lab ID: 2308975-003
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.13	0.17		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
n-Butylbenzene	ND	0.015	0.17		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
n-Propylbenzene	ND	0.0093	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
sec-Butylbenzene	ND	0.015	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Styrene	ND	0.0072	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
tert-Butylbenzene	ND	0.019	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1,1,1,2-Tetrachloroethane	ND	0.0084	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1,1,2,2-Tetrachloroethane	ND	0.019	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Tetrachloroethene (PCE)	ND	0.016	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
trans-1,2-DCE	ND	0.020	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
trans-1,3-Dichloropropene	ND	0.012	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1,2,3-Trichlorobenzene	ND	0.0089	0.11		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1,2,4-Trichlorobenzene	ND	0.020	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1,1,1-Trichloroethane	ND	0.019	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1,1,2-Trichloroethane	ND	0.014	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Trichloroethene (TCE)	ND	0.019	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Trichlorofluoromethane	ND	0.013	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1,2,3-Trichloropropane	ND	0.011	0.11		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Vinyl chloride	ND	0.031	0.057		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Xylenes, Total	ND	0.019	0.11		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
1,4-Dioxane	ND	0.29	0.57		mg/Kg	1	8/21/2023 5:01:30 PM	R99117
Surr: Dibromofluoromethane	98.3	0	73-145		%Rec	1	8/21/2023 5:01:30 PM	R99117
Surr: 1,2-Dichloroethane-d4	109	0	64.8-147		%Rec	1	8/21/2023 5:01:30 PM	R99117
Surr: Toluene-d8	94.8	0	70-130		%Rec	1	8/21/2023 5:01:30 PM	R99117
Surr: 4-Bromofluorobenzene	99.7	0	62.1-144		%Rec	1	8/21/2023 5:01:30 PM	R99117

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-23(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 9:15:00 AM
Lab ID: 2308975-004 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.059	0.096		µg/Kg	1	8/22/2023 3:56:41 PM	76927
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	8.5	9.9		mg/Kg	1	8/22/2023 1:58:06 PM	76950
Motor Oil Range Organics (MRO)	79	27	99	J	mg/Kg	1	8/22/2023 1:58:06 PM	76950
Surr: DNOP	100	0	69-147		%Rec	1	8/22/2023 1:58:06 PM	76950
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	2.0	7.8		mg/Kg	1	8/22/2023 12:09:52 AM	GS991
Surr: BFB	96.9	0	15-244		%Rec	1	8/22/2023 12:09:52 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **JTT**	
Chloride	190	60	60		mg/Kg	20	8/19/2023 3:11:12 AM	76953
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.52		mg/Kg	5	8/30/2023 3:02:24 PM	76972
Arsenic	4.0	0.26	0.52		mg/Kg	5	8/31/2023 1:47:26 PM	76972
Lead	4.5	0.26	0.52		mg/Kg	5	8/31/2023 1:47:26 PM	76972
Nickel	7.6	0.36	0.52		mg/Kg	5	8/31/2023 1:47:26 PM	76972
Selenium	0.53	0.52	0.52		mg/Kg	5	8/31/2023 1:47:26 PM	76972
Silver	ND	0.26	0.52		mg/Kg	5	8/31/2023 1:47:26 PM	76972
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.072	0.072		mg/Kg	1	8/29/2023 2:06:44 PM	77142
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	110	0.10	0.21		mg/Kg	2	8/22/2023 10:18:23 AM	76972
Beryllium	0.46	0.10	0.21		mg/Kg	2	8/22/2023 10:18:23 AM	76972
Cadmium	ND	0.10	0.21		mg/Kg	2	8/22/2023 10:18:23 AM	76972
Chromium	8.4	0.31	0.42		mg/Kg	2	8/22/2023 10:18:23 AM	76972
Cobalt	2.2	0.10	0.21		mg/Kg	2	8/22/2023 10:18:23 AM	76972
Iron	4900	21	42		mg/Kg	20	8/22/2023 3:09:09 PM	76972
Manganese	430	0.21	0.21		mg/Kg	2	8/22/2023 10:18:23 AM	76972
Vanadium	15	0.10	0.21		mg/Kg	2	8/22/2023 10:18:23 AM	76972
Zinc	31	1.7	2.1		mg/Kg	2	8/22/2023 10:18:23 AM	76972
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	1.9	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Acenaphthylene	ND	1.7	1.9	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Aniline	ND	1.1	1.9	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Anthracene	ND	1.8	1.9	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Azobenzene	ND	2.0	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Benz(a)anthracene	ND	2.0	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
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Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.0	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Benzo(b)fluoranthene	ND	1.9	1.9	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Benzo(g,h,i)perylene	ND	2.1	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Benzo(k)fluoranthene	ND	1.9	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Benzoic acid	ND	1.9	4.7	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Benzyl alcohol	ND	1.7	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Bis(2-chloroethoxy)methane	ND	1.6	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Bis(2-chloroethyl)ether	ND	2.2	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Bis(2-chloroisopropyl)ether	ND	1.6	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Bis(2-ethylhexyl)phthalate	ND	2.9	4.7	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
4-Bromophenyl phenyl ether	ND	1.9	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Butyl benzyl phthalate	ND	2.0	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Carbazole	ND	2.1	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
4-Chloro-3-methylphenol	ND	1.8	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
4-Chloroaniline	ND	1.3	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
2-Chloronaphthalene	ND	1.7	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
2-Chlorophenol	ND	1.3	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
4-Chlorophenyl phenyl ether	ND	1.8	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Chrysene	ND	2.1	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Di-n-butyl phthalate	ND	5.6	9.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Di-n-octyl phthalate	ND	2.0	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Dibenz(a,h)anthracene	ND	2.1	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Dibenzofuran	ND	1.8	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
1,2-Dichlorobenzene	ND	1.5	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
1,3-Dichlorobenzene	ND	1.7	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
1,4-Dichlorobenzene	ND	1.7	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
3,3´-Dichlorobenzidine	ND	2.4	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Diethyl phthalate	ND	17	28	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Dimethyl phthalate	ND	2.2	3.7	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
2,4-Dichlorophenol	ND	1.9	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
2,4-Dimethylphenol	ND	1.5	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
4,6-Dinitro-2-methylphenol	ND	2.1	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
2,4-Dinitrophenol	ND	2.2	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
2,4-Dinitrotoluene	ND	1.9	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
2,6-Dinitrotoluene	ND	2.1	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Fluoranthene	ND	2.0	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Fluorene	ND	1.8	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Hexachlorobenzene	ND	1.6	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Hexachlorobutadiene	ND	1.4	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962

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EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.86	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Hexachloroethane	ND	1.9	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Indeno(1,2,3-cd)pyrene	ND	2.0	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Isophorone	ND	1.6	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
1-Methylnaphthalene	ND	1.5	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
2-Methylnaphthalene	ND	1.6	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
2-Methylphenol	ND	1.4	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
3+4-Methylphenol	ND	1.6	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
N-Nitrosodi-n-propylamine	ND	1.8	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
N-Nitrosodimethylamine	ND	1.4	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
N-Nitrosodiphenylamine	ND	2.1	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Naphthalene	ND	1.4	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
2-Nitroaniline	ND	1.8	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
3-Nitroaniline	ND	1.4	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
4-Nitroaniline	ND	1.2	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Nitrobenzene	ND	1.5	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
2-Nitrophenol	ND	1.5	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
4-Nitrophenol	ND	1.8	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Pentachlorophenol	ND	2.3	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Phenanthrene	ND	2.0	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Phenol	ND	2.2	2.8	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Pyrene	ND	2.0	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Pyridine	ND	1.8	9.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
1,2,4-Trichlorobenzene	ND	1.3	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
2,4,5-Trichlorophenol	ND	2.0	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
2,4,6-Trichlorophenol	ND	1.7	2.3	D	mg/Kg	10	9/11/2023 4:18:14 PM	76962
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/11/2023 4:18:14 PM	76962
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/11/2023 4:18:14 PM	76962
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/11/2023 4:18:14 PM	76962
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/11/2023 4:18:14 PM	76962
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/11/2023 4:18:14 PM	76962
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/11/2023 4:18:14 PM	76962
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.013	0.039		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Toluene	ND	0.014	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Ethylbenzene	ND	0.0093	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Methyl tert-butyl ether (MTBE)	ND	0.044	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1,2,4-Trimethylbenzene	ND	0.011	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1,3,5-Trimethylbenzene	ND	0.018	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117

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Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.018	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1,2-Dibromoethane (EDB)	ND	0.012	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Naphthalene	ND	0.029	0.16		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1-Methylnaphthalene	ND	0.023	0.31		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
2-Methylnaphthalene	ND	0.081	0.31		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Acetone	ND	1.2	1.2		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Bromobenzene	ND	0.017	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Bromodichloromethane	ND	0.017	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Bromoform	ND	0.019	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Bromomethane	ND	0.25	0.31		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
2-Butanone	ND	0.44	0.78		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Carbon disulfide	ND	0.019	0.78		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Carbon tetrachloride	ND	0.022	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Chlorobenzene	ND	0.0077	0.16		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Chloroethane	ND	0.011	0.16		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Chloroform	ND	0.011	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Chloromethane	ND	0.077	0.23		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
2-Chlorotoluene	ND	0.021	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
4-Chlorotoluene	ND	0.016	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
cis-1,2-DCE	ND	0.039	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
cis-1,3-Dichloropropene	ND	0.010	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1,2-Dibromo-3-chloropropane	ND	0.034	0.16		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Dibromochloromethane	ND	0.010	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Dibromomethane	ND	0.012	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1,2-Dichlorobenzene	ND	0.016	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1,3-Dichlorobenzene	ND	0.015	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1,4-Dichlorobenzene	ND	0.021	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Dichlorodifluoromethane	ND	0.031	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1,1-Dichloroethane	ND	0.0063	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1,1-Dichloroethene	ND	0.044	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1,2-Dichloropropane	ND	0.013	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1,3-Dichloropropane	ND	0.0083	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
2,2-Dichloropropane	ND	0.0091	0.16		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1,1-Dichloropropene	ND	0.0082	0.16		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Hexachlorobutadiene	ND	0.16	0.16		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
2-Hexanone	ND	0.034	0.78		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Isopropylbenzene	ND	0.014	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
4-Isopropyltoluene	ND	0.0078	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
4-Methyl-2-pentanone	ND	0.091	0.78		mg/Kg	1	8/21/2023 5:30:04 PM	R99117

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Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.18	0.23		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
n-Butylbenzene	ND	0.021	0.23		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
n-Propylbenzene	ND	0.013	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
sec-Butylbenzene	ND	0.020	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Styrene	ND	0.0098	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
tert-Butylbenzene	ND	0.026	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1,1,1,2-Tetrachloroethane	ND	0.011	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1,1,2,2-Tetrachloroethane	ND	0.026	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Tetrachloroethene (PCE)	ND	0.021	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
trans-1,2-DCE	ND	0.028	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
trans-1,3-Dichloropropene	ND	0.016	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1,2,3-Trichlorobenzene	ND	0.012	0.16		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1,2,4-Trichlorobenzene	ND	0.027	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1,1,1-Trichloroethane	ND	0.026	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1,1,2-Trichloroethane	ND	0.019	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Trichloroethene (TCE)	ND	0.026	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Trichlorofluoromethane	ND	0.018	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1,2,3-Trichloropropane	ND	0.015	0.16		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Vinyl chloride	ND	0.042	0.078		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Xylenes, Total	ND	0.026	0.16		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
1,4-Dioxane	ND	0.39	0.78		mg/Kg	1	8/21/2023 5:30:04 PM	R99117
Surr: Dibromofluoromethane	99.5	0	73-145		%Rec	1	8/21/2023 5:30:04 PM	R99117
Surr: 1,2-Dichloroethane-d4	94.3	0	64.8-147		%Rec	1	8/21/2023 5:30:04 PM	R99117
Surr: Toluene-d8	95.9	0	70-130		%Rec	1	8/21/2023 5:30:04 PM	R99117
Surr: 4-Bromofluorobenzene	101	0	62.1-144		%Rec	1	8/21/2023 5:30:04 PM	R99117

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-23(4-5)
Project: AOC 26 27 **Collection Date:** 8/15/2023 9:20:00 AM
Lab ID: 2308975-005 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.061	0.098		µg/Kg	1	8/22/2023 4:11:19 PM	76927
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	330	8.0	9.4		mg/Kg	1	8/22/2023 3:09:26 PM	76950
Motor Oil Range Organics (MRO)	180	26	94		mg/Kg	1	8/22/2023 3:09:26 PM	76950
Surr: DNOP	108	0	69-147		%Rec	1	8/22/2023 3:09:26 PM	76950
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.3	5.3		mg/Kg	1	8/22/2023 12:33:16 AM	GS991
Surr: BFB	93.3	0	15-244		%Rec	1	8/22/2023 12:33:16 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **JTT**	
Chloride	100	60	60		mg/Kg	20	8/19/2023 3:23:36 AM	76953
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.48		mg/Kg	5	8/30/2023 3:06:49 PM	76972
Arsenic	3.3	0.24	0.48		mg/Kg	5	8/30/2023 3:06:49 PM	76972
Lead	48	0.48	0.96		mg/Kg	10	8/31/2023 2:09:30 PM	76972
Nickel	25	0.67	0.96		mg/Kg	10	8/31/2023 2:09:30 PM	76972
Selenium	2.1	0.48	0.48		mg/Kg	5	8/31/2023 2:05:06 PM	76972
Silver	ND	0.24	0.48		mg/Kg	5	8/30/2023 3:06:49 PM	76972
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	0.21	0.074	0.074		mg/Kg	1	8/29/2023 2:08:52 PM	77142
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	430	0.096	0.19		mg/Kg	2	8/22/2023 10:22:36 AM	76972
Beryllium	0.89	0.096	0.19		mg/Kg	2	8/22/2023 10:22:36 AM	76972
Cadmium	ND	0.096	0.19		mg/Kg	2	8/22/2023 10:22:36 AM	76972
Chromium	35	0.29	0.38		mg/Kg	2	8/22/2023 10:22:36 AM	76972
Cobalt	5.4	0.096	0.19		mg/Kg	2	8/22/2023 10:22:36 AM	76972
Iron	15000	96	190		mg/Kg	100	8/22/2023 3:56:29 PM	76972
Manganese	360	0.19	0.19		mg/Kg	2	8/22/2023 10:22:36 AM	76972
Vanadium	26	0.096	0.19		mg/Kg	2	8/22/2023 10:22:36 AM	76972
Zinc	88	1.5	1.9		mg/Kg	2	8/22/2023 10:22:36 AM	76972
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	2.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Acenaphthylene	ND	1.8	2.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Aniline	ND	1.2	2.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Anthracene	ND	1.9	2.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Azobenzene	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Benz(a)anthracene	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
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J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-23(4-5)
Project: AOC 26 27 **Collection Date:** 8/15/2023 9:20:00 AM
Lab ID: 2308975-005 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Benzo(b)fluoranthene	ND	2.0	2.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Benzo(g,h,i)perylene	ND	2.2	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Benzo(k)fluoranthene	ND	2.0	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Benzoic acid	ND	1.9	4.9	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Benzyl alcohol	ND	1.8	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Bis(2-chloroethoxy)methane	ND	1.7	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Bis(2-chloroethyl)ether	ND	2.3	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Bis(2-chloroisopropyl)ether	ND	1.6	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Bis(2-ethylhexyl)phthalate	ND	3.1	4.9	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
4-Bromophenyl phenyl ether	ND	2.0	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Butyl benzyl phthalate	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Carbazole	ND	2.2	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
4-Chloro-3-methylphenol	ND	1.9	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
4-Chloroaniline	ND	1.4	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
2-Chloronaphthalene	ND	1.7	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
2-Chlorophenol	ND	1.3	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
4-Chlorophenyl phenyl ether	ND	1.9	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Chrysene	ND	2.2	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Di-n-butyl phthalate	ND	5.9	9.8	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Di-n-octyl phthalate	ND	2.1	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Dibenz(a,h)anthracene	ND	2.2	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Dibenzofuran	ND	1.9	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
1,2-Dichlorobenzene	ND	1.6	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
1,3-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
1,4-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
3,3´-Dichlorobenzidine	ND	2.5	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Diethyl phthalate	ND	18	30	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Dimethyl phthalate	ND	2.3	3.9	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
2,4-Dichlorophenol	ND	2.0	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
2,4-Dimethylphenol	ND	1.6	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
4,6-Dinitro-2-methylphenol	ND	2.2	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
2,4-Dinitrophenol	ND	2.3	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
2,4-Dinitrotoluene	ND	2.0	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
2,6-Dinitrotoluene	ND	2.2	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Fluoranthene	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Fluorene	ND	1.9	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Hexachlorobenzene	ND	1.7	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Hexachlorobutadiene	ND	1.5	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-23(4-5)
Project: AOC 26 27 **Collection Date:** 8/15/2023 9:20:00 AM
Lab ID: 2308975-005 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.90	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Hexachloroethane	ND	2.0	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Indeno(1,2,3-cd)pyrene	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Isophorone	ND	1.7	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
1-Methylnaphthalene	ND	1.6	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
2-Methylnaphthalene	ND	1.7	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
2-Methylphenol	ND	1.5	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
3+4-Methylphenol	ND	1.6	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
N-Nitrosodi-n-propylamine	ND	1.9	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
N-Nitrosodimethylamine	ND	1.5	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
N-Nitrosodiphenylamine	ND	2.2	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Naphthalene	ND	1.5	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
2-Nitroaniline	ND	1.9	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
3-Nitroaniline	ND	1.4	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
4-Nitroaniline	ND	1.2	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Nitrobenzene	ND	1.5	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
2-Nitrophenol	ND	1.6	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
4-Nitrophenol	ND	1.9	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Pentachlorophenol	ND	2.4	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Phenanthrene	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Phenol	ND	2.4	3.0	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Pyrene	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Pyridine	ND	1.8	9.8	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
1,2,4-Trichlorobenzene	ND	1.4	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
2,4,5-Trichlorophenol	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
2,4,6-Trichlorophenol	ND	1.8	2.5	D	mg/Kg	10	9/13/2023 12:03:32 AM	76962
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/13/2023 12:03:32 AM	76962
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/13/2023 12:03:32 AM	76962
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/13/2023 12:03:32 AM	76962
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/13/2023 12:03:32 AM	76962
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/13/2023 12:03:32 AM	76962
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/13/2023 12:03:32 AM	76962
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0085	0.027		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Toluene	ND	0.0096	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Ethylbenzene	0.011	0.0063	0.053	J	mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Methyl tert-butyl ether (MTBE)	ND	0.030	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1,2,4-Trimethylbenzene	0.024	0.0075	0.053	J	mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1,3,5-Trimethylbenzene	ND	0.012	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-23(4-5)
Project: AOC 26 27 **Collection Date:** 8/15/2023 9:20:00 AM
Lab ID: 2308975-005 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.012	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1,2-Dibromoethane (EDB)	ND	0.0085	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Naphthalene	ND	0.020	0.11		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1-Methylnaphthalene	ND	0.016	0.21		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
2-Methylnaphthalene	ND	0.055	0.21		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Acetone	ND	0.80	0.80		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Bromobenzene	ND	0.011	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Bromodichloromethane	ND	0.011	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Bromoform	ND	0.013	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Bromomethane	ND	0.17	0.21		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
2-Butanone	ND	0.30	0.53		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Carbon disulfide	ND	0.013	0.53		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Carbon tetrachloride	ND	0.015	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Chlorobenzene	ND	0.0053	0.11		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Chloroethane	ND	0.0074	0.11		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Chloroform	ND	0.0073	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Chloromethane	ND	0.052	0.16		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
2-Chlorotoluene	ND	0.014	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
4-Chlorotoluene	ND	0.011	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
cis-1,2-DCE	ND	0.026	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
cis-1,3-Dichloropropene	ND	0.0070	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1,2-Dibromo-3-chloropropane	ND	0.023	0.11		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Dibromochloromethane	ND	0.0070	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Dibromomethane	ND	0.0081	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1,2-Dichlorobenzene	ND	0.011	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1,3-Dichlorobenzene	ND	0.010	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1,4-Dichlorobenzene	ND	0.014	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Dichlorodifluoromethane	ND	0.021	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1,1-Dichloroethane	ND	0.0043	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1,1-Dichloroethene	ND	0.030	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1,2-Dichloropropane	ND	0.0091	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1,3-Dichloropropane	ND	0.0057	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
2,2-Dichloropropane	ND	0.0062	0.11		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1,1-Dichloropropene	ND	0.0056	0.11		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Hexachlorobutadiene	ND	0.11	0.11		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
2-Hexanone	ND	0.023	0.53		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Isopropylbenzene	ND	0.0098	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
4-Isopropyltoluene	ND	0.0053	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
4-Methyl-2-pentanone	ND	0.062	0.53		mg/Kg	1	8/21/2023 5:58:36 PM	R99117

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-23(4-5)
Project: AOC 26 27
Collection Date: 8/15/2023 9:20:00 AM
Lab ID: 2308975-005
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.12	0.16		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
n-Butylbenzene	ND	0.014	0.16		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
n-Propylbenzene	ND	0.0086	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
sec-Butylbenzene	ND	0.014	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Styrene	ND	0.0067	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
tert-Butylbenzene	ND	0.018	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1,1,1,2-Tetrachloroethane	ND	0.0078	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1,1,2,2-Tetrachloroethane	ND	0.018	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Tetrachloroethene (PCE)	ND	0.015	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
trans-1,2-DCE	ND	0.019	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
trans-1,3-Dichloropropene	ND	0.011	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1,2,3-Trichlorobenzene	ND	0.0082	0.11		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1,2,4-Trichlorobenzene	ND	0.018	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1,1,1-Trichloroethane	ND	0.018	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1,1,2-Trichloroethane	ND	0.013	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Trichloroethene (TCE)	ND	0.018	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Trichlorofluoromethane	ND	0.012	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1,2,3-Trichloropropane	ND	0.010	0.11		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Vinyl chloride	ND	0.029	0.053		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Xylenes, Total	ND	0.018	0.11		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
1,4-Dioxane	ND	0.27	0.53		mg/Kg	1	8/21/2023 5:58:36 PM	R99117
Surr: Dibromofluoromethane	99.8	0	73-145		%Rec	1	8/21/2023 5:58:36 PM	R99117
Surr: 1,2-Dichloroethane-d4	87.9	0	64.8-147		%Rec	1	8/21/2023 5:58:36 PM	R99117
Surr: Toluene-d8	95.6	0	70-130		%Rec	1	8/21/2023 5:58:36 PM	R99117
Surr: 4-Bromofluorobenzene	100	0	62.1-144		%Rec	1	8/21/2023 5:58:36 PM	R99117

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E	Above Quantitation Range/Estimated Value
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P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-22(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 9:35:00 AM
Lab ID: 2308975-006 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.061	0.099		µg/Kg	1	8/22/2023 4:26:02 PM	76927
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	100	8.3	9.7		mg/Kg	1	8/22/2023 3:30:58 PM	76950
Motor Oil Range Organics (MRO)	170	27	97		mg/Kg	1	8/22/2023 3:30:58 PM	76950
Surr: DNOP	99.5	0	69-147		%Rec	1	8/22/2023 3:30:58 PM	76950
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	1.8	1.6	6.3	J	mg/Kg	1	8/22/2023 12:56:42 AM	GS991
Surr: BFB	107	0	15-244		%Rec	1	8/22/2023 12:56:42 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **JTT**	
Chloride	1100	60	60		mg/Kg	20	8/19/2023 3:36:01 AM	76953
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	3.3	0.25	0.49		mg/Kg	5	8/31/2023 2:18:19 PM	76972
Arsenic	3.5	0.25	0.49		mg/Kg	5	8/30/2023 3:11:13 PM	76972
Lead	22	0.25	0.49		mg/Kg	5	8/30/2023 3:11:13 PM	76972
Nickel	24	0.34	0.49		mg/Kg	5	8/30/2023 3:11:13 PM	76972
Selenium	1.1	0.49	0.49		mg/Kg	5	8/31/2023 2:18:19 PM	76972
Silver	ND	0.25	0.49		mg/Kg	5	8/30/2023 3:11:13 PM	76972
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.075	0.075		mg/Kg	1	8/29/2023 2:11:00 PM	77142
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	430	0.098	0.20		mg/Kg	2	8/22/2023 10:26:42 AM	76972
Beryllium	0.44	0.098	0.20		mg/Kg	2	8/22/2023 10:26:42 AM	76972
Cadmium	ND	0.098	0.20		mg/Kg	2	8/22/2023 10:26:42 AM	76972
Chromium	9.0	0.29	0.39		mg/Kg	2	8/22/2023 10:26:42 AM	76972
Cobalt	3.1	0.098	0.20		mg/Kg	2	8/22/2023 10:26:42 AM	76972
Iron	7500	49	98		mg/Kg	50	8/22/2023 3:37:02 PM	76972
Manganese	310	0.20	0.20		mg/Kg	2	8/22/2023 10:26:42 AM	76972
Vanadium	20	0.098	0.20		mg/Kg	2	8/22/2023 10:26:42 AM	76972
Zinc	160	1.6	2.0		mg/Kg	2	8/22/2023 10:26:42 AM	76972
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	1.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Acenaphthylene	ND	1.8	1.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Aniline	ND	1.2	1.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Anthracene	ND	1.9	1.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Azobenzene	ND	2.0	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Benz(a)anthracene	ND	2.1	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
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E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-22(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 9:35:00 AM
Lab ID: 2308975-006 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Benzo(b)fluoranthene	ND	1.9	1.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Benzo(g,h,i)perylene	ND	2.2	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Benzo(k)fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Benzoic acid	ND	1.9	4.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Benzyl alcohol	ND	1.8	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Bis(2-chloroethoxy)methane	ND	1.6	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Bis(2-chloroethyl)ether	ND	2.3	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Bis(2-chloroisopropyl)ether	ND	1.6	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Bis(2-ethylhexyl)phthalate	ND	3.0	4.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
4-Bromophenyl phenyl ether	ND	2.0	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Butyl benzyl phthalate	ND	2.1	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Carbazole	ND	2.2	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
4-Chloro-3-methylphenol	ND	1.9	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
4-Chloroaniline	ND	1.4	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
2-Chloronaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
2-Chlorophenol	ND	1.3	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
4-Chlorophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Chrysene	ND	2.2	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Di-n-butyl phthalate	ND	5.8	9.7	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Di-n-octyl phthalate	ND	2.0	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Dibenz(a,h)anthracene	ND	2.2	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Dibenzofuran	ND	1.9	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
1,2-Dichlorobenzene	ND	1.6	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
1,3-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
1,4-Dichlorobenzene	ND	1.8	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
3,3´-Dichlorobenzidine	ND	2.5	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Diethyl phthalate	ND	17	29	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Dimethyl phthalate	ND	2.2	3.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
2,4-Dichlorophenol	ND	2.0	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
2,4-Dimethylphenol	ND	1.6	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
4,6-Dinitro-2-methylphenol	ND	2.2	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
2,4-Dinitrophenol	ND	2.2	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
2,4-Dinitrotoluene	ND	1.9	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
2,6-Dinitrotoluene	ND	2.2	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Fluorene	ND	1.9	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Hexachlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Hexachlorobutadiene	ND	1.4	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-22(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 9:35:00 AM
Lab ID: 2308975-006 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.89	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Hexachloroethane	ND	1.9	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Indeno(1,2,3-cd)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Isophorone	ND	1.7	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
1-Methylnaphthalene	ND	1.6	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
2-Methylnaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
2-Methylphenol	ND	1.4	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
3+4-Methylphenol	ND	1.6	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
N-Nitrosodi-n-propylamine	ND	1.9	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
N-Nitrosodimethylamine	ND	1.5	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
N-Nitrosodiphenylamine	ND	2.1	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Naphthalene	ND	1.5	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
2-Nitroaniline	ND	1.9	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
3-Nitroaniline	ND	1.4	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
4-Nitroaniline	ND	1.2	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Nitrobenzene	ND	1.5	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
2-Nitrophenol	ND	1.6	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
4-Nitrophenol	ND	1.9	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Pentachlorophenol	ND	2.4	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Phenanthrene	ND	2.0	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Phenol	ND	2.3	2.9	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Pyrene	ND	2.1	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Pyridine	ND	1.8	9.7	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
1,2,4-Trichlorobenzene	ND	1.4	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
2,4,5-Trichlorophenol	ND	2.1	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
2,4,6-Trichlorophenol	ND	1.8	2.4	D	mg/Kg	10	9/13/2023 12:45:36 AM	76962
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/13/2023 12:45:36 AM	76962
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/13/2023 12:45:36 AM	76962
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/13/2023 12:45:36 AM	76962
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/13/2023 12:45:36 AM	76962
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/13/2023 12:45:36 AM	76962
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/13/2023 12:45:36 AM	76962
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.010	0.032		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Toluene	ND	0.011	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Ethylbenzene	0.048	0.0075	0.063	J	mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Methyl tert-butyl ether (MTBE)	ND	0.036	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1,2,4-Trimethylbenzene	0.24	0.0089	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1,3,5-Trimethylbenzene	0.059	0.014	0.063	J	mg/Kg	1	8/21/2023 6:27:03 PM	R99117

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-22(0.5-1)
Project: AOC 26 27
Collection Date: 8/15/2023 9:35:00 AM
Lab ID: 2308975-006
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.014	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1,2-Dibromoethane (EDB)	ND	0.010	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Naphthalene	0.048	0.023	0.13	J	mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1-Methylnaphthalene	0.036	0.019	0.25	J	mg/Kg	1	8/21/2023 6:27:03 PM	R99117
2-Methylnaphthalene	ND	0.065	0.25		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Acetone	ND	0.95	0.95		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Bromobenzene	ND	0.013	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Bromodichloromethane	ND	0.013	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Bromoform	ND	0.015	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Bromomethane	ND	0.21	0.25		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
2-Butanone	ND	0.35	0.63		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Carbon disulfide	ND	0.015	0.63		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Carbon tetrachloride	ND	0.018	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Chlorobenzene	ND	0.0062	0.13		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Chloroethane	ND	0.0087	0.13		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Chloroform	ND	0.0087	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Chloromethane	ND	0.062	0.19		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
2-Chlorotoluene	ND	0.017	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
4-Chlorotoluene	ND	0.013	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
cis-1,2-DCE	ND	0.031	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
cis-1,3-Dichloropropene	ND	0.0083	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1,2-Dibromo-3-chloropropane	ND	0.027	0.13		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Dibromochloromethane	ND	0.0083	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Dibromomethane	ND	0.0096	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1,2-Dichlorobenzene	ND	0.013	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1,3-Dichlorobenzene	ND	0.012	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1,4-Dichlorobenzene	ND	0.017	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Dichlorodifluoromethane	ND	0.025	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1,1-Dichloroethane	ND	0.0051	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1,1-Dichloroethene	ND	0.036	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1,2-Dichloropropane	ND	0.011	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1,3-Dichloropropane	ND	0.0067	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
2,2-Dichloropropane	ND	0.0074	0.13		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1,1-Dichloropropene	ND	0.0067	0.13		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Hexachlorobutadiene	ND	0.13	0.13		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
2-Hexanone	ND	0.028	0.63		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Isopropylbenzene	0.028	0.012	0.063	J	mg/Kg	1	8/21/2023 6:27:03 PM	R99117
4-Isopropyltoluene	0.031	0.0063	0.063	J	mg/Kg	1	8/21/2023 6:27:03 PM	R99117
4-Methyl-2-pentanone	ND	0.074	0.63		mg/Kg	1	8/21/2023 6:27:03 PM	R99117

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-22(0.5-1)
Project: AOC 26 27
Collection Date: 8/15/2023 9:35:00 AM
Lab ID: 2308975-006
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.15	0.19		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
n-Butylbenzene	0.058	0.017	0.19	J	mg/Kg	1	8/21/2023 6:27:03 PM	R99117
n-Propylbenzene	0.056	0.010	0.063	J	mg/Kg	1	8/21/2023 6:27:03 PM	R99117
sec-Butylbenzene	0.037	0.016	0.063	J	mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Styrene	ND	0.0079	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
tert-Butylbenzene	ND	0.021	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1,1,1,2-Tetrachloroethane	ND	0.0093	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1,1,2,2-Tetrachloroethane	ND	0.021	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Tetrachloroethene (PCE)	ND	0.017	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
trans-1,2-DCE	ND	0.023	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
trans-1,3-Dichloropropene	ND	0.013	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1,2,3-Trichlorobenzene	ND	0.0098	0.13		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1,2,4-Trichlorobenzene	ND	0.022	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1,1,1-Trichloroethane	ND	0.021	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1,1,2-Trichloroethane	ND	0.016	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Trichloroethene (TCE)	ND	0.021	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Trichlorofluoromethane	ND	0.014	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1,2,3-Trichloropropane	ND	0.012	0.13		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Vinyl chloride	ND	0.034	0.063		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Xylenes, Total	0.055	0.021	0.13	J	mg/Kg	1	8/21/2023 6:27:03 PM	R99117
1,4-Dioxane	ND	0.32	0.63		mg/Kg	1	8/21/2023 6:27:03 PM	R99117
Surr: Dibromofluoromethane	97.3	0	73-145		%Rec	1	8/21/2023 6:27:03 PM	R99117
Surr: 1,2-Dichloroethane-d4	93.9	0	64.8-147		%Rec	1	8/21/2023 6:27:03 PM	R99117
Surr: Toluene-d8	92.6	0	70-130		%Rec	1	8/21/2023 6:27:03 PM	R99117
Surr: 4-Bromofluorobenzene	93.7	0	62.1-144		%Rec	1	8/21/2023 6:27:03 PM	R99117

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B	Analyte detected in the associated Method Blank
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J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-22(16-17)
Project: AOC 26 27 **Collection Date:** 8/15/2023 9:40:00 AM
Lab ID: 2308975-007 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.062	0.10		µg/Kg	1	8/22/2023 4:40:45 PM	76927
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	8.3	9.6		mg/Kg	1	9/1/2023 4:49:40 PM	76950
Motor Oil Range Organics (MRO)	ND	27	48		mg/Kg	1	9/1/2023 4:49:40 PM	76950
Surr: DNOP	93.0	0	69-147		%Rec	1	9/1/2023 4:49:40 PM	76950
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.9	7.3		mg/Kg	1	8/22/2023 1:20:08 AM	GS991
Surr: BFB	94.2	0	15-244		%Rec	1	8/22/2023 1:20:08 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **JMT**	
Chloride	ND	60	60		mg/Kg	20	8/23/2023 2:53:41 PM	76953
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.25	0.49		mg/Kg	5	8/30/2023 3:15:37 PM	76972
Arsenic	0.60	0.25	0.49		mg/Kg	5	8/30/2023 3:15:37 PM	76972
Lead	12	0.25	0.49		mg/Kg	5	8/30/2023 3:15:37 PM	76972
Nickel	15	0.34	0.49		mg/Kg	5	8/30/2023 3:15:37 PM	76972
Selenium	2.0	0.49	0.49		mg/Kg	5	8/31/2023 2:22:43 PM	76972
Silver	ND	0.25	0.49		mg/Kg	5	8/30/2023 3:15:37 PM	76972
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.074	0.074		mg/Kg	1	8/29/2023 2:13:09 PM	77142
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	93	0.098	0.20		mg/Kg	2	8/22/2023 10:38:47 AM	76972
Beryllium	1.2	0.098	0.20		mg/Kg	2	8/22/2023 10:38:47 AM	76972
Cadmium	ND	0.098	0.20		mg/Kg	2	8/22/2023 10:38:47 AM	76972
Chromium	10	0.29	0.39		mg/Kg	2	8/22/2023 10:38:47 AM	76972
Cobalt	6.8	0.098	0.20		mg/Kg	2	8/22/2023 10:38:47 AM	76972
Iron	14000	98	200		mg/Kg	100	8/22/2023 4:02:54 PM	76972
Manganese	240	0.20	0.20		mg/Kg	2	8/22/2023 10:38:47 AM	76972
Vanadium	18	0.098	0.20		mg/Kg	2	8/22/2023 10:38:47 AM	76972
Zinc	23	1.6	2.0		mg/Kg	2	8/22/2023 10:38:47 AM	76972
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.17	0.18		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Acenaphthylene	ND	0.17	0.18		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Aniline	ND	0.11	0.18		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Anthracene	ND	0.18	0.18		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Azobenzene	ND	0.19	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Benz(a)anthracene	ND	0.19	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962

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PQL	Practical Quanitative Limit
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P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-22(16-17)
Project: AOC 26 27
Collection Date: 8/15/2023 9:40:00 AM
Lab ID: 2308975-007
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.19	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Benzo(b)fluoranthene	ND	0.18	0.18		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Benzo(g,h,i)perylene	ND	0.20	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Benzo(k)fluoranthene	ND	0.18	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Benzoic acid	ND	0.18	0.45		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Benzyl alcohol	ND	0.16	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Bis(2-chloroethoxy)methane	ND	0.15	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Bis(2-chloroethyl)ether	ND	0.21	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Bis(2-chloroisopropyl)ether	ND	0.15	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Bis(2-ethylhexyl)phthalate	ND	0.28	0.45		mg/Kg	1	8/23/2023 8:31:41 PM	76962
4-Bromophenyl phenyl ether	ND	0.18	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Butyl benzyl phthalate	ND	0.19	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Carbazole	ND	0.20	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
4-Chloro-3-methylphenol	ND	0.18	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
4-Chloroaniline	ND	0.13	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
2-Chloronaphthalene	ND	0.16	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
2-Chlorophenol	ND	0.12	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
4-Chlorophenyl phenyl ether	ND	0.18	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Chrysene	ND	0.20	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Di-n-butyl phthalate	ND	0.54	0.90		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Di-n-octyl phthalate	ND	0.19	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Dibenz(a,h)anthracene	ND	0.20	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Dibenzofuran	ND	0.18	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
1,2-Dichlorobenzene	ND	0.15	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
1,3-Dichlorobenzene	ND	0.16	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
1,4-Dichlorobenzene	ND	0.16	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
3,3´-Dichlorobenzidine	ND	0.23	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Diethyl phthalate	ND	1.6	2.7		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Dimethyl phthalate	ND	0.21	0.36		mg/Kg	1	8/23/2023 8:31:41 PM	76962
2,4-Dichlorophenol	ND	0.19	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
2,4-Dimethylphenol	ND	0.15	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
4,6-Dinitro-2-methylphenol	ND	0.20	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
2,4-Dinitrophenol	ND	0.21	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
2,4-Dinitrotoluene	ND	0.18	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
2,6-Dinitrotoluene	ND	0.20	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Fluoranthene	ND	0.19	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Fluorene	ND	0.17	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Hexachlorobenzene	ND	0.16	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Hexachlorobutadiene	ND	0.13	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-22(16-17)
Project: AOC 26 27
Collection Date: 8/15/2023 9:40:00 AM
Lab ID: 2308975-007
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.083	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Hexachloroethane	ND	0.18	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Indeno(1,2,3-cd)pyrene	ND	0.20	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Isophorone	ND	0.15	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
1-Methylnaphthalene	ND	0.15	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
2-Methylnaphthalene	ND	0.15	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
2-Methylphenol	ND	0.13	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
3+4-Methylphenol	ND	0.15	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
N-Nitrosodi-n-propylamine	ND	0.18	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
N-Nitrosodimethylamine	ND	0.13	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
N-Nitrosodiphenylamine	ND	0.20	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Naphthalene	ND	0.14	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
2-Nitroaniline	ND	0.17	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
3-Nitroaniline	ND	0.13	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
4-Nitroaniline	ND	0.11	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Nitrobenzene	ND	0.14	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
2-Nitrophenol	ND	0.15	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
4-Nitrophenol	ND	0.17	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Pentachlorophenol	ND	0.22	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Phenanthrene	ND	0.19	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Phenol	ND	0.22	0.27		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Pyrene	ND	0.19	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Pyridine	ND	0.17	0.90		mg/Kg	1	8/23/2023 8:31:41 PM	76962
1,2,4-Trichlorobenzene	ND	0.13	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
2,4,5-Trichlorophenol	ND	0.19	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
2,4,6-Trichlorophenol	ND	0.16	0.22		mg/Kg	1	8/23/2023 8:31:41 PM	76962
Surr: 2-Fluorophenol	55.4		15-123		%Rec	1	8/23/2023 8:31:41 PM	76962
Surr: Phenol-d5	64.1		15-141		%Rec	1	8/23/2023 8:31:41 PM	76962
Surr: 2,4,6-Tribromophenol	53.7		23-118		%Rec	1	8/23/2023 8:31:41 PM	76962
Surr: Nitrobenzene-d5	46.3		15-125		%Rec	1	8/23/2023 8:31:41 PM	76962
Surr: 2-Fluorobiphenyl	49.9		15-129		%Rec	1	8/23/2023 8:31:41 PM	76962
Surr: 4-Terphenyl-d14	61.7		31.1-134		%Rec	1	8/23/2023 8:31:41 PM	76962
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.012	0.037		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Toluene	ND	0.013	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Ethylbenzene	ND	0.0087	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Methyl tert-butyl ether (MTBE)	ND	0.041	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1,2,4-Trimethylbenzene	ND	0.010	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1,3,5-Trimethylbenzene	ND	0.017	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-22(16-17)
Project: AOC 26 27
Collection Date: 8/15/2023 9:40:00 AM
Lab ID: 2308975-007
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.017	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1,2-Dibromoethane (EDB)	ND	0.012	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Naphthalene	ND	0.027	0.15		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1-Methylnaphthalene	ND	0.022	0.29		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
2-Methylnaphthalene	ND	0.076	0.29		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Acetone	ND	1.1	1.1		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Bromobenzene	ND	0.016	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Bromodichloromethane	ND	0.016	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Bromoform	ND	0.018	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Bromomethane	ND	0.24	0.29		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
2-Butanone	ND	0.41	0.73		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Carbon disulfide	ND	0.018	0.73		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Carbon tetrachloride	ND	0.021	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Chlorobenzene	ND	0.0072	0.15		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Chloroethane	ND	0.010	0.15		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Chloroform	ND	0.010	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Chloromethane	ND	0.072	0.22		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
2-Chlorotoluene	ND	0.020	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
4-Chlorotoluene	ND	0.015	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
cis-1,2-DCE	ND	0.036	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
cis-1,3-Dichloropropene	ND	0.0096	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1,2-Dibromo-3-chloropropane	ND	0.032	0.15		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Dibromochloromethane	ND	0.0096	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Dibromomethane	ND	0.011	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1,2-Dichlorobenzene	ND	0.015	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1,3-Dichlorobenzene	ND	0.014	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1,4-Dichlorobenzene	ND	0.020	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Dichlorodifluoromethane	ND	0.029	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1,1-Dichloroethane	ND	0.0059	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1,1-Dichloroethene	ND	0.042	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1,2-Dichloropropane	ND	0.013	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1,3-Dichloropropane	ND	0.0078	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
2,2-Dichloropropane	ND	0.0086	0.15		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1,1-Dichloropropene	ND	0.0077	0.15		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Hexachlorobutadiene	ND	0.15	0.15		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
2-Hexanone	ND	0.032	0.73		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Isopropylbenzene	ND	0.014	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
4-Isopropyltoluene	ND	0.0073	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
4-Methyl-2-pentanone	ND	0.085	0.73		mg/Kg	1	8/21/2023 6:55:27 PM	R99117

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E	Above Quantitation Range/Estimated Value
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P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-22(16-17)
Project: AOC 26 27
Collection Date: 8/15/2023 9:40:00 AM
Lab ID: 2308975-007
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.17	0.22		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
n-Butylbenzene	ND	0.020	0.22		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
n-Propylbenzene	ND	0.012	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
sec-Butylbenzene	ND	0.019	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Styrene	ND	0.0092	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
tert-Butylbenzene	ND	0.025	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1,1,1,2-Tetrachloroethane	ND	0.011	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1,1,2,2-Tetrachloroethane	ND	0.024	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Tetrachloroethene (PCE)	ND	0.020	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
trans-1,2-DCE	ND	0.026	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
trans-1,3-Dichloropropene	ND	0.015	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1,2,3-Trichlorobenzene	ND	0.011	0.15		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1,2,4-Trichlorobenzene	ND	0.025	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1,1,1-Trichloroethane	ND	0.024	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1,1,2-Trichloroethane	ND	0.018	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Trichloroethene (TCE)	ND	0.025	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Trichlorofluoromethane	ND	0.017	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1,2,3-Trichloropropane	ND	0.014	0.15		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Vinyl chloride	ND	0.040	0.073		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Xylenes, Total	ND	0.025	0.15		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
1,4-Dioxane	ND	0.37	0.73		mg/Kg	1	8/21/2023 6:55:27 PM	R99117
Surr: Dibromofluoromethane	99.6	0	73-145		%Rec	1	8/21/2023 6:55:27 PM	R99117
Surr: 1,2-Dichloroethane-d4	88.8	0	64.8-147		%Rec	1	8/21/2023 6:55:27 PM	R99117
Surr: Toluene-d8	93.5	0	70-130		%Rec	1	8/21/2023 6:55:27 PM	R99117
Surr: 4-Bromofluorobenzene	98.9	0	62.1-144		%Rec	1	8/21/2023 6:55:27 PM	R99117

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E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-22(20-24)
Project: AOC 26 27 **Collection Date:** 8/15/2023 9:45:00 AM
Lab ID: 2308975-008 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.056	0.091		µg/Kg	1	8/22/2023 5:01:28 PM	76927
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	16	8.4	9.8		mg/Kg	1	9/1/2023 5:13:34 PM	76950
Motor Oil Range Organics (MRO)	ND	27	49		mg/Kg	1	9/1/2023 5:13:34 PM	76950
Surr: DNOP	91.6	0	69-147		%Rec	1	9/1/2023 5:13:34 PM	76950
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.4	5.5		mg/Kg	1	8/22/2023 1:44:05 AM	GS991
Surr: BFB	98.6	0	15-244		%Rec	1	8/22/2023 1:44:05 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **JMT**	
Chloride	ND	60	60		mg/Kg	20	8/23/2023 3:30:54 PM	76953
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.25	0.50		mg/Kg	5	8/30/2023 3:20:02 PM	76972
Arsenic	1.3	0.25	0.50		mg/Kg	5	8/30/2023 3:20:02 PM	76972
Lead	8.5	0.25	0.50		mg/Kg	5	8/30/2023 3:20:02 PM	76972
Nickel	6.0	0.35	0.50		mg/Kg	5	8/30/2023 3:20:02 PM	76972
Selenium	0.84	0.50	0.50		mg/Kg	5	8/31/2023 2:27:07 PM	76972
Silver	ND	0.25	0.50		mg/Kg	5	8/30/2023 3:20:02 PM	76972
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.071	0.071		mg/Kg	1	8/29/2023 2:15:18 PM	77142
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	1400	0.50	1.0		mg/Kg	10	8/24/2023 4:28:15 PM	76972
Beryllium	0.58	0.10	0.20		mg/Kg	2	8/22/2023 10:42:53 AM	76972
Cadmium	ND	0.10	0.20		mg/Kg	2	8/22/2023 10:42:53 AM	76972
Chromium	5.0	0.30	0.40		mg/Kg	2	8/22/2023 10:42:53 AM	76972
Cobalt	2.8	0.10	0.20		mg/Kg	2	8/22/2023 10:42:53 AM	76972
Iron	9800	50	100		mg/Kg	50	8/22/2023 3:44:55 PM	76972
Manganese	270	0.20	0.20		mg/Kg	2	8/22/2023 10:42:53 AM	76972
Vanadium	15	0.10	0.20		mg/Kg	2	8/22/2023 10:42:53 AM	76972
Zinc	8.6	1.6	2.0		mg/Kg	2	8/22/2023 10:42:53 AM	76972
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Aniline	ND	0.12	0.19		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Anthracene	ND	0.19	0.19		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Azobenzene	ND	0.20	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Benz(a)anthracene	ND	0.20	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962

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Qualifiers:

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P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-22(20-24)
Project: AOC 26 27
Collection Date: 8/15/2023 9:45:00 AM
Lab ID: 2308975-008
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.20	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Benzo(g,h,i)perylene	ND	0.21	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Benzo(k)fluoranthene	ND	0.19	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Benzoic acid	ND	0.19	0.47		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Benzyl alcohol	ND	0.17	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Bis(2-chloroethyl)ether	ND	0.22	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Bis(2-chloroisopropyl)ether	ND	0.16	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Bis(2-ethylhexyl)phthalate	ND	0.29	0.47		mg/Kg	1	8/23/2023 9:14:22 PM	76962
4-Bromophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Butyl benzyl phthalate	ND	0.20	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Carbazole	ND	0.21	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
4-Chloro-3-methylphenol	ND	0.18	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
4-Chloroaniline	ND	0.13	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Chrysene	ND	0.21	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Di-n-butyl phthalate	ND	0.56	0.95		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Di-n-octyl phthalate	ND	0.20	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Dibenz(a,h)anthracene	ND	0.21	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
3,3´-Dichlorobenzidine	ND	0.24	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Diethyl phthalate	ND	1.7	2.8		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Dimethyl phthalate	ND	0.22	0.38		mg/Kg	1	8/23/2023 9:14:22 PM	76962
2,4-Dichlorophenol	ND	0.20	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
2,4-Dimethylphenol	ND	0.16	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
4,6-Dinitro-2-methylphenol	ND	0.21	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
2,4-Dinitrophenol	ND	0.22	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
2,4-Dinitrotoluene	ND	0.19	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
2,6-Dinitrotoluene	ND	0.21	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Fluoranthene	ND	0.20	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Fluorene	ND	0.18	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Hexachlorobenzene	ND	0.16	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-22(20-24)
Project: AOC 26 27
Collection Date: 8/15/2023 9:45:00 AM
Lab ID: 2308975-008
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.087	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Isophorone	ND	0.16	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
2-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
2-Methylphenol	ND	0.14	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
3+4-Methylphenol	ND	0.16	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
N-Nitrosodi-n-propylamine	ND	0.18	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
N-Nitrosodimethylamine	ND	0.14	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
N-Nitrosodiphenylamine	ND	0.21	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Naphthalene	ND	0.14	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
2-Nitroaniline	ND	0.18	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
3-Nitroaniline	ND	0.14	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
4-Nitroaniline	ND	0.12	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Nitrobenzene	ND	0.15	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
2-Nitrophenol	ND	0.16	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
4-Nitrophenol	ND	0.18	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Pentachlorophenol	ND	0.23	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Phenanthrene	ND	0.20	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Phenol	ND	0.23	0.28		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Pyrene	ND	0.20	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Pyridine	ND	0.18	0.95		mg/Kg	1	8/23/2023 9:14:22 PM	76962
1,2,4-Trichlorobenzene	ND	0.13	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
2,4,5-Trichlorophenol	ND	0.20	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
2,4,6-Trichlorophenol	ND	0.17	0.24		mg/Kg	1	8/23/2023 9:14:22 PM	76962
Surr: 2-Fluorophenol	51.4		15-123		%Rec	1	8/23/2023 9:14:22 PM	76962
Surr: Phenol-d5	61.0		15-141		%Rec	1	8/23/2023 9:14:22 PM	76962
Surr: 2,4,6-Tribromophenol	53.4		23-118		%Rec	1	8/23/2023 9:14:22 PM	76962
Surr: Nitrobenzene-d5	45.1		15-125		%Rec	1	8/23/2023 9:14:22 PM	76962
Surr: 2-Fluorobiphenyl	51.7		15-129		%Rec	1	8/23/2023 9:14:22 PM	76962
Surr: 4-Terphenyl-d14	68.1		31.1-134		%Rec	1	8/23/2023 9:14:22 PM	76962
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0088	0.027		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Toluene	ND	0.0099	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Ethylbenzene	ND	0.0065	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Methyl tert-butyl ether (MTBE)	ND	0.031	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1,2,4-Trimethylbenzene	ND	0.0077	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1,3,5-Trimethylbenzene	ND	0.013	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117

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Qualifiers:

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ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
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P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-22(20-24)
Project: AOC 26 27 **Collection Date:** 8/15/2023 9:45:00 AM
Lab ID: 2308975-008 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.012	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1,2-Dibromoethane (EDB)	ND	0.0088	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Naphthalene	ND	0.020	0.11		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1-Methylnaphthalene	ND	0.016	0.22		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
2-Methylnaphthalene	ND	0.057	0.22		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Acetone	ND	0.82	0.82		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Bromobenzene	ND	0.012	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Bromodichloromethane	ND	0.012	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Bromoform	ND	0.013	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Bromomethane	ND	0.18	0.22		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
2-Butanone	ND	0.31	0.55		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Carbon disulfide	ND	0.013	0.55		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Carbon tetrachloride	ND	0.015	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Chlorobenzene	ND	0.0054	0.11		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Chloroethane	ND	0.0076	0.11		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Chloroform	ND	0.0076	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Chloromethane	ND	0.054	0.16		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
2-Chlorotoluene	ND	0.015	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
4-Chlorotoluene	ND	0.011	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
cis-1,2-DCE	ND	0.027	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
cis-1,3-Dichloropropene	ND	0.0072	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1,2-Dibromo-3-chloropropane	ND	0.024	0.11		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Dibromochloromethane	ND	0.0072	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Dibromomethane	ND	0.0083	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1,2-Dichlorobenzene	ND	0.011	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1,3-Dichlorobenzene	ND	0.010	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1,4-Dichlorobenzene	ND	0.015	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Dichlorodifluoromethane	ND	0.022	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1,1-Dichloroethane	ND	0.0045	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1,1-Dichloroethene	ND	0.031	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1,2-Dichloropropane	ND	0.0094	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1,3-Dichloropropane	ND	0.0058	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
2,2-Dichloropropane	ND	0.0064	0.11		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1,1-Dichloropropene	ND	0.0058	0.11		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Hexachlorobutadiene	ND	0.11	0.11		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
2-Hexanone	ND	0.024	0.55		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Isopropylbenzene	ND	0.010	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
4-Isopropyltoluene	ND	0.0055	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
4-Methyl-2-pentanone	ND	0.064	0.55		mg/Kg	1	8/21/2023 7:23:46 PM	R99117

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S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-22(20-24)
Project: AOC 26 27
Collection Date: 8/15/2023 9:45:00 AM
Lab ID: 2308975-008
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.13	0.16		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
n-Butylbenzene	ND	0.015	0.16		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
n-Propylbenzene	ND	0.0089	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
sec-Butylbenzene	ND	0.014	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Styrene	ND	0.0069	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
tert-Butylbenzene	ND	0.018	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1,1,1,2-Tetrachloroethane	ND	0.0080	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1,1,2,2-Tetrachloroethane	ND	0.018	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Tetrachloroethene (PCE)	ND	0.015	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
trans-1,2-DCE	ND	0.020	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
trans-1,3-Dichloropropene	ND	0.011	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1,2,3-Trichlorobenzene	ND	0.0085	0.11		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1,2,4-Trichlorobenzene	ND	0.019	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1,1,1-Trichloroethane	ND	0.018	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1,1,2-Trichloroethane	ND	0.014	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Trichloroethene (TCE)	ND	0.019	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Trichlorofluoromethane	ND	0.012	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1,2,3-Trichloropropane	ND	0.010	0.11		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Vinyl chloride	ND	0.030	0.055		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Xylenes, Total	ND	0.019	0.11		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
1,4-Dioxane	ND	0.28	0.55		mg/Kg	1	8/21/2023 7:23:46 PM	R99117
Surr: Dibromofluoromethane	98.8	0	73-145		%Rec	1	8/21/2023 7:23:46 PM	R99117
Surr: 1,2-Dichloroethane-d4	88.2	0	64.8-147		%Rec	1	8/21/2023 7:23:46 PM	R99117
Surr: Toluene-d8	95.6	0	70-130		%Rec	1	8/21/2023 7:23:46 PM	R99117
Surr: 4-Bromofluorobenzene	96.8	0	62.1-144		%Rec	1	8/21/2023 7:23:46 PM	R99117

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-22(23-24)
Project: AOC 26 27 **Collection Date:** 8/15/2023 9:50:00 AM
Lab ID: 2308975-009 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.059	0.095		µg/Kg	1	8/22/2023 5:16:13 PM	76927
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	11	7.9	9.2		mg/Kg	1	9/1/2023 5:37:26 PM	76950
Motor Oil Range Organics (MRO)	ND	26	46		mg/Kg	1	9/1/2023 5:37:26 PM	76950
Surr: DNOP	91.8	0	69-147		%Rec	1	9/1/2023 5:37:26 PM	76950
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.3	5.2		mg/Kg	1	8/22/2023 2:08:22 AM	GS991
Surr: BFB	102	0	15-244		%Rec	1	8/22/2023 2:08:22 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **JMT**	
Chloride	ND	60	60		mg/Kg	20	8/23/2023 3:43:18 PM	76953
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.48		mg/Kg	5	8/30/2023 3:24:26 PM	76972
Arsenic	1.1	0.24	0.48		mg/Kg	5	8/30/2023 3:24:26 PM	76972
Lead	8.2	0.24	0.48		mg/Kg	5	8/30/2023 3:24:26 PM	76972
Nickel	12	0.34	0.48		mg/Kg	5	8/30/2023 3:24:26 PM	76972
Selenium	1.6	0.48	0.48		mg/Kg	5	8/31/2023 2:31:32 PM	76972
Silver	ND	0.24	0.48		mg/Kg	5	8/30/2023 3:24:26 PM	76972
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.073	0.073		mg/Kg	1	8/29/2023 2:17:27 PM	77142
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	140	0.096	0.19		mg/Kg	2	8/22/2023 10:46:57 AM	76972
Beryllium	0.91	0.096	0.19		mg/Kg	2	8/22/2023 10:46:57 AM	76972
Cadmium	ND	0.096	0.19		mg/Kg	2	8/22/2023 10:46:57 AM	76972
Chromium	9.0	0.29	0.38		mg/Kg	2	8/22/2023 10:46:57 AM	76972
Cobalt	4.5	0.096	0.19		mg/Kg	2	8/22/2023 10:46:57 AM	76972
Iron	13000	96	190		mg/Kg	100	8/22/2023 4:04:21 PM	76972
Manganese	670	0.48	0.48		mg/Kg	5	8/22/2023 10:49:07 AM	76972
Vanadium	7.5	0.096	0.19		mg/Kg	2	8/22/2023 10:46:57 AM	76972
Zinc	14	1.5	1.9		mg/Kg	2	8/22/2023 10:46:57 AM	76972
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.19	0.20		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Acenaphthylene	ND	0.19	0.20		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Aniline	ND	0.12	0.20		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Anthracene	ND	0.20	0.20		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Azobenzene	ND	0.21	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Benz(a)anthracene	ND	0.21	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-22(23-24)
Project: AOC 26 27
Collection Date: 8/15/2023 9:50:00 AM
Lab ID: 2308975-009
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Benzo(b)fluoranthene	ND	0.20	0.20		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Benzo(g,h,i)perylene	ND	0.22	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Benzo(k)fluoranthene	ND	0.20	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Benzoic acid	ND	0.20	0.50		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Benzyl alcohol	ND	0.18	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Bis(2-chloroethoxy)methane	ND	0.17	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Bis(2-chloroethyl)ether	ND	0.24	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Bis(2-chloroisopropyl)ether	ND	0.16	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Bis(2-ethylhexyl)phthalate	ND	0.31	0.50		mg/Kg	1	8/23/2023 9:57:11 PM	76962
4-Bromophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Butyl benzyl phthalate	ND	0.21	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Carbazole	ND	0.22	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
4-Chloro-3-methylphenol	ND	0.19	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
4-Chloroaniline	ND	0.14	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
2-Chloronaphthalene	ND	0.18	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
2-Chlorophenol	ND	0.14	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
4-Chlorophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Chrysene	ND	0.22	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Di-n-butyl phthalate	ND	0.59	0.99		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Di-n-octyl phthalate	ND	0.21	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Dibenz(a,h)anthracene	ND	0.22	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Dibenzofuran	ND	0.20	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
1,2-Dichlorobenzene	ND	0.16	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
1,3-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
1,4-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
3,3´-Dichlorobenzidine	ND	0.25	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Diethyl phthalate	ND	1.8	3.0		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Dimethyl phthalate	ND	0.23	0.40		mg/Kg	1	8/23/2023 9:57:11 PM	76962
2,4-Dichlorophenol	ND	0.21	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
2,4-Dimethylphenol	ND	0.16	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
4,6-Dinitro-2-methylphenol	ND	0.22	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
2,4-Dinitrophenol	ND	0.23	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
2,4-Dinitrotoluene	ND	0.20	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
2,6-Dinitrotoluene	ND	0.22	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Fluoranthene	ND	0.21	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Fluorene	ND	0.19	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Hexachlorobenzene	ND	0.17	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Hexachlorobutadiene	ND	0.15	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-22(23-24)
Project: AOC 26 27
Collection Date: 8/15/2023 9:50:00 AM
Lab ID: 2308975-009
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.091	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Hexachloroethane	ND	0.20	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Indeno(1,2,3-cd)pyrene	ND	0.22	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Isophorone	ND	0.17	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
1-Methylnaphthalene	ND	0.16	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
2-Methylnaphthalene	ND	0.17	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
2-Methylphenol	ND	0.15	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
3+4-Methylphenol	ND	0.17	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
N-Nitrosodi-n-propylamine	ND	0.19	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
N-Nitrosodimethylamine	ND	0.15	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
N-Nitrosodiphenylamine	ND	0.22	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Naphthalene	ND	0.15	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
2-Nitroaniline	ND	0.19	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
3-Nitroaniline	ND	0.14	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
4-Nitroaniline	ND	0.12	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Nitrobenzene	ND	0.16	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
2-Nitrophenol	ND	0.16	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
4-Nitrophenol	ND	0.19	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Pentachlorophenol	ND	0.24	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Phenanthrene	ND	0.21	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Phenol	ND	0.24	0.30		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Pyrene	ND	0.21	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Pyridine	ND	0.19	0.99		mg/Kg	1	8/23/2023 9:57:11 PM	76962
1,2,4-Trichlorobenzene	ND	0.14	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
2,4,5-Trichlorophenol	ND	0.21	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
2,4,6-Trichlorophenol	ND	0.18	0.25		mg/Kg	1	8/23/2023 9:57:11 PM	76962
Surr: 2-Fluorophenol	38.6		15-123		%Rec	1	8/23/2023 9:57:11 PM	76962
Surr: Phenol-d5	45.2		15-141		%Rec	1	8/23/2023 9:57:11 PM	76962
Surr: 2,4,6-Tribromophenol	56.0		23-118		%Rec	1	8/23/2023 9:57:11 PM	76962
Surr: Nitrobenzene-d5	34.6		15-125		%Rec	1	8/23/2023 9:57:11 PM	76962
Surr: 2-Fluorobiphenyl	39.8		15-129		%Rec	1	8/23/2023 9:57:11 PM	76962
Surr: 4-Terphenyl-d14	75.4		31.1-134		%Rec	1	8/23/2023 9:57:11 PM	76962
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0083	0.026		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Toluene	ND	0.0094	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Ethylbenzene	ND	0.0062	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Methyl tert-butyl ether (MTBE)	ND	0.029	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1,2,4-Trimethylbenzene	ND	0.0073	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1,3,5-Trimethylbenzene	ND	0.012	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-22(23-24)
Project: AOC 26 27
Collection Date: 8/15/2023 9:50:00 AM
Lab ID: 2308975-009
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.012	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1,2-Dibromoethane (EDB)	ND	0.0083	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Naphthalene	ND	0.019	0.10		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1-Methylnaphthalene	ND	0.015	0.21		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
2-Methylnaphthalene	ND	0.054	0.21		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Acetone	ND	0.78	0.78		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Bromobenzene	ND	0.011	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Bromodichloromethane	ND	0.011	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Bromoform	ND	0.012	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Bromomethane	ND	0.17	0.21		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
2-Butanone	ND	0.29	0.52		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Carbon disulfide	ND	0.013	0.52		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Carbon tetrachloride	ND	0.015	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Chlorobenzene	ND	0.0051	0.10		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Chloroethane	ND	0.0072	0.10		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Chloroform	ND	0.0071	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Chloromethane	ND	0.051	0.16		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
2-Chlorotoluene	ND	0.014	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
4-Chlorotoluene	ND	0.011	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
cis-1,2-DCE	ND	0.026	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
cis-1,3-Dichloropropene	ND	0.0068	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1,2-Dibromo-3-chloropropane	ND	0.022	0.10		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Dibromochloromethane	ND	0.0068	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Dibromomethane	ND	0.0079	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1,2-Dichlorobenzene	ND	0.011	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1,3-Dichlorobenzene	ND	0.0098	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1,4-Dichlorobenzene	ND	0.014	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Dichlorodifluoromethane	ND	0.021	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1,1-Dichloroethane	ND	0.0042	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1,1-Dichloroethene	ND	0.029	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1,2-Dichloropropane	ND	0.0089	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1,3-Dichloropropane	ND	0.0055	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
2,2-Dichloropropane	ND	0.0061	0.10		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1,1-Dichloropropene	ND	0.0055	0.10		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Hexachlorobutadiene	ND	0.10	0.10		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
2-Hexanone	ND	0.023	0.52		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Isopropylbenzene	ND	0.0096	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
4-Isopropyltoluene	ND	0.0052	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
4-Methyl-2-pentanone	ND	0.060	0.52		mg/Kg	1	8/21/2023 7:52:08 PM	R99117

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-22(23-24)
Project: AOC 26 27
Collection Date: 8/15/2023 9:50:00 AM
Lab ID: 2308975-009
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.12	0.16		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
n-Butylbenzene	ND	0.014	0.16		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
n-Propylbenzene	ND	0.0084	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
sec-Butylbenzene	ND	0.013	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Styrene	ND	0.0065	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
tert-Butylbenzene	ND	0.017	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1,1,1,2-Tetrachloroethane	ND	0.0076	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1,1,2,2-Tetrachloroethane	ND	0.017	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Tetrachloroethene (PCE)	ND	0.014	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
trans-1,2-DCE	ND	0.018	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
trans-1,3-Dichloropropene	ND	0.010	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1,2,3-Trichlorobenzene	ND	0.0080	0.10		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1,2,4-Trichlorobenzene	ND	0.018	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1,1,1-Trichloroethane	ND	0.017	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1,1,2-Trichloroethane	ND	0.013	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Trichloroethene (TCE)	ND	0.018	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Trichlorofluoromethane	ND	0.012	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1,2,3-Trichloropropane	ND	0.0099	0.10		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Vinyl chloride	ND	0.028	0.052		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Xylenes, Total	ND	0.017	0.10		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
1,4-Dioxane	ND	0.26	0.52		mg/Kg	1	8/21/2023 7:52:08 PM	R99117
Surr: Dibromofluoromethane	97.5	0	73-145		%Rec	1	8/21/2023 7:52:08 PM	R99117
Surr: 1,2-Dichloroethane-d4	97.7	0	64.8-147		%Rec	1	8/21/2023 7:52:08 PM	R99117
Surr: Toluene-d8	94.6	0	70-130		%Rec	1	8/21/2023 7:52:08 PM	R99117
Surr: 4-Bromofluorobenzene	101	0	62.1-144		%Rec	1	8/21/2023 7:52:08 PM	R99117

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-21(5-6)
Project: AOC 26 27 **Collection Date:** 8/15/2023 10:10:00 AM
Lab ID: 2308975-010 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.061	0.099		µg/Kg	1	8/22/2023 5:30:51 PM	76927
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	8.0	9.4		mg/Kg	1	9/1/2023 6:01:25 PM	76950
Motor Oil Range Organics (MRO)	ND	26	47		mg/Kg	1	9/1/2023 6:01:25 PM	76950
Surr: DNOP	92.1	0	69-147		%Rec	1	9/1/2023 6:01:25 PM	76950
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.6	6.4		mg/Kg	1	8/22/2023 2:32:44 AM	GS991
Surr: BFB	105	0	15-244		%Rec	1	8/22/2023 2:32:44 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **JMT**	
Chloride	ND	60	60		mg/Kg	20	8/23/2023 3:55:43 PM	76953
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.25	0.50		mg/Kg	5	8/30/2023 3:42:07 PM	76972
Arsenic	6.4	0.25	0.50		mg/Kg	5	8/30/2023 3:42:07 PM	76972
Lead	24	0.25	0.50		mg/Kg	5	8/31/2023 2:35:56 PM	76972
Nickel	9.7	0.35	0.50		mg/Kg	5	8/30/2023 3:42:07 PM	76972
Selenium	2.5	0.50	0.50		mg/Kg	5	8/31/2023 2:35:56 PM	76972
Silver	ND	0.25	0.50		mg/Kg	5	8/30/2023 3:42:07 PM	76972
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.075	0.075		mg/Kg	1	8/29/2023 2:19:37 PM	77142
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	170	0.10	0.20		mg/Kg	2	8/22/2023 10:51:07 AM	76972
Beryllium	0.83	0.10	0.20		mg/Kg	2	8/22/2023 10:51:07 AM	76972
Cadmium	ND	0.10	0.20		mg/Kg	2	8/22/2023 10:51:07 AM	76972
Chromium	5.4	0.30	0.40		mg/Kg	2	8/22/2023 10:51:07 AM	76972
Cobalt	9.6	0.10	0.20		mg/Kg	2	8/22/2023 10:51:07 AM	76972
Iron	9900	50	100		mg/Kg	50	8/22/2023 3:47:46 PM	76972
Manganese	960	0.50	0.50		mg/Kg	5	8/22/2023 10:53:16 AM	76972
Vanadium	15	0.10	0.20		mg/Kg	2	8/22/2023 10:51:07 AM	76972
Zinc	18	1.6	2.0		mg/Kg	2	8/22/2023 10:51:07 AM	76972
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.20		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Aniline	ND	0.12	0.20		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Anthracene	ND	0.19	0.20		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Azobenzene	ND	0.21	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Benz(a)anthracene	ND	0.21	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-21(5-6)
Project: AOC 26 27 **Collection Date:** 8/15/2023 10:10:00 AM
Lab ID: 2308975-010 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Benzo(b)fluoranthene	ND	0.20	0.20		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Benzo(g,h,i)perylene	ND	0.22	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Benzo(k)fluoranthene	ND	0.20	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Benzoic acid	ND	0.19	0.49		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Benzyl alcohol	ND	0.18	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Bis(2-chloroethoxy)methane	ND	0.17	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Bis(2-ethylhexyl)phthalate	ND	0.31	0.49		mg/Kg	1	8/24/2023 2:42:37 PM	76962
4-Bromophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Butyl benzyl phthalate	ND	0.21	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Carbazole	ND	0.22	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
2-Chloronaphthalene	ND	0.17	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
2-Chlorophenol	ND	0.13	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
4-Chlorophenyl phenyl ether	ND	0.19	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Chrysene	ND	0.22	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Di-n-butyl phthalate	ND	0.59	0.98		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Di-n-octyl phthalate	ND	0.21	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Dibenz(a,h)anthracene	ND	0.22	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Dibenzofuran	ND	0.19	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
1,2-Dichlorobenzene	ND	0.16	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
1,3-Dichlorobenzene	ND	0.17	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
1,4-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
3,3´-Dichlorobenzidine	ND	0.25	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Diethyl phthalate	ND	1.8	2.9		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Dimethyl phthalate	ND	0.23	0.39		mg/Kg	1	8/24/2023 2:42:37 PM	76962
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
2,4-Dinitrophenol	ND	0.23	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Fluoranthene	ND	0.20	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Fluorene	ND	0.19	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Hexachlorobenzene	ND	0.17	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Hexachlorobutadiene	ND	0.15	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962

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Qualifiers:

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-21(5-6)
Project: AOC 26 27
Collection Date: 8/15/2023 10:10:00 AM
Lab ID: 2308975-010
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.090	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Hexachloroethane	ND	0.20	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Indeno(1,2,3-cd)pyrene	ND	0.21	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Isophorone	ND	0.17	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
1-Methylnaphthalene	ND	0.16	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
2-Methylnaphthalene	ND	0.17	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
N-Nitrosodimethylamine	ND	0.15	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
N-Nitrosodiphenylamine	ND	0.22	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Naphthalene	ND	0.15	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
4-Nitrophenol	ND	0.19	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Phenanthrene	ND	0.21	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Phenol	ND	0.23	0.29		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Pyrene	ND	0.21	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Pyridine	ND	0.18	0.98		mg/Kg	1	8/24/2023 2:42:37 PM	76962
1,2,4-Trichlorobenzene	ND	0.14	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
2,4,5-Trichlorophenol	ND	0.21	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
2,4,6-Trichlorophenol	ND	0.18	0.25		mg/Kg	1	8/24/2023 2:42:37 PM	76962
Surr: 2-Fluorophenol	38.9		15-123		%Rec	1	8/24/2023 2:42:37 PM	76962
Surr: Phenol-d5	52.8		15-141		%Rec	1	8/24/2023 2:42:37 PM	76962
Surr: 2,4,6-Tribromophenol	48.2		23-118		%Rec	1	8/24/2023 2:42:37 PM	76962
Surr: Nitrobenzene-d5	42.4		15-125		%Rec	1	8/24/2023 2:42:37 PM	76962
Surr: 2-Fluorobiphenyl	52.8		15-129		%Rec	1	8/24/2023 2:42:37 PM	76962
Surr: 4-Terphenyl-d14	68.3		31.1-134		%Rec	1	8/24/2023 2:42:37 PM	76962
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.010	0.032		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Toluene	ND	0.012	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Ethylbenzene	ND	0.0076	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Methyl tert-butyl ether (MTBE)	ND	0.036	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1,2,4-Trimethylbenzene	ND	0.0091	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1,3,5-Trimethylbenzene	ND	0.015	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-21(5-6)
Project: AOC 26 27
Collection Date: 8/15/2023 10:10:00 AM
Lab ID: 2308975-010
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.015	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1,2-Dibromoethane (EDB)	ND	0.010	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Naphthalene	ND	0.024	0.13		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1-Methylnaphthalene	ND	0.019	0.26		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
2-Methylnaphthalene	ND	0.067	0.26		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Acetone	ND	0.96	0.96		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Bromobenzene	ND	0.014	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Bromodichloromethane	ND	0.014	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Bromoform	ND	0.015	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Bromomethane	ND	0.21	0.26		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
2-Butanone	ND	0.36	0.64		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Carbon disulfide	ND	0.016	0.64		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Carbon tetrachloride	ND	0.018	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Chlorobenzene	ND	0.0064	0.13		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Chloroethane	ND	0.0089	0.13		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Chloroform	ND	0.0088	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Chloromethane	ND	0.063	0.19		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
2-Chlorotoluene	ND	0.017	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
4-Chlorotoluene	ND	0.013	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
cis-1,2-DCE	ND	0.032	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
cis-1,3-Dichloropropene	ND	0.0084	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1,2-Dibromo-3-chloropropane	ND	0.028	0.13		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Dibromochloromethane	ND	0.0084	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Dibromomethane	ND	0.0098	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1,2-Dichlorobenzene	ND	0.013	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1,3-Dichlorobenzene	ND	0.012	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1,4-Dichlorobenzene	ND	0.017	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Dichlorodifluoromethane	ND	0.026	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1,1-Dichloroethane	ND	0.0052	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1,1-Dichloroethene	ND	0.037	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1,2-Dichloropropane	ND	0.011	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1,3-Dichloropropane	ND	0.0068	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
2,2-Dichloropropane	ND	0.0075	0.13		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1,1-Dichloropropene	ND	0.0068	0.13		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Hexachlorobutadiene	ND	0.13	0.13		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
2-Hexanone	ND	0.028	0.64		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Isopropylbenzene	ND	0.012	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
4-Isopropyltoluene	ND	0.0064	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
4-Methyl-2-pentanone	ND	0.075	0.64		mg/Kg	1	8/21/2023 8:20:26 PM	R99117

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-21(5-6)
Project: AOC 26 27
Collection Date: 8/15/2023 10:10:00 AM
Lab ID: 2308975-010
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.15	0.19		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
n-Butylbenzene	ND	0.017	0.19		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
n-Propylbenzene	ND	0.010	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
sec-Butylbenzene	ND	0.017	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Styrene	ND	0.0081	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
tert-Butylbenzene	ND	0.022	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1,1,1,2-Tetrachloroethane	ND	0.0094	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1,1,2,2-Tetrachloroethane	ND	0.021	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Tetrachloroethene (PCE)	ND	0.018	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
trans-1,2-DCE	ND	0.023	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
trans-1,3-Dichloropropene	ND	0.013	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1,2,3-Trichlorobenzene	ND	0.0099	0.13		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1,2,4-Trichlorobenzene	ND	0.022	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1,1,1-Trichloroethane	ND	0.022	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1,1,2-Trichloroethane	ND	0.016	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Trichloroethene (TCE)	ND	0.022	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Trichlorofluoromethane	ND	0.015	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1,2,3-Trichloropropane	ND	0.012	0.13		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Vinyl chloride	ND	0.035	0.064		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Xylenes, Total	ND	0.022	0.13		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
1,4-Dioxane	ND	0.33	0.64		mg/Kg	1	8/21/2023 8:20:26 PM	R99117
Surr: Dibromofluoromethane	94.3	0	73-145		%Rec	1	8/21/2023 8:20:26 PM	R99117
Surr: 1,2-Dichloroethane-d4	95.5	0	64.8-147		%Rec	1	8/21/2023 8:20:26 PM	R99117
Surr: Toluene-d8	94.4	0	70-130		%Rec	1	8/21/2023 8:20:26 PM	R99117
Surr: 4-Bromofluorobenzene	98.7	0	62.1-144		%Rec	1	8/21/2023 8:20:26 PM	R99117

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-21(8.5-9.5)
Project: AOC 26 27 **Collection Date:** 8/15/2023 10:15:00 AM
Lab ID: 2308975-011 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.060	0.097		µg/Kg	1	8/22/2023 5:45:49 PM	76927
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	8.0	9.3		mg/Kg	1	8/22/2023 8:55:52 PM	76950
Motor Oil Range Organics (MRO)	35	26	47	J	mg/Kg	1	8/22/2023 8:55:52 PM	76950
Surr: DNOP	110	0	69-147		%Rec	1	8/22/2023 8:55:52 PM	76950
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.7	6.8		mg/Kg	1	8/22/2023 2:57:24 AM	GS991
Surr: BFB	105	0	15-244		%Rec	1	8/22/2023 2:57:24 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **JMT**	
Chloride	ND	60	60		mg/Kg	20	8/23/2023 4:08:08 PM	76953
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.48		mg/Kg	5	8/30/2023 3:46:32 PM	76972
Arsenic	2.8	0.24	0.48		mg/Kg	5	8/30/2023 3:46:32 PM	76972
Lead	9.5	0.48	0.97		mg/Kg	10	8/31/2023 3:06:48 PM	76972
Nickel	4.9	0.34	0.48		mg/Kg	5	8/30/2023 3:46:32 PM	76972
Selenium	7.7	0.48	0.48		mg/Kg	5	8/31/2023 2:44:45 PM	76972
Silver	ND	0.24	0.48		mg/Kg	5	8/31/2023 2:44:45 PM	76972
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.070	0.070		mg/Kg	1	8/29/2023 2:21:47 PM	77142
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	470	0.097	0.19		mg/Kg	2	8/22/2023 10:55:18 AM	76972
Beryllium	0.39	0.097	0.19		mg/Kg	2	8/22/2023 10:55:18 AM	76972
Cadmium	ND	0.097	0.19		mg/Kg	2	8/22/2023 10:55:18 AM	76972
Chromium	2.7	0.29	0.39		mg/Kg	2	8/22/2023 10:55:18 AM	76972
Cobalt	2.6	0.097	0.19		mg/Kg	2	8/22/2023 10:55:18 AM	76972
Iron	6400	48	97		mg/Kg	50	8/22/2023 3:49:09 PM	76972
Manganese	3900	1.9	1.9		mg/Kg	20	8/24/2023 4:32:21 PM	76972
Vanadium	8.8	0.097	0.19		mg/Kg	2	8/22/2023 10:55:18 AM	76972
Zinc	5.3	1.5	1.9		mg/Kg	2	8/22/2023 10:55:18 AM	76972
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	1.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Acenaphthylene	ND	1.8	1.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Aniline	ND	1.2	1.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Anthracene	ND	1.9	1.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Azobenzene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Benz(a)anthracene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
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E	Above Quantitation Range/Estimated Value
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P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-21(8.5-9.5)
Project: AOC 26 27 **Collection Date:** 8/15/2023 10:15:00 AM
Lab ID: 2308975-011 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Benzo(b)fluoranthene	ND	1.9	1.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Benzo(g,h,i)perylene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Benzo(k)fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Benzoic acid	ND	1.9	4.8	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Benzyl alcohol	ND	1.7	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Bis(2-chloroethoxy)methane	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Bis(2-chloroethyl)ether	ND	2.3	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Bis(2-chloroisopropyl)ether	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Bis(2-ethylhexyl)phthalate	ND	3.0	4.8	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
4-Bromophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Butyl benzyl phthalate	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Carbazole	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
4-Chloro-3-methylphenol	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
4-Chloroaniline	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
2-Chloronaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
2-Chlorophenol	ND	1.3	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
4-Chlorophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Chrysene	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Di-n-butyl phthalate	ND	5.7	9.6	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Di-n-octyl phthalate	ND	2.0	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Dibenz(a,h)anthracene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Dibenzofuran	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
1,2-Dichlorobenzene	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
1,3-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
1,4-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
3,3´-Dichlorobenzidine	ND	2.4	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Diethyl phthalate	ND	17	29	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Dimethyl phthalate	ND	2.2	3.8	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
2,4-Dichlorophenol	ND	2.0	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
2,4-Dimethylphenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
4,6-Dinitro-2-methylphenol	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
2,4-Dinitrophenol	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
2,4-Dinitrotoluene	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
2,6-Dinitrotoluene	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Fluorene	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Hexachlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Hexachlorobutadiene	ND	1.4	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-21(8.5-9.5)
Project: AOC 26 27
Collection Date: 8/15/2023 10:15:00 AM
Lab ID: 2308975-011
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.88	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Hexachloroethane	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Indeno(1,2,3-cd)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Isophorone	ND	1.7	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
1-Methylnaphthalene	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
2-Methylnaphthalene	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
2-Methylphenol	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
3+4-Methylphenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
N-Nitrosodi-n-propylamine	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
N-Nitrosodimethylamine	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
N-Nitrosodiphenylamine	ND	2.1	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Naphthalene	ND	1.4	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
2-Nitroaniline	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
3-Nitroaniline	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
4-Nitroaniline	ND	1.2	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Nitrobenzene	ND	1.5	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
2-Nitrophenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
4-Nitrophenol	ND	1.8	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Pentachlorophenol	ND	2.4	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Phenanthrene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Phenol	ND	2.3	2.9	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Pyridine	ND	1.8	9.6	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
1,2,4-Trichlorobenzene	ND	1.3	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
2,4,5-Trichlorophenol	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
2,4,6-Trichlorophenol	ND	1.8	2.4	D	mg/Kg	10	9/11/2023 4:59:50 PM	76962
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/11/2023 4:59:50 PM	76962
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/11/2023 4:59:50 PM	76962
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/11/2023 4:59:50 PM	76962
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/11/2023 4:59:50 PM	76962
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/11/2023 4:59:50 PM	76962
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/11/2023 4:59:50 PM	76962
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.011	0.034		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Toluene	ND	0.012	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Ethylbenzene	ND	0.0081	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Methyl tert-butyl ether (MTBE)	ND	0.038	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1,2,4-Trimethylbenzene	ND	0.0096	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1,3,5-Trimethylbenzene	ND	0.016	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-21(8.5-9.5)
Project: AOC 26 27 **Collection Date:** 8/15/2023 10:15:00 AM
Lab ID: 2308975-011 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.015	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1,2-Dibromoethane (EDB)	ND	0.011	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Naphthalene	ND	0.025	0.14		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1-Methylnaphthalene	ND	0.020	0.27		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
2-Methylnaphthalene	ND	0.070	0.27		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Acetone	ND	1.0	1.0		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Bromobenzene	ND	0.014	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Bromodichloromethane	ND	0.014	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Bromoform	ND	0.016	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Bromomethane	ND	0.22	0.27		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
2-Butanone	ND	0.38	0.68		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Carbon disulfide	ND	0.017	0.68		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Carbon tetrachloride	ND	0.019	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Chlorobenzene	ND	0.0067	0.14		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Chloroethane	ND	0.0094	0.14		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Chloroform	ND	0.0093	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Chloromethane	ND	0.067	0.20		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
2-Chlorotoluene	ND	0.018	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
4-Chlorotoluene	ND	0.014	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
cis-1,2-DCE	ND	0.034	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
cis-1,3-Dichloropropene	ND	0.0089	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1,2-Dibromo-3-chloropropane	ND	0.029	0.14		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Dibromochloromethane	ND	0.0089	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Dibromomethane	ND	0.010	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1,2-Dichlorobenzene	ND	0.014	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1,3-Dichlorobenzene	ND	0.013	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1,4-Dichlorobenzene	ND	0.018	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Dichlorodifluoromethane	ND	0.027	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1,1-Dichloroethane	ND	0.0055	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1,1-Dichloroethene	ND	0.039	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1,2-Dichloropropane	ND	0.012	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1,3-Dichloropropane	ND	0.0072	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
2,2-Dichloropropane	ND	0.0079	0.14		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1,1-Dichloropropene	ND	0.0072	0.14		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Hexachlorobutadiene	ND	0.14	0.14		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
2-Hexanone	ND	0.030	0.68		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Isopropylbenzene	ND	0.013	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
4-Isopropyltoluene	ND	0.0068	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
4-Methyl-2-pentanone	ND	0.079	0.68		mg/Kg	1	8/21/2023 8:48:40 PM	R99117

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
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B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-21(8.5-9.5)
Project: AOC 26 27
Collection Date: 8/15/2023 10:15:00 AM
Lab ID: 2308975-011
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.16	0.20		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
n-Butylbenzene	ND	0.018	0.20		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
n-Propylbenzene	ND	0.011	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
sec-Butylbenzene	ND	0.018	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Styrene	ND	0.0085	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
tert-Butylbenzene	ND	0.023	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1,1,1,2-Tetrachloroethane	ND	0.010	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1,1,2,2-Tetrachloroethane	ND	0.023	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Tetrachloroethene (PCE)	ND	0.019	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
trans-1,2-DCE	ND	0.024	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
trans-1,3-Dichloropropene	ND	0.014	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1,2,3-Trichlorobenzene	ND	0.010	0.14		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1,2,4-Trichlorobenzene	ND	0.024	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1,1,1-Trichloroethane	ND	0.023	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1,1,2-Trichloroethane	ND	0.017	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Trichloroethene (TCE)	ND	0.023	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Trichlorofluoromethane	ND	0.015	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1,2,3-Trichloropropane	ND	0.013	0.14		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Vinyl chloride	ND	0.037	0.068		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Xylenes, Total	ND	0.023	0.14		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
1,4-Dioxane	ND	0.34	0.68		mg/Kg	1	8/21/2023 8:48:40 PM	R99117
Surr: Dibromofluoromethane	97.3	0	73-145		%Rec	1	8/21/2023 8:48:40 PM	R99117
Surr: 1,2-Dichloroethane-d4	96.9	0	64.8-147		%Rec	1	8/21/2023 8:48:40 PM	R99117
Surr: Toluene-d8	100	0	70-130		%Rec	1	8/21/2023 8:48:40 PM	R99117
Surr: 4-Bromofluorobenzene	96.1	0	62.1-144		%Rec	1	8/21/2023 8:48:40 PM	R99117

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
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P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-20(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 10:20:00 AM
Lab ID: 2308975-012 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.061	0.098		µg/Kg	1	8/22/2023 6:00:41 PM	76927
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	8.4	9.9		mg/Kg	1	8/22/2023 9:06:45 PM	76950
Motor Oil Range Organics (MRO)	42	27	49	J	mg/Kg	1	8/22/2023 9:06:45 PM	76950
Surr: DNOP	119	0	69-147		%Rec	1	8/22/2023 9:06:45 PM	76950
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.2	4.8		mg/Kg	1	8/22/2023 3:21:59 AM	GS991
Surr: BFB	108	0	15-244		%Rec	1	8/22/2023 3:21:59 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **JMT**	
Chloride	180	60	60		mg/Kg	20	8/23/2023 4:20:32 PM	76953
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.52		mg/Kg	5	8/30/2023 3:50:56 PM	76972
Arsenic	1.8	0.26	0.52		mg/Kg	5	8/30/2023 3:50:56 PM	76972
Lead	13	0.26	0.52		mg/Kg	5	8/30/2023 3:50:56 PM	76972
Nickel	11	0.37	0.52		mg/Kg	5	8/30/2023 3:50:56 PM	76972
Selenium	1.8	0.52	0.52		mg/Kg	5	8/31/2023 3:11:12 PM	76972
Silver	ND	0.26	0.52		mg/Kg	5	8/30/2023 3:50:56 PM	76972
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	0.097	0.072	0.072		mg/Kg	1	8/29/2023 2:30:13 PM	77142
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	680	0.26	0.52		mg/Kg	5	8/22/2023 11:08:41 AM	76972
Beryllium	0.60	0.10	0.21		mg/Kg	2	8/22/2023 11:06:26 AM	76972
Cadmium	ND	0.10	0.21		mg/Kg	2	8/22/2023 11:06:26 AM	76972
Chromium	10	0.31	0.42		mg/Kg	2	8/22/2023 11:06:26 AM	76972
Cobalt	3.2	0.10	0.21		mg/Kg	2	8/22/2023 11:06:26 AM	76972
Iron	9400	52	100		mg/Kg	50	8/22/2023 3:50:41 PM	76972
Manganese	690	0.52	0.52		mg/Kg	5	8/22/2023 11:08:41 AM	76972
Vanadium	17	0.10	0.21		mg/Kg	2	8/22/2023 11:06:26 AM	76972
Zinc	38	1.7	2.1		mg/Kg	2	8/22/2023 11:06:26 AM	76972
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.5	3.7	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Acenaphthylene	ND	3.5	3.7	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Aniline	ND	2.3	3.7	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Anthracene	ND	3.6	3.7	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Azobenzene	ND	3.9	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Benz(a)anthracene	ND	3.9	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-20(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 10:20:00 AM
Lab ID: 2308975-012 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	4.0	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Benzo(b)fluoranthene	ND	3.7	3.7	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Benzo(g,h,i)perylene	ND	4.1	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Benzo(k)fluoranthene	ND	3.8	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Benzoic acid	ND	3.7	9.2	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Benzyl alcohol	ND	3.3	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Bis(2-chloroethoxy)methane	ND	3.1	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Bis(2-chloroethyl)ether	ND	4.4	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Bis(2-chloroisopropyl)ether	ND	3.1	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Bis(2-ethylhexyl)phthalate	ND	5.8	9.2	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
4-Bromophenyl phenyl ether	ND	3.7	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Butyl benzyl phthalate	ND	3.9	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Carbazole	ND	4.2	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
4-Chloro-3-methylphenol	ND	3.6	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
4-Chloroaniline	ND	2.6	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
2-Chloronaphthalene	ND	3.3	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
2-Chlorophenol	ND	2.5	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
4-Chlorophenyl phenyl ether	ND	3.6	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Chrysene	ND	4.2	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Di-n-butyl phthalate	ND	11	18	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Di-n-octyl phthalate	ND	3.9	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Dibenz(a,h)anthracene	ND	4.1	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Dibenzofuran	ND	3.6	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
1,2-Dichlorobenzene	ND	3.0	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
1,3-Dichlorobenzene	ND	3.3	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
1,4-Dichlorobenzene	ND	3.3	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
3,3´-Dichlorobenzidine	ND	4.7	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Diethyl phthalate	ND	33	55	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Dimethyl phthalate	ND	4.3	7.4	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
2,4-Dichlorophenol	ND	3.8	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
2,4-Dimethylphenol	ND	3.1	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
4,6-Dinitro-2-methylphenol	ND	4.2	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
2,4-Dinitrophenol	ND	4.3	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
2,4-Dinitrotoluene	ND	3.7	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
2,6-Dinitrotoluene	ND	4.1	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Fluoranthene	ND	3.9	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Fluorene	ND	3.6	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Hexachlorobenzene	ND	3.2	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Hexachlorobutadiene	ND	2.7	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-20(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 10:20:00 AM
Lab ID: 2308975-012 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	1.7	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Hexachloroethane	ND	3.7	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Indeno(1,2,3-cd)pyrene	ND	4.0	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Isophorone	ND	3.2	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
1-Methylnaphthalene	ND	3.0	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
2-Methylnaphthalene	ND	3.1	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
2-Methylphenol	ND	2.7	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
3+4-Methylphenol	ND	3.1	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
N-Nitrosodi-n-propylamine	ND	3.6	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
N-Nitrosodimethylamine	ND	2.8	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
N-Nitrosodiphenylamine	ND	4.1	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Naphthalene	ND	2.8	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
2-Nitroaniline	ND	3.6	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
3-Nitroaniline	ND	2.7	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
4-Nitroaniline	ND	2.3	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Nitrobenzene	ND	2.9	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
2-Nitrophenol	ND	3.0	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
4-Nitrophenol	ND	3.5	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Pentachlorophenol	ND	4.5	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Phenanthrene	ND	3.9	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Phenol	ND	4.4	5.5	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Pyrene	ND	4.0	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Pyridine	ND	3.5	18	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
1,2,4-Trichlorobenzene	ND	2.6	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
2,4,5-Trichlorophenol	ND	3.9	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
2,4,6-Trichlorophenol	ND	3.4	4.6	D	mg/Kg	10	9/13/2023 1:27:52 AM	76962
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/13/2023 1:27:52 AM	76962
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/13/2023 1:27:52 AM	76962
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/13/2023 1:27:52 AM	76962
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/13/2023 1:27:52 AM	76962
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/13/2023 1:27:52 AM	76962
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/13/2023 1:27:52 AM	76962
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0078	0.024		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Toluene	ND	0.0088	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Ethylbenzene	0.012	0.0058	0.048	J	mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Methyl tert-butyl ether (MTBE)	ND	0.027	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1,2,4-Trimethylbenzene	0.040	0.0068	0.048	J	mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1,3,5-Trimethylbenzene	0.012	0.011	0.048	J	mg/Kg	1	8/21/2023 9:16:56 PM	R99117

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-20(0.5-1)
Project: AOC 26 27
Collection Date: 8/15/2023 10:20:00 AM
Lab ID: 2308975-012
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Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.011	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1,2-Dibromoethane (EDB)	ND	0.0078	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Naphthalene	ND	0.018	0.097		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1-Methylnaphthalene	ND	0.014	0.19		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
2-Methylnaphthalene	ND	0.050	0.19		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Acetone	ND	0.73	0.73		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Bromobenzene	ND	0.010	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Bromodichloromethane	ND	0.010	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Bromoform	ND	0.012	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Bromomethane	ND	0.16	0.19		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
2-Butanone	ND	0.27	0.48		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Carbon disulfide	ND	0.012	0.48		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Carbon tetrachloride	ND	0.014	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Chlorobenzene	ND	0.0048	0.097		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Chloroethane	ND	0.0067	0.097		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Chloroform	ND	0.0067	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Chloromethane	ND	0.048	0.15		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
2-Chlorotoluene	ND	0.013	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
4-Chlorotoluene	ND	0.010	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
cis-1,2-DCE	ND	0.024	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
cis-1,3-Dichloropropene	ND	0.0064	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1,2-Dibromo-3-chloropropane	ND	0.021	0.097		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Dibromochloromethane	ND	0.0064	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Dibromomethane	ND	0.0074	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1,2-Dichlorobenzene	ND	0.010	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1,3-Dichlorobenzene	ND	0.0092	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1,4-Dichlorobenzene	ND	0.013	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Dichlorodifluoromethane	ND	0.019	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1,1-Dichloroethane	ND	0.0039	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1,1-Dichloroethene	ND	0.028	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1,2-Dichloropropane	ND	0.0083	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1,3-Dichloropropane	ND	0.0052	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
2,2-Dichloropropane	ND	0.0057	0.097		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1,1-Dichloropropene	ND	0.0051	0.097		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Hexachlorobutadiene	ND	0.097	0.097		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
2-Hexanone	ND	0.021	0.48		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Isopropylbenzene	ND	0.0090	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
4-Isopropyltoluene	0.0068	0.0049	0.048	J	mg/Kg	1	8/21/2023 9:16:56 PM	R99117
4-Methyl-2-pentanone	ND	0.056	0.48		mg/Kg	1	8/21/2023 9:16:56 PM	R99117

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-20(0.5-1)
Project: AOC 26 27
Collection Date: 8/15/2023 10:20:00 AM
Lab ID: 2308975-012
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.11	0.15		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
n-Butylbenzene	ND	0.013	0.15		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
n-Propylbenzene	0.014	0.0078	0.048	J	mg/Kg	1	8/21/2023 9:16:56 PM	R99117
sec-Butylbenzene	ND	0.013	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Styrene	ND	0.0061	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
tert-Butylbenzene	ND	0.016	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1,1,1,2-Tetrachloroethane	ND	0.0071	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1,1,2,2-Tetrachloroethane	ND	0.016	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Tetrachloroethene (PCE)	ND	0.013	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
trans-1,2-DCE	ND	0.017	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
trans-1,3-Dichloropropene	ND	0.0098	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1,2,3-Trichlorobenzene	ND	0.0075	0.097		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1,2,4-Trichlorobenzene	ND	0.017	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1,1,1-Trichloroethane	ND	0.016	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1,1,2-Trichloroethane	ND	0.012	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Trichloroethene (TCE)	ND	0.016	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Trichlorofluoromethane	ND	0.011	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1,2,3-Trichloropropane	ND	0.0092	0.097		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Vinyl chloride	ND	0.026	0.048		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Xylenes, Total	ND	0.016	0.097		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
1,4-Dioxane	ND	0.25	0.48		mg/Kg	1	8/21/2023 9:16:56 PM	R99117
Surr: Dibromofluoromethane	100	0	73-145		%Rec	1	8/21/2023 9:16:56 PM	R99117
Surr: 1,2-Dichloroethane-d4	94.1	0	64.8-147		%Rec	1	8/21/2023 9:16:56 PM	R99117
Surr: Toluene-d8	94.1	0	70-130		%Rec	1	8/21/2023 9:16:56 PM	R99117
Surr: 4-Bromofluorobenzene	95.9	0	62.1-144		%Rec	1	8/21/2023 9:16:56 PM	R99117

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-20(10-11)
Project: AOC 26 27 **Collection Date:** 8/15/2023 10:30:00 AM
Lab ID: 2308975-013 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.057	0.092		µg/Kg	1	8/22/2023 6:15:44 PM	76927
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	8.4	9.8		mg/Kg	1	9/1/2023 6:25:25 PM	76950
Motor Oil Range Organics (MRO)	ND	27	49		mg/Kg	1	9/1/2023 6:25:25 PM	76950
Surr: DNOP	93.3	0	69-147		%Rec	1	9/1/2023 6:25:25 PM	76950
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	3.1	12		mg/Kg	1	8/22/2023 3:46:49 AM	GS991
Surr: BFB	106	0	15-244		%Rec	1	8/22/2023 3:46:49 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **JMT**	
Chloride	ND	60	60		mg/Kg	20	8/23/2023 4:32:56 PM	76953
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.49		mg/Kg	5	8/30/2023 3:55:21 PM	76972
Arsenic	0.81	0.24	0.49		mg/Kg	5	8/30/2023 3:55:21 PM	76972
Lead	11	0.24	0.49		mg/Kg	5	8/30/2023 3:55:21 PM	76972
Nickel	13	0.34	0.49		mg/Kg	5	8/30/2023 3:55:21 PM	76972
Selenium	1.4	0.49	0.49		mg/Kg	5	8/31/2023 3:15:37 PM	76972
Silver	ND	0.24	0.49		mg/Kg	5	8/30/2023 3:55:21 PM	76972
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.072	0.072		mg/Kg	1	8/29/2023 2:32:22 PM	77142
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	330	0.098	0.20		mg/Kg	2	8/22/2023 11:10:43 AM	76972
Beryllium	0.95	0.098	0.20		mg/Kg	2	8/22/2023 11:10:43 AM	76972
Cadmium	ND	0.098	0.20		mg/Kg	2	8/22/2023 11:10:43 AM	76972
Chromium	9.4	0.29	0.39		mg/Kg	2	8/22/2023 11:10:43 AM	76972
Cobalt	4.0	0.098	0.20		mg/Kg	2	8/22/2023 11:10:43 AM	76972
Iron	17000	98	200		mg/Kg	100	8/22/2023 4:05:47 PM	76972
Manganese	660	0.49	0.49		mg/Kg	5	8/22/2023 11:12:54 AM	76972
Vanadium	10	0.098	0.20		mg/Kg	2	8/22/2023 11:10:43 AM	76972
Zinc	12	1.6	2.0		mg/Kg	2	8/22/2023 11:10:43 AM	76972
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.19	0.20		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Acenaphthylene	ND	0.19	0.20		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Aniline	ND	0.12	0.20		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Anthracene	ND	0.20	0.20		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Azobenzene	ND	0.21	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Benz(a)anthracene	ND	0.21	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
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E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-20(10-11)
Project: AOC 26 27
Collection Date: 8/15/2023 10:30:00 AM
Lab ID: 2308975-013
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.22	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Benzo(b)fluoranthene	ND	0.20	0.20		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Benzo(g,h,i)perylene	ND	0.22	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Benzo(k)fluoranthene	ND	0.21	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Benzoic acid	ND	0.20	0.50		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Benzyl alcohol	ND	0.18	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Bis(2-chloroethoxy)methane	ND	0.17	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Bis(2-chloroethyl)ether	ND	0.24	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Bis(2-chloroisopropyl)ether	ND	0.17	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Bis(2-ethylhexyl)phthalate	ND	0.31	0.50		mg/Kg	1	8/24/2023 3:24:11 PM	76962
4-Bromophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Butyl benzyl phthalate	ND	0.21	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Carbazole	ND	0.23	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
4-Chloro-3-methylphenol	ND	0.20	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
4-Chloroaniline	ND	0.14	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
2-Chloronaphthalene	ND	0.18	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
2-Chlorophenol	ND	0.14	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
4-Chlorophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Chrysene	ND	0.22	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Di-n-butyl phthalate	ND	0.60	1.0		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Di-n-octyl phthalate	ND	0.21	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Dibenz(a,h)anthracene	ND	0.22	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Dibenzofuran	ND	0.20	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
1,2-Dichlorobenzene	ND	0.16	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
1,3-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
1,4-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
3,3´-Dichlorobenzidine	ND	0.25	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Diethyl phthalate	ND	1.8	3.0		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Dimethyl phthalate	ND	0.23	0.40		mg/Kg	1	8/24/2023 3:24:11 PM	76962
2,4-Dichlorophenol	ND	0.21	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
2,4-Dimethylphenol	ND	0.17	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
4,6-Dinitro-2-methylphenol	ND	0.23	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
2,4-Dinitrophenol	ND	0.23	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
2,4-Dinitrotoluene	ND	0.20	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
2,6-Dinitrotoluene	ND	0.22	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Fluoranthene	ND	0.21	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Fluorene	ND	0.19	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Hexachlorobenzene	ND	0.17	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Hexachlorobutadiene	ND	0.15	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-20(10-11)
Project: AOC 26 27
Collection Date: 8/15/2023 10:30:00 AM
Lab ID: 2308975-013
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.092	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Hexachloroethane	ND	0.20	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Indeno(1,2,3-cd)pyrene	ND	0.22	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Isophorone	ND	0.17	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
1-Methylnaphthalene	ND	0.16	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
2-Methylnaphthalene	ND	0.17	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
2-Methylphenol	ND	0.15	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
3+4-Methylphenol	ND	0.17	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
N-Nitrosodi-n-propylamine	ND	0.20	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
N-Nitrosodimethylamine	ND	0.15	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
N-Nitrosodiphenylamine	ND	0.22	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Naphthalene	ND	0.15	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
2-Nitroaniline	ND	0.19	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
3-Nitroaniline	ND	0.14	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
4-Nitroaniline	ND	0.12	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Nitrobenzene	ND	0.16	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
2-Nitrophenol	ND	0.16	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
4-Nitrophenol	ND	0.19	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Pentachlorophenol	ND	0.24	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Phenanthrene	ND	0.21	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Phenol	ND	0.24	0.30		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Pyrene	ND	0.21	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Pyridine	ND	0.19	1.0		mg/Kg	1	8/24/2023 3:24:11 PM	76962
1,2,4-Trichlorobenzene	ND	0.14	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
2,4,5-Trichlorophenol	ND	0.21	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
2,4,6-Trichlorophenol	ND	0.18	0.25		mg/Kg	1	8/24/2023 3:24:11 PM	76962
Surr: 2-Fluorophenol	50.7		15-123		%Rec	1	8/24/2023 3:24:11 PM	76962
Surr: Phenol-d5	58.8		15-141		%Rec	1	8/24/2023 3:24:11 PM	76962
Surr: 2,4,6-Tribromophenol	57.6		23-118		%Rec	1	8/24/2023 3:24:11 PM	76962
Surr: Nitrobenzene-d5	44.9		15-125		%Rec	1	8/24/2023 3:24:11 PM	76962
Surr: 2-Fluorobiphenyl	56.0		15-129		%Rec	1	8/24/2023 3:24:11 PM	76962
Surr: 4-Terphenyl-d14	71.4		31.1-134		%Rec	1	8/24/2023 3:24:11 PM	76962
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.020	0.062		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Toluene	ND	0.022	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Ethylbenzene	ND	0.015	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Methyl tert-butyl ether (MTBE)	ND	0.070	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1,2,4-Trimethylbenzene	ND	0.017	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1,3,5-Trimethylbenzene	ND	0.028	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-20(10-11)
Project: AOC 26 27
Collection Date: 8/15/2023 10:30:00 AM
Lab ID: 2308975-013
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.028	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1,2-Dibromoethane (EDB)	ND	0.020	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Naphthalene	ND	0.046	0.25		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1-Methylnaphthalene	ND	0.036	0.49		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
2-Methylnaphthalene	ND	0.13	0.49		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Acetone	ND	1.8	1.8		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Bromobenzene	ND	0.026	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Bromodichloromethane	ND	0.026	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Bromoform	ND	0.030	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Bromomethane	ND	0.40	0.49		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
2-Butanone	ND	0.69	1.2		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Carbon disulfide	ND	0.030	1.2		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Carbon tetrachloride	ND	0.035	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Chlorobenzene	ND	0.012	0.25		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Chloroethane	ND	0.017	0.25		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Chloroform	ND	0.017	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Chloromethane	ND	0.12	0.37		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
2-Chlorotoluene	ND	0.033	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
4-Chlorotoluene	ND	0.026	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
cis-1,2-DCE	ND	0.061	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
cis-1,3-Dichloropropene	ND	0.016	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1,2-Dibromo-3-chloropropane	ND	0.053	0.25		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Dibromochloromethane	ND	0.016	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Dibromomethane	ND	0.019	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1,2-Dichlorobenzene	ND	0.026	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1,3-Dichlorobenzene	ND	0.023	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1,4-Dichlorobenzene	ND	0.033	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Dichlorodifluoromethane	ND	0.049	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1,1-Dichloroethane	ND	0.010	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1,1-Dichloroethene	ND	0.070	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1,2-Dichloropropane	ND	0.021	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1,3-Dichloropropane	ND	0.013	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
2,2-Dichloropropane	ND	0.014	0.25		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1,1-Dichloropropene	ND	0.013	0.25		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Hexachlorobutadiene	ND	0.25	0.25		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
2-Hexanone	ND	0.054	1.2		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Isopropylbenzene	ND	0.023	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
4-Isopropyltoluene	ND	0.012	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
4-Methyl-2-pentanone	ND	0.14	1.2		mg/Kg	1	8/21/2023 9:45:07 PM	R99117

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
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P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-20(10-11)
Project: AOC 26 27
Collection Date: 8/15/2023 10:30:00 AM
Lab ID: 2308975-013
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.29	0.37		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
n-Butylbenzene	ND	0.033	0.37		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
n-Propylbenzene	ND	0.020	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
sec-Butylbenzene	ND	0.032	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Styrene	ND	0.015	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
tert-Butylbenzene	ND	0.041	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1,1,1,2-Tetrachloroethane	ND	0.018	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1,1,2,2-Tetrachloroethane	ND	0.041	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Tetrachloroethene (PCE)	ND	0.034	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
trans-1,2-DCE	ND	0.044	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
trans-1,3-Dichloropropene	ND	0.025	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1,2,3-Trichlorobenzene	ND	0.019	0.25		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1,2,4-Trichlorobenzene	ND	0.043	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1,1,1-Trichloroethane	ND	0.041	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1,1,2-Trichloroethane	ND	0.031	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Trichloroethene (TCE)	ND	0.042	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Trichlorofluoromethane	ND	0.028	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1,2,3-Trichloropropane	ND	0.024	0.25		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Vinyl chloride	ND	0.067	0.12		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Xylenes, Total	ND	0.042	0.25		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
1,4-Dioxane	ND	0.62	1.2		mg/Kg	1	8/21/2023 9:45:07 PM	R99117
Surr: Dibromofluoromethane	94.8	0	73-145		%Rec	1	8/21/2023 9:45:07 PM	R99117
Surr: 1,2-Dichloroethane-d4	95.3	0	64.8-147		%Rec	1	8/21/2023 9:45:07 PM	R99117
Surr: Toluene-d8	94.9	0	70-130		%Rec	1	8/21/2023 9:45:07 PM	R99117
Surr: 4-Bromofluorobenzene	97.7	0	62.1-144		%Rec	1	8/21/2023 9:45:07 PM	R99117

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-20(20-21)
Project: AOC 26 27 **Collection Date:** 8/15/2023 10:40:00 AM
Lab ID: 2308975-014 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.061	0.098		µg/Kg	1	8/22/2023 6:45:43 PM	76927
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	7.8	9.1		mg/Kg	1	9/1/2023 6:49:28 PM	76950
Motor Oil Range Organics (MRO)	ND	25	46		mg/Kg	1	9/1/2023 6:49:28 PM	76950
Surr: DNOP	96.1	0	69-147		%Rec	1	9/1/2023 6:49:28 PM	76950
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.8	7.0		mg/Kg	1	8/22/2023 4:11:39 AM	GS991
Surr: BFB	109	0	15-244		%Rec	1	8/22/2023 4:11:39 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **RBC**	
Chloride	ND	60	60		mg/Kg	20	8/21/2023 10:53:49 AM	76953
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.25	0.51		mg/Kg	5	8/30/2023 3:59:46 PM	76972
Arsenic	1.3	0.25	0.51		mg/Kg	5	8/30/2023 3:59:46 PM	76972
Lead	8.9	0.25	0.51		mg/Kg	5	8/30/2023 3:59:46 PM	76972
Nickel	13	0.36	0.51		mg/Kg	5	8/30/2023 3:59:46 PM	76972
Selenium	1.8	0.51	0.51		mg/Kg	5	8/31/2023 3:20:02 PM	76972
Silver	ND	0.25	0.51		mg/Kg	5	8/30/2023 3:59:46 PM	76972
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.068	0.068		mg/Kg	1	8/29/2023 2:34:30 PM	77142
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	440	0.10	0.20		mg/Kg	2	8/22/2023 11:14:50 AM	76972
Beryllium	0.89	0.10	0.20		mg/Kg	2	8/22/2023 11:14:50 AM	76972
Cadmium	ND	0.10	0.20		mg/Kg	2	8/22/2023 11:14:50 AM	76972
Chromium	8.2	0.31	0.41		mg/Kg	2	8/22/2023 11:14:50 AM	76972
Cobalt	4.0	0.10	0.20		mg/Kg	2	8/22/2023 11:14:50 AM	76972
Iron	14000	100	200		mg/Kg	100	8/22/2023 4:07:12 PM	76972
Manganese	830	0.51	0.51		mg/Kg	5	8/22/2023 11:16:52 AM	76972
Vanadium	5.4	0.10	0.20		mg/Kg	2	8/22/2023 11:14:50 AM	76972
Zinc	11	1.6	2.0		mg/Kg	2	8/22/2023 11:14:50 AM	76972
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.17	0.18		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Acenaphthylene	ND	0.17	0.18		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Aniline	ND	0.11	0.18		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Anthracene	ND	0.18	0.18		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Azobenzene	ND	0.19	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Benz(a)anthracene	ND	0.20	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-20(20-21)
Project: AOC 26 27
Collection Date: 8/15/2023 10:40:00 AM
Lab ID: 2308975-014
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.20	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Benzo(b)fluoranthene	ND	0.18	0.18		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Benzo(g,h,i)perylene	ND	0.21	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Benzo(k)fluoranthene	ND	0.19	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Benzoic acid	ND	0.18	0.46		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Benzyl alcohol	ND	0.17	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Bis(2-chloroethoxy)methane	ND	0.16	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Bis(2-chloroethyl)ether	ND	0.22	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Bis(2-chloroisopropyl)ether	ND	0.15	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Bis(2-ethylhexyl)phthalate	ND	0.29	0.46		mg/Kg	1	8/24/2023 4:05:54 PM	76962
4-Bromophenyl phenyl ether	ND	0.19	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Butyl benzyl phthalate	ND	0.19	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Carbazole	ND	0.21	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
4-Chloro-3-methylphenol	ND	0.18	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
4-Chloroaniline	ND	0.13	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
2-Chloronaphthalene	ND	0.16	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
2-Chlorophenol	ND	0.13	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
4-Chlorophenyl phenyl ether	ND	0.18	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Chrysene	ND	0.21	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Di-n-butyl phthalate	ND	0.55	0.92		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Di-n-octyl phthalate	ND	0.19	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Dibenz(a,h)anthracene	ND	0.20	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Dibenzofuran	ND	0.18	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
1,2-Dichlorobenzene	ND	0.15	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
1,3-Dichlorobenzene	ND	0.16	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
1,4-Dichlorobenzene	ND	0.17	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
3,3´-Dichlorobenzidine	ND	0.23	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Diethyl phthalate	ND	1.7	2.8		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Dimethyl phthalate	ND	0.21	0.37		mg/Kg	1	8/24/2023 4:05:54 PM	76962
2,4-Dichlorophenol	ND	0.19	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
2,4-Dimethylphenol	ND	0.15	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
4,6-Dinitro-2-methylphenol	ND	0.21	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
2,4-Dinitrophenol	ND	0.21	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
2,4-Dinitrotoluene	ND	0.18	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
2,6-Dinitrotoluene	ND	0.21	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Fluoranthene	ND	0.19	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Fluorene	ND	0.18	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Hexachlorobenzene	ND	0.16	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Hexachlorobutadiene	ND	0.14	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962

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Qualifiers:

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-20(20-21)
Project: AOC 26 27
Collection Date: 8/15/2023 10:40:00 AM
Lab ID: 2308975-014
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.084	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Hexachloroethane	ND	0.18	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Indeno(1,2,3-cd)pyrene	ND	0.20	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Isophorone	ND	0.16	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
1-Methylnaphthalene	ND	0.15	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
2-Methylnaphthalene	ND	0.16	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
2-Methylphenol	ND	0.14	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
3+4-Methylphenol	ND	0.15	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
N-Nitrosodi-n-propylamine	ND	0.18	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
N-Nitrosodimethylamine	ND	0.14	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
N-Nitrosodiphenylamine	ND	0.20	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Naphthalene	ND	0.14	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
2-Nitroaniline	ND	0.18	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
3-Nitroaniline	ND	0.13	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
4-Nitroaniline	ND	0.11	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Nitrobenzene	ND	0.14	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
2-Nitrophenol	ND	0.15	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
4-Nitrophenol	ND	0.18	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Pentachlorophenol	ND	0.23	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Phenanthrene	ND	0.19	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Phenol	ND	0.22	0.28		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Pyrene	ND	0.20	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Pyridine	ND	0.17	0.92		mg/Kg	1	8/24/2023 4:05:54 PM	76962
1,2,4-Trichlorobenzene	ND	0.13	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
2,4,5-Trichlorophenol	ND	0.20	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
2,4,6-Trichlorophenol	ND	0.17	0.23		mg/Kg	1	8/24/2023 4:05:54 PM	76962
Surr: 2-Fluorophenol	39.0		15-123		%Rec	1	8/24/2023 4:05:54 PM	76962
Surr: Phenol-d5	49.0		15-141		%Rec	1	8/24/2023 4:05:54 PM	76962
Surr: 2,4,6-Tribromophenol	54.4		23-118		%Rec	1	8/24/2023 4:05:54 PM	76962
Surr: Nitrobenzene-d5	35.3		15-125		%Rec	1	8/24/2023 4:05:54 PM	76962
Surr: 2-Fluorobiphenyl	46.0		15-129		%Rec	1	8/24/2023 4:05:54 PM	76962
Surr: 4-Terphenyl-d14	68.4		31.1-134		%Rec	1	8/24/2023 4:05:54 PM	76962
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.011	0.035		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Toluene	ND	0.013	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Ethylbenzene	ND	0.0083	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Methyl tert-butyl ether (MTBE)	ND	0.040	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1,2,4-Trimethylbenzene	ND	0.0099	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1,3,5-Trimethylbenzene	ND	0.016	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-20(20-21)
Project: AOC 26 27
Collection Date: 8/15/2023 10:40:00 AM
Lab ID: 2308975-014
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.016	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1,2-Dibromoethane (EDB)	ND	0.011	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Naphthalene	ND	0.026	0.14		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1-Methylnaphthalene	ND	0.021	0.28		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
2-Methylnaphthalene	ND	0.073	0.28		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Acetone	ND	1.1	1.1		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Bromobenzene	ND	0.015	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Bromodichloromethane	ND	0.015	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Bromoform	ND	0.017	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Bromomethane	ND	0.23	0.28		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
2-Butanone	ND	0.39	0.70		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Carbon disulfide	ND	0.017	0.70		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Carbon tetrachloride	ND	0.020	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Chlorobenzene	ND	0.0069	0.14		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Chloroethane	ND	0.0097	0.14		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Chloroform	ND	0.0097	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Chloromethane	ND	0.069	0.21		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
2-Chlorotoluene	ND	0.019	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
4-Chlorotoluene	ND	0.015	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
cis-1,2-DCE	ND	0.035	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
cis-1,3-Dichloropropene	ND	0.0092	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1,2-Dibromo-3-chloropropane	ND	0.030	0.14		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Dibromochloromethane	ND	0.0092	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Dibromomethane	ND	0.011	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1,2-Dichlorobenzene	ND	0.015	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1,3-Dichlorobenzene	ND	0.013	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1,4-Dichlorobenzene	ND	0.019	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Dichlorodifluoromethane	ND	0.028	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1,1-Dichloroethane	ND	0.0057	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1,1-Dichloroethene	ND	0.040	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1,2-Dichloropropane	ND	0.012	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1,3-Dichloropropane	ND	0.0075	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
2,2-Dichloropropane	ND	0.0082	0.14		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1,1-Dichloropropene	ND	0.0074	0.14		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Hexachlorobutadiene	ND	0.14	0.14		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
2-Hexanone	ND	0.031	0.70		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Isopropylbenzene	ND	0.013	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
4-Isopropyltoluene	ND	0.0070	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
4-Methyl-2-pentanone	ND	0.082	0.70		mg/Kg	1	8/21/2023 10:13:23 PM	R99117

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PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
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P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-20(20-21)
Project: AOC 26 27
Collection Date: 8/15/2023 10:40:00 AM
Lab ID: 2308975-014
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.16	0.21		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
n-Butylbenzene	ND	0.019	0.21		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
n-Propylbenzene	ND	0.011	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
sec-Butylbenzene	ND	0.018	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Styrene	ND	0.0088	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
tert-Butylbenzene	ND	0.024	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1,1,1,2-Tetrachloroethane	ND	0.010	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1,1,2,2-Tetrachloroethane	ND	0.023	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Tetrachloroethene (PCE)	ND	0.019	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
trans-1,2-DCE	ND	0.025	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
trans-1,3-Dichloropropene	ND	0.014	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1,2,3-Trichlorobenzene	ND	0.011	0.14		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1,2,4-Trichlorobenzene	ND	0.024	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1,1,1-Trichloroethane	ND	0.023	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1,1,2-Trichloroethane	ND	0.018	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Trichloroethene (TCE)	ND	0.024	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Trichlorofluoromethane	ND	0.016	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1,2,3-Trichloropropane	ND	0.013	0.14		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Vinyl chloride	ND	0.038	0.070		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Xylenes, Total	ND	0.024	0.14		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
1,4-Dioxane	ND	0.35	0.70		mg/Kg	1	8/21/2023 10:13:23 PM	R99117
Surr: Dibromofluoromethane	100	0	73-145		%Rec	1	8/21/2023 10:13:23 PM	R99117
Surr: 1,2-Dichloroethane-d4	95.4	0	64.8-147		%Rec	1	8/21/2023 10:13:23 PM	R99117
Surr: Toluene-d8	96.9	0	70-130		%Rec	1	8/21/2023 10:13:23 PM	R99117
Surr: 4-Bromofluorobenzene	97.9	0	62.1-144		%Rec	1	8/21/2023 10:13:23 PM	R99117

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B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-19(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 10:50:00 AM
Lab ID: 2308975-015 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.059	0.094		µg/Kg	1	8/22/2023 7:00:44 PM	76927
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	8.1	9.5		mg/Kg	1	8/22/2023 9:17:36 PM	76950
Motor Oil Range Organics (MRO)	80	26	95	J	mg/Kg	1	8/22/2023 9:17:36 PM	76950
Surr: DNOP	129	0	69-147		%Rec	1	8/22/2023 9:17:36 PM	76950
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.4	5.4		mg/Kg	1	8/22/2023 4:36:25 AM	GS991
Surr: BFB	107	0	15-244		%Rec	1	8/22/2023 4:36:25 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	130	60	60		mg/Kg	20	8/23/2023 12:42:25 PM	77012
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.25	0.50		mg/Kg	5	8/30/2023 4:04:10 PM	77031
Arsenic	2.3	0.25	0.50		mg/Kg	5	8/30/2023 4:04:10 PM	77031
Lead	14	0.25	0.50		mg/Kg	5	8/30/2023 4:04:10 PM	77031
Nickel	25	0.35	0.50		mg/Kg	5	8/30/2023 4:04:10 PM	77031
Selenium	1.6	0.50	0.50		mg/Kg	5	8/31/2023 3:24:27 PM	77031
Silver	ND	0.25	0.50		mg/Kg	5	8/30/2023 4:04:10 PM	77031
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	0.083	0.071	0.071		mg/Kg	1	8/29/2023 2:36:39 PM	77142
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	590	0.25	0.50		mg/Kg	5	8/28/2023 5:49:32 PM	77031
Beryllium	0.73	0.10	0.20		mg/Kg	2	8/28/2023 5:47:31 PM	77031
Cadmium	ND	0.10	0.20		mg/Kg	2	8/28/2023 5:47:31 PM	77031
Chromium	16	0.30	0.40		mg/Kg	2	8/28/2023 5:47:31 PM	77031
Cobalt	4.0	0.10	0.20		mg/Kg	2	8/28/2023 5:47:31 PM	77031
Iron	11000	100	200		mg/Kg	100	8/29/2023 12:40:24 PM	77031
Manganese	430	0.20	0.20		mg/Kg	2	8/28/2023 5:47:31 PM	77031
Vanadium	19	0.10	0.20		mg/Kg	2	8/28/2023 5:47:31 PM	77031
Zinc	66	1.6	2.0		mg/Kg	2	8/28/2023 5:47:31 PM	77031
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	1.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Acenaphthylene	ND	1.8	1.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Aniline	ND	1.2	1.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Anthracene	ND	1.9	1.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Azobenzene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Benz(a)anthracene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962

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Qualifiers:

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B	Analyte detected in the associated Method Blank
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-19(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 10:50:00 AM
Lab ID: 2308975-015 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Benzo(b)fluoranthene	ND	1.9	1.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Benzo(g,h,i)perylene	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Benzo(k)fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Benzoic acid	ND	1.9	4.8	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Benzyl alcohol	ND	1.7	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Bis(2-chloroethoxy)methane	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Bis(2-chloroethyl)ether	ND	2.3	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Bis(2-chloroisopropyl)ether	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Bis(2-ethylhexyl)phthalate	ND	3.0	4.8	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
4-Bromophenyl phenyl ether	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Butyl benzyl phthalate	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Carbazole	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
4-Chloro-3-methylphenol	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
4-Chloroaniline	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
2-Chloronaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
2-Chlorophenol	ND	1.3	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
4-Chlorophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Chrysene	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Di-n-butyl phthalate	ND	5.8	9.7	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Di-n-octyl phthalate	ND	2.0	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Dibenz(a,h)anthracene	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Dibenzofuran	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
1,2-Dichlorobenzene	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
1,3-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
1,4-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
3,3´-Dichlorobenzidine	ND	2.4	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Diethyl phthalate	ND	17	29	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Dimethyl phthalate	ND	2.2	3.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
2,4-Dichlorophenol	ND	2.0	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
2,4-Dimethylphenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
4,6-Dinitro-2-methylphenol	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
2,4-Dinitrophenol	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
2,4-Dinitrotoluene	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
2,6-Dinitrotoluene	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Fluorene	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Hexachlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Hexachlorobutadiene	ND	1.4	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-19(0.5-1)
Project: AOC 26 27
Collection Date: 8/15/2023 10:50:00 AM
Lab ID: 2308975-015
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.89	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Hexachloroethane	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Indeno(1,2,3-cd)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Isophorone	ND	1.7	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
1-Methylnaphthalene	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
2-Methylnaphthalene	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
2-Methylphenol	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
3+4-Methylphenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
N-Nitrosodi-n-propylamine	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
N-Nitrosodimethylamine	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
N-Nitrosodiphenylamine	ND	2.1	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Naphthalene	ND	1.5	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
2-Nitroaniline	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
3-Nitroaniline	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
4-Nitroaniline	ND	1.2	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Nitrobenzene	ND	1.5	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
2-Nitrophenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
4-Nitrophenol	ND	1.8	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Pentachlorophenol	ND	2.4	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Phenanthrene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Phenol	ND	2.3	2.9	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Pyridine	ND	1.8	9.7	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
1,2,4-Trichlorobenzene	ND	1.4	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
2,4,5-Trichlorophenol	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
2,4,6-Trichlorophenol	ND	1.8	2.4	D	mg/Kg	10	9/11/2023 2:55:22 PM	76962
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/11/2023 2:55:22 PM	76962
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/11/2023 2:55:22 PM	76962
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/11/2023 2:55:22 PM	76962
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/11/2023 2:55:22 PM	76962
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/11/2023 2:55:22 PM	76962
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/11/2023 2:55:22 PM	76962
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0086	0.027		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Toluene	ND	0.0097	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Ethylbenzene	ND	0.0064	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Methyl tert-butyl ether (MTBE)	ND	0.030	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1,2,4-Trimethylbenzene	ND	0.0076	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1,3,5-Trimethylbenzene	ND	0.012	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117

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Qualifiers:

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-19(0.5-1)
Project: AOC 26 27
Collection Date: 8/15/2023 10:50:00 AM
Lab ID: 2308975-015
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.012	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1,2-Dibromoethane (EDB)	ND	0.0086	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Naphthalene	ND	0.020	0.11		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1-Methylnaphthalene	ND	0.016	0.21		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
2-Methylnaphthalene	ND	0.056	0.21		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Acetone	ND	0.81	0.81		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Bromobenzene	ND	0.011	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Bromodichloromethane	ND	0.011	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Bromoform	ND	0.013	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Bromomethane	ND	0.17	0.21		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
2-Butanone	ND	0.30	0.54		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Carbon disulfide	ND	0.013	0.54		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Carbon tetrachloride	ND	0.015	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Chlorobenzene	ND	0.0053	0.11		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Chloroethane	ND	0.0075	0.11		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Chloroform	ND	0.0074	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Chloromethane	ND	0.053	0.16		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
2-Chlorotoluene	ND	0.014	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
4-Chlorotoluene	ND	0.011	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
cis-1,2-DCE	ND	0.027	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
cis-1,3-Dichloropropene	ND	0.0071	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1,2-Dibromo-3-chloropropane	ND	0.023	0.11		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Dibromochloromethane	ND	0.0070	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Dibromomethane	ND	0.0082	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1,2-Dichlorobenzene	ND	0.011	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1,3-Dichlorobenzene	ND	0.010	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1,4-Dichlorobenzene	ND	0.014	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Dichlorodifluoromethane	ND	0.021	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1,1-Dichloroethane	ND	0.0044	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1,1-Dichloroethene	ND	0.031	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1,2-Dichloropropane	ND	0.0092	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1,3-Dichloropropane	ND	0.0057	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
2,2-Dichloropropane	ND	0.0063	0.11		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1,1-Dichloropropene	ND	0.0057	0.11		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Hexachlorobutadiene	ND	0.11	0.11		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
2-Hexanone	ND	0.023	0.54		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Isopropylbenzene	ND	0.010	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
4-Isopropyltoluene	ND	0.0054	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
4-Methyl-2-pentanone	ND	0.063	0.54		mg/Kg	1	8/21/2023 10:41:36 PM	R99117

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ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
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P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-19(0.5-1)
Project: AOC 26 27
Collection Date: 8/15/2023 10:50:00 AM
Lab ID: 2308975-015
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.12	0.16		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
n-Butylbenzene	ND	0.014	0.16		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
n-Propylbenzene	ND	0.0087	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
sec-Butylbenzene	ND	0.014	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Styrene	ND	0.0068	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
tert-Butylbenzene	ND	0.018	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1,1,1,2-Tetrachloroethane	ND	0.0079	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1,1,2,2-Tetrachloroethane	ND	0.018	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Tetrachloroethene (PCE)	ND	0.015	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
trans-1,2-DCE	ND	0.019	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
trans-1,3-Dichloropropene	ND	0.011	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1,2,3-Trichlorobenzene	ND	0.0083	0.11		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1,2,4-Trichlorobenzene	ND	0.019	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1,1,1-Trichloroethane	ND	0.018	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1,1,2-Trichloroethane	ND	0.013	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Trichloroethene (TCE)	ND	0.018	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Trichlorofluoromethane	ND	0.012	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1,2,3-Trichloropropane	ND	0.010	0.11		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Vinyl chloride	ND	0.029	0.054		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Xylenes, Total	ND	0.018	0.11		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
1,4-Dioxane	ND	0.27	0.54		mg/Kg	1	8/21/2023 10:41:36 PM	R99117
Surr: Dibromofluoromethane	98.7	0	73-145		%Rec	1	8/21/2023 10:41:36 PM	R99117
Surr: 1,2-Dichloroethane-d4	99.8	0	64.8-147		%Rec	1	8/21/2023 10:41:36 PM	R99117
Surr: Toluene-d8	95.3	0	70-130		%Rec	1	8/21/2023 10:41:36 PM	R99117
Surr: 4-Bromofluorobenzene	98.5	0	62.1-144		%Rec	1	8/21/2023 10:41:36 PM	R99117

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-19(10-11)
Project: AOC 26 27 **Collection Date:** 8/15/2023 10:55:00 AM
Lab ID: 2308975-016 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.058	0.094		µg/Kg	1	8/22/2023 7:15:49 PM	76927
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	11	8.2	9.6		mg/Kg	1	9/1/2023 7:13:31 PM	76950
Motor Oil Range Organics (MRO)	ND	27	48		mg/Kg	1	9/1/2023 7:13:31 PM	76950
Surr: DNOP	102	0	69-147		%Rec	1	9/1/2023 7:13:31 PM	76950
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	0.68	2.7		mg/Kg	1	8/22/2023 5:01:09 AM	GS991
Surr: BFB	109	0	15-244		%Rec	1	8/22/2023 5:01:09 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	60	60		mg/Kg	20	8/23/2023 12:54:49 PM	77012
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.25	0.50		mg/Kg	5	8/30/2023 4:21:49 PM	77031
Arsenic	0.88	0.25	0.50		mg/Kg	5	8/30/2023 4:21:49 PM	77031
Lead	9.1	0.25	0.50		mg/Kg	5	8/30/2023 4:21:49 PM	77031
Nickel	9.1	0.35	0.50		mg/Kg	5	8/30/2023 4:21:49 PM	77031
Selenium	2.0	0.50	0.50		mg/Kg	5	8/31/2023 3:42:06 PM	77031
Silver	ND	0.25	0.50		mg/Kg	5	8/30/2023 4:21:49 PM	77031
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.069	0.069		mg/Kg	1	8/29/2023 2:38:47 PM	77142
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	120	0.10	0.20		mg/Kg	2	8/28/2023 5:51:23 PM	77031
Beryllium	0.83	0.10	0.20		mg/Kg	2	8/28/2023 5:51:23 PM	77031
Cadmium	ND	0.10	0.20		mg/Kg	2	8/28/2023 5:51:23 PM	77031
Chromium	7.3	0.30	0.40		mg/Kg	2	8/28/2023 5:51:23 PM	77031
Cobalt	4.0	0.10	0.20		mg/Kg	2	8/28/2023 5:51:23 PM	77031
Iron	11000	100	200		mg/Kg	100	8/29/2023 12:41:41 PM	77031
Manganese	670	0.50	0.50		mg/Kg	5	8/28/2023 6:05:57 PM	77031
Vanadium	13	0.10	0.20		mg/Kg	2	8/28/2023 5:51:23 PM	77031
Zinc	13	1.6	2.0		mg/Kg	2	8/28/2023 5:51:23 PM	77031
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Aniline	ND	0.12	0.19		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Anthracene	ND	0.19	0.19		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Azobenzene	ND	0.20	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Benz(a)anthracene	ND	0.21	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962

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Qualifiers:

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-19(10-11)
Project: AOC 26 27
Collection Date: 8/15/2023 10:55:00 AM
Lab ID: 2308975-016
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Benzo(g,h,i)perylene	ND	0.22	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Benzoic acid	ND	0.19	0.49		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Benzyl alcohol	ND	0.17	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Bis(2-ethylhexyl)phthalate	ND	0.30	0.49		mg/Kg	1	8/24/2023 4:47:19 PM	76962
4-Bromophenyl phenyl ether	ND	0.20	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Butyl benzyl phthalate	ND	0.21	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Carbazole	ND	0.22	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Chrysene	ND	0.22	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Di-n-butyl phthalate	ND	0.58	0.97		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Dibenz(a,h)anthracene	ND	0.22	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
3,3´-Dichlorobenzidine	ND	0.24	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Dimethyl phthalate	ND	0.22	0.39		mg/Kg	1	8/24/2023 4:47:19 PM	76962
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Fluoranthene	ND	0.20	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Fluorene	ND	0.19	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-19(10-11)
Project: AOC 26 27
Collection Date: 8/15/2023 10:55:00 AM
Lab ID: 2308975-016
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.089	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Isophorone	ND	0.17	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
2-Methylnaphthalene	ND	0.17	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
N-Nitrosodimethylamine	ND	0.14	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Naphthalene	ND	0.15	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
4-Nitrophenol	ND	0.18	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Phenanthrene	ND	0.20	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Phenol	ND	0.23	0.29		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Pyrene	ND	0.21	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Pyridine	ND	0.18	0.97		mg/Kg	1	8/24/2023 4:47:19 PM	76962
1,2,4-Trichlorobenzene	ND	0.14	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
2,4,5-Trichlorophenol	ND	0.21	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	8/24/2023 4:47:19 PM	76962
Surr: 2-Fluorophenol	38.7		15-123		%Rec	1	8/24/2023 4:47:19 PM	76962
Surr: Phenol-d5	49.2		15-141		%Rec	1	8/24/2023 4:47:19 PM	76962
Surr: 2,4,6-Tribromophenol	50.3		23-118		%Rec	1	8/24/2023 4:47:19 PM	76962
Surr: Nitrobenzene-d5	37.3		15-125		%Rec	1	8/24/2023 4:47:19 PM	76962
Surr: 2-Fluorobiphenyl	47.0		15-129		%Rec	1	8/24/2023 4:47:19 PM	76962
Surr: 4-Terphenyl-d14	68.4		31.1-134		%Rec	1	8/24/2023 4:47:19 PM	76962
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0043	0.013		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Toluene	ND	0.0048	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Ethylbenzene	ND	0.0032	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Methyl tert-butyl ether (MTBE)	ND	0.015	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1,2,4-Trimethylbenzene	ND	0.0038	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1,3,5-Trimethylbenzene	ND	0.0061	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-19(10-11)
Project: AOC 26 27
Collection Date: 8/15/2023 10:55:00 AM
Lab ID: 2308975-016
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.0061	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1,2-Dibromoethane (EDB)	ND	0.0043	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Naphthalene	ND	0.010	0.054		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1-Methylnaphthalene	ND	0.0079	0.11		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
2-Methylnaphthalene	ND	0.028	0.11		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Acetone	ND	0.40	0.40		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Bromobenzene	ND	0.0057	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Bromodichloromethane	ND	0.0057	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Bromoform	ND	0.0065	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Bromomethane	ND	0.087	0.11		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
2-Butanone	ND	0.15	0.27		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Carbon disulfide	ND	0.0065	0.27		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Carbon tetrachloride	ND	0.0076	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Chlorobenzene	ND	0.0027	0.054		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Chloroethane	ND	0.0037	0.054		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Chloroform	ND	0.0037	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Chloromethane	ND	0.026	0.080		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
2-Chlorotoluene	ND	0.0072	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
4-Chlorotoluene	ND	0.0056	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
cis-1,2-DCE	ND	0.013	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
cis-1,3-Dichloropropene	ND	0.0035	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1,2-Dibromo-3-chloropropane	ND	0.012	0.054		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Dibromochloromethane	ND	0.0035	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Dibromomethane	ND	0.0041	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1,2-Dichlorobenzene	ND	0.0056	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1,3-Dichlorobenzene	ND	0.0051	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1,4-Dichlorobenzene	ND	0.0072	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Dichlorodifluoromethane	ND	0.011	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1,1-Dichloroethane	ND	0.0022	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1,1-Dichloroethene	ND	0.015	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1,2-Dichloropropane	ND	0.0046	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1,3-Dichloropropane	ND	0.0029	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
2,2-Dichloropropane	ND	0.0031	0.054		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1,1-Dichloropropene	ND	0.0028	0.054		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Hexachlorobutadiene	ND	0.054	0.054		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
2-Hexanone	ND	0.012	0.27		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Isopropylbenzene	ND	0.0050	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
4-Isopropyltoluene	ND	0.0027	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
4-Methyl-2-pentanone	ND	0.031	0.27		mg/Kg	1	8/21/2023 11:09:46 PM	R99117

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H	Holding times for preparation or analysis exceeded
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PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-19(10-11)
Project: AOC 26 27
Collection Date: 8/15/2023 10:55:00 AM
Lab ID: 2308975-016
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.062	0.080		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
n-Butylbenzene	ND	0.0072	0.080		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
n-Propylbenzene	ND	0.0043	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
sec-Butylbenzene	ND	0.0069	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Styrene	ND	0.0034	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
tert-Butylbenzene	ND	0.0090	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1,1,1,2-Tetrachloroethane	ND	0.0039	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1,1,2,2-Tetrachloroethane	ND	0.0090	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Tetrachloroethene (PCE)	ND	0.0073	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
trans-1,2-DCE	ND	0.0096	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
trans-1,3-Dichloropropene	ND	0.0054	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1,2,3-Trichlorobenzene	ND	0.0041	0.054		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1,2,4-Trichlorobenzene	ND	0.0093	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1,1,1-Trichloroethane	ND	0.0090	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1,1,2-Trichloroethane	ND	0.0067	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Trichloroethene (TCE)	ND	0.0091	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Trichlorofluoromethane	ND	0.0061	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1,2,3-Trichloropropane	ND	0.0051	0.054		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Vinyl chloride	ND	0.015	0.027		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Xylenes, Total	ND	0.0090	0.054		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
1,4-Dioxane	ND	0.14	0.27		mg/Kg	1	8/21/2023 11:09:46 PM	R99117
Surr: Dibromofluoromethane	97.3	0	73-145		%Rec	1	8/21/2023 11:09:46 PM	R99117
Surr: 1,2-Dichloroethane-d4	97.2	0	64.8-147		%Rec	1	8/21/2023 11:09:46 PM	R99117
Surr: Toluene-d8	96.3	0	70-130		%Rec	1	8/21/2023 11:09:46 PM	R99117
Surr: 4-Bromofluorobenzene	101	0	62.1-144		%Rec	1	8/21/2023 11:09:46 PM	R99117

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E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-19(13-14)
Project: AOC 26 27 **Collection Date:** 8/15/2023 11:00:00 AM
Lab ID: 2308975-017 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.060	0.097		µg/Kg	1	8/22/2023 7:30:50 PM	76927
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	7.9	9.2		mg/Kg	1	9/1/2023 7:37:28 PM	76950
Motor Oil Range Organics (MRO)	ND	25	46		mg/Kg	1	9/1/2023 7:37:28 PM	76950
Surr: DNOP	98.1	0	69-147		%Rec	1	9/1/2023 7:37:28 PM	76950
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	0.61	2.4		mg/Kg	1	8/22/2023 5:25:57 AM	GS991
Surr: BFB	104	0	15-244		%Rec	1	8/22/2023 5:25:57 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	60	60		mg/Kg	20	8/23/2023 1:07:14 PM	77012
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.52		mg/Kg	5	8/30/2023 4:35:06 PM	77031
Arsenic	0.94	0.26	0.52		mg/Kg	5	9/6/2023 10:11:08 AM	77031
Lead	11	0.26	0.52		mg/Kg	5	8/30/2023 4:35:06 PM	77031
Nickel	11	0.37	0.52		mg/Kg	5	9/6/2023 10:11:08 AM	77031
Selenium	2.3	0.52	0.52		mg/Kg	5	9/6/2023 10:11:08 AM	77031
Silver	ND	0.26	0.52		mg/Kg	5	9/6/2023 10:11:08 AM	77031
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.069	0.069		mg/Kg	1	8/29/2023 2:40:55 PM	77142
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	260	0.10	0.21		mg/Kg	2	8/28/2023 6:13:38 PM	77031
Beryllium	0.84	0.10	0.21		mg/Kg	2	8/28/2023 6:13:38 PM	77031
Cadmium	ND	0.10	0.21		mg/Kg	2	8/28/2023 6:13:38 PM	77031
Chromium	7.8	0.31	0.42		mg/Kg	2	8/28/2023 6:13:38 PM	77031
Cobalt	4.4	0.10	0.21		mg/Kg	2	8/28/2023 6:13:38 PM	77031
Iron	11000	100	210		mg/Kg	100	8/29/2023 12:44:18 PM	77031
Manganese	1700	1.0	1.0		mg/Kg	10	8/29/2023 12:43:00 PM	77031
Vanadium	16	0.10	0.21		mg/Kg	2	8/28/2023 6:13:38 PM	77031
Zinc	12	1.7	2.1		mg/Kg	2	8/28/2023 6:13:38 PM	77031
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Aniline	ND	0.12	0.19		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Anthracene	ND	0.19	0.19		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Azobenzene	ND	0.20	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Benz(a)anthracene	ND	0.20	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-19(13-14)
Project: AOC 26 27
Collection Date: 8/15/2023 11:00:00 AM
Lab ID: 2308975-017
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Benzo(g,h,i)perylene	ND	0.21	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Benzoic acid	ND	0.19	0.48		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Benzyl alcohol	ND	0.17	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Bis(2-ethylhexyl)phthalate	ND	0.30	0.48		mg/Kg	1	8/24/2023 5:28:43 PM	76962
4-Bromophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Butyl benzyl phthalate	ND	0.20	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Carbazole	ND	0.22	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Chrysene	ND	0.22	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Di-n-butyl phthalate	ND	0.57	0.96		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Dibenz(a,h)anthracene	ND	0.21	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
3,3´-Dichlorobenzidine	ND	0.24	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Dimethyl phthalate	ND	0.22	0.38		mg/Kg	1	8/24/2023 5:28:43 PM	76962
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Fluoranthene	ND	0.20	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Fluorene	ND	0.19	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962

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Qualifiers:

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ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-19(13-14)
Project: AOC 26 27
Collection Date: 8/15/2023 11:00:00 AM
Lab ID: 2308975-017
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.088	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Isophorone	ND	0.17	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
2-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
N-Nitrosodimethylamine	ND	0.14	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Naphthalene	ND	0.14	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
4-Nitrophenol	ND	0.18	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Phenanthrene	ND	0.20	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Phenol	ND	0.23	0.29		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Pyrene	ND	0.21	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Pyridine	ND	0.18	0.96		mg/Kg	1	8/24/2023 5:28:43 PM	76962
1,2,4-Trichlorobenzene	ND	0.13	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
2,4,5-Trichlorophenol	ND	0.21	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	8/24/2023 5:28:43 PM	76962
Surr: 2-Fluorophenol	41.5		15-123		%Rec	1	8/24/2023 5:28:43 PM	76962
Surr: Phenol-d5	51.5		15-141		%Rec	1	8/24/2023 5:28:43 PM	76962
Surr: 2,4,6-Tribromophenol	43.9		23-118		%Rec	1	8/24/2023 5:28:43 PM	76962
Surr: Nitrobenzene-d5	39.3		15-125		%Rec	1	8/24/2023 5:28:43 PM	76962
Surr: 2-Fluorobiphenyl	48.4		15-129		%Rec	1	8/24/2023 5:28:43 PM	76962
Surr: 4-Terphenyl-d14	68.0		31.1-134		%Rec	1	8/24/2023 5:28:43 PM	76962
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0039	0.012		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Toluene	ND	0.0044	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Ethylbenzene	ND	0.0029	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Methyl tert-butyl ether (MTBE)	ND	0.014	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1,2,4-Trimethylbenzene	ND	0.0034	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1,3,5-Trimethylbenzene	ND	0.0055	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-19(13-14)
Project: AOC 26 27
Collection Date: 8/15/2023 11:00:00 AM
Lab ID: 2308975-017
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.0055	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1,2-Dibromoethane (EDB)	ND	0.0039	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Naphthalene	ND	0.0090	0.048		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1-Methylnaphthalene	ND	0.0072	0.097		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
2-Methylnaphthalene	ND	0.025	0.097		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Acetone	ND	0.36	0.36		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Bromobenzene	ND	0.0051	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Bromodichloromethane	ND	0.0052	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Bromoform	ND	0.0058	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Bromomethane	ND	0.079	0.097		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
2-Butanone	ND	0.14	0.24		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Carbon disulfide	ND	0.0059	0.24		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Carbon tetrachloride	ND	0.0068	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Chlorobenzene	ND	0.0024	0.048		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Chloroethane	ND	0.0034	0.048		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Chloroform	ND	0.0033	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Chloromethane	ND	0.024	0.073		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
2-Chlorotoluene	ND	0.0065	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
4-Chlorotoluene	ND	0.0051	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
cis-1,2-DCE	ND	0.012	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
cis-1,3-Dichloropropene	ND	0.0032	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1,2-Dibromo-3-chloropropane	ND	0.010	0.048		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Dibromochloromethane	ND	0.0032	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Dibromomethane	ND	0.0037	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1,2-Dichlorobenzene	ND	0.0050	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1,3-Dichlorobenzene	ND	0.0046	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1,4-Dichlorobenzene	ND	0.0065	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Dichlorodifluoromethane	ND	0.0097	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1,1-Dichloroethane	ND	0.0020	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1,1-Dichloroethene	ND	0.014	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1,2-Dichloropropane	ND	0.0042	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1,3-Dichloropropane	ND	0.0026	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
2,2-Dichloropropane	ND	0.0028	0.048		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1,1-Dichloropropene	ND	0.0026	0.048		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Hexachlorobutadiene	ND	0.048	0.048		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
2-Hexanone	ND	0.011	0.24		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Isopropylbenzene	ND	0.0045	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
4-Isopropyltoluene	ND	0.0024	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
4-Methyl-2-pentanone	ND	0.028	0.24		mg/Kg	1	8/22/2023 2:00:17 AM	B99117

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-19(13-14)
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Lab ID: 2308975-017
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Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.056	0.073		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
n-Butylbenzene	ND	0.0065	0.073		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
n-Propylbenzene	ND	0.0039	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
sec-Butylbenzene	ND	0.0063	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Styrene	ND	0.0030	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
tert-Butylbenzene	ND	0.0082	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1,1,1,2-Tetrachloroethane	ND	0.0036	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1,1,2,2-Tetrachloroethane	ND	0.0081	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Tetrachloroethene (PCE)	ND	0.0066	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
trans-1,2-DCE	ND	0.0087	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
trans-1,3-Dichloropropene	ND	0.0049	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1,2,3-Trichlorobenzene	ND	0.0037	0.048		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1,2,4-Trichlorobenzene	ND	0.0084	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1,1,1-Trichloroethane	ND	0.0081	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1,1,2-Trichloroethane	ND	0.0061	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Trichloroethene (TCE)	ND	0.0082	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Trichlorofluoromethane	ND	0.0055	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1,2,3-Trichloropropane	ND	0.0046	0.048		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Vinyl chloride	ND	0.013	0.024		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Xylenes, Total	ND	0.0082	0.048		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
1,4-Dioxane	ND	0.12	0.24		mg/Kg	1	8/22/2023 2:00:17 AM	B99117
Surr: Dibromofluoromethane	106	0	73-145		%Rec	1	8/22/2023 2:00:17 AM	B99117
Surr: 1,2-Dichloroethane-d4	86.1	0	64.8-147		%Rec	1	8/22/2023 2:00:17 AM	B99117
Surr: Toluene-d8	97.6	0	70-130		%Rec	1	8/22/2023 2:00:17 AM	B99117
Surr: 4-Bromofluorobenzene	95.3	0	62.1-144		%Rec	1	8/22/2023 2:00:17 AM	B99117

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Qualifiers:

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ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
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P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-18(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 11:15:00 AM
Lab ID: 2308975-018 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.057	0.091		µg/Kg	1	8/22/2023 7:45:53 PM	76927
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	9.8	8.3	9.6		mg/Kg	1	8/22/2023 4:13:56 PM	76950
Motor Oil Range Organics (MRO)	91	27	96	J	mg/Kg	1	8/22/2023 4:13:56 PM	76950
Surr: DNOP	109	0	69-147		%Rec	1	8/22/2023 4:13:56 PM	76950
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	0.61	2.4		mg/Kg	1	8/22/2023 5:50:40 AM	GS991
Surr: BFB	106	0	15-244		%Rec	1	8/22/2023 5:50:40 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	140	59	59		mg/Kg	20	8/23/2023 1:19:38 PM	77012
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.51		mg/Kg	5	8/30/2023 4:39:31 PM	77031
Arsenic	1.7	0.26	0.51		mg/Kg	5	9/6/2023 10:19:58 AM	77031
Lead	9.2	0.26	0.51		mg/Kg	5	8/30/2023 4:39:31 PM	77031
Nickel	8.6	0.36	0.51		mg/Kg	5	9/6/2023 10:19:58 AM	77031
Selenium	1.4	0.51	0.51		mg/Kg	5	9/6/2023 10:19:58 AM	77031
Silver	ND	0.26	0.51		mg/Kg	5	9/6/2023 10:19:58 AM	77031
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	0.087	0.079	0.079		mg/Kg	1	8/29/2023 2:43:04 PM	77142
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	710	0.26	0.51		mg/Kg	5	8/28/2023 6:19:39 PM	77031
Beryllium	0.49	0.10	0.20		mg/Kg	2	8/28/2023 6:17:39 PM	77031
Cadmium	ND	0.10	0.20		mg/Kg	2	8/28/2023 6:17:39 PM	77031
Chromium	8.2	0.31	0.41		mg/Kg	2	8/28/2023 6:17:39 PM	77031
Cobalt	2.6	0.10	0.20		mg/Kg	2	8/28/2023 6:17:39 PM	77031
Iron	7600	100	200		mg/Kg	100	8/29/2023 12:45:34 PM	77031
Manganese	440	0.20	0.20		mg/Kg	2	8/28/2023 6:17:39 PM	77031
Vanadium	15	0.10	0.20		mg/Kg	2	8/28/2023 6:17:39 PM	77031
Zinc	20	1.6	2.0		mg/Kg	2	8/28/2023 6:17:39 PM	77031
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.9	2.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Acenaphthylene	ND	1.9	2.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Aniline	ND	1.2	2.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Anthracene	ND	2.0	2.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Azobenzene	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Benz(a)anthracene	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-18(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 11:15:00 AM
Lab ID: 2308975-018 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Benzo(b)fluoranthene	ND	2.0	2.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Benzo(g,h,i)perylene	ND	2.2	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Benzo(k)fluoranthene	ND	2.0	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Benzoic acid	ND	2.0	5.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Benzyl alcohol	ND	1.8	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Bis(2-chloroethoxy)methane	ND	1.7	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Bis(2-chloroethyl)ether	ND	2.4	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Bis(2-chloroisopropyl)ether	ND	1.6	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Bis(2-ethylhexyl)phthalate	ND	3.1	5.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
4-Bromophenyl phenyl ether	ND	2.0	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Butyl benzyl phthalate	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Carbazole	ND	2.2	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
4-Chloro-3-methylphenol	ND	1.9	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
4-Chloroaniline	ND	1.4	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
2-Chloronaphthalene	ND	1.8	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
2-Chlorophenol	ND	1.4	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
4-Chlorophenyl phenyl ether	ND	2.0	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Chrysene	ND	2.2	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Di-n-butyl phthalate	ND	5.9	9.9	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Di-n-octyl phthalate	ND	2.1	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Dibenz(a,h)anthracene	ND	2.2	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Dibenzofuran	ND	1.9	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
1,2-Dichlorobenzene	ND	1.6	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
1,3-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
1,4-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
3,3´-Dichlorobenzidine	ND	2.5	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Diethyl phthalate	ND	18	30	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Dimethyl phthalate	ND	2.3	4.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
2,4-Dichlorophenol	ND	2.1	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
2,4-Dimethylphenol	ND	1.6	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
4,6-Dinitro-2-methylphenol	ND	2.2	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
2,4-Dinitrophenol	ND	2.3	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
2,4-Dinitrotoluene	ND	2.0	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
2,6-Dinitrotoluene	ND	2.2	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Fluoranthene	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Fluorene	ND	1.9	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Hexachlorobenzene	ND	1.7	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Hexachlorobutadiene	ND	1.5	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-18(0.5-1)
Project: AOC 26 27
Collection Date: 8/15/2023 11:15:00 AM
Lab ID: 2308975-018
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.91	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Hexachloroethane	ND	2.0	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Indeno(1,2,3-cd)pyrene	ND	2.2	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Isophorone	ND	1.7	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
1-Methylnaphthalene	ND	1.6	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
2-Methylnaphthalene	ND	1.7	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
2-Methylphenol	ND	1.5	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
3+4-Methylphenol	ND	1.7	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
N-Nitrosodi-n-propylamine	ND	1.9	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
N-Nitrosodimethylamine	ND	1.5	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
N-Nitrosodiphenylamine	ND	2.2	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Naphthalene	ND	1.5	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
2-Nitroaniline	ND	1.9	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
3-Nitroaniline	ND	1.4	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
4-Nitroaniline	ND	1.2	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Nitrobenzene	ND	1.6	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
2-Nitrophenol	ND	1.6	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
4-Nitrophenol	ND	1.9	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Pentachlorophenol	ND	2.4	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Phenanthrene	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Phenol	ND	2.4	3.0	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Pyrene	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Pyridine	ND	1.9	9.9	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
1,2,4-Trichlorobenzene	ND	1.4	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
2,4,5-Trichlorophenol	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
2,4,6-Trichlorophenol	ND	1.8	2.5	D	mg/Kg	10	9/13/2023 2:09:59 AM	77003
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/13/2023 2:09:59 AM	77003
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/13/2023 2:09:59 AM	77003
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/13/2023 2:09:59 AM	77003
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/13/2023 2:09:59 AM	77003
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/13/2023 2:09:59 AM	77003
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/13/2023 2:09:59 AM	77003
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0038	0.012		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Toluene	ND	0.0043	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Ethylbenzene	ND	0.0028	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Methyl tert-butyl ether (MTBE)	ND	0.013	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1,2,4-Trimethylbenzene	ND	0.0034	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1,3,5-Trimethylbenzene	ND	0.0055	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-18(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 11:15:00 AM
Lab ID: 2308975-018 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.0054	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1,2-Dibromoethane (EDB)	ND	0.0038	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Naphthalene	ND	0.0089	0.048		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1-Methylnaphthalene	ND	0.0071	0.096		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
2-Methylnaphthalene	ND	0.025	0.096		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Acetone	ND	0.36	0.36		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Bromobenzene	ND	0.0051	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Bromodichloromethane	ND	0.0051	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Bromoform	ND	0.0058	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Bromomethane	ND	0.078	0.096		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
2-Butanone	ND	0.13	0.24		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Carbon disulfide	ND	0.0058	0.24		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Carbon tetrachloride	ND	0.0067	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Chlorobenzene	ND	0.0024	0.048		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Chloroethane	ND	0.0033	0.048		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Chloroform	ND	0.0033	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Chloromethane	ND	0.024	0.072		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
2-Chlorotoluene	ND	0.0064	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
4-Chlorotoluene	ND	0.0050	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
cis-1,2-DCE	ND	0.012	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
cis-1,3-Dichloropropene	ND	0.0031	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1,2-Dibromo-3-chloropropane	ND	0.010	0.048		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Dibromochloromethane	ND	0.0031	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Dibromomethane	ND	0.0036	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1,2-Dichlorobenzene	ND	0.0050	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1,3-Dichlorobenzene	ND	0.0045	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1,4-Dichlorobenzene	ND	0.0064	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Dichlorodifluoromethane	ND	0.0095	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1,1-Dichloroethane	ND	0.0019	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1,1-Dichloroethene	ND	0.014	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1,2-Dichloropropane	ND	0.0041	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1,3-Dichloropropane	ND	0.0025	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
2,2-Dichloropropane	ND	0.0028	0.048		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1,1-Dichloropropene	ND	0.0025	0.048		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Hexachlorobutadiene	ND	0.048	0.048		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
2-Hexanone	ND	0.010	0.24		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Isopropylbenzene	ND	0.0044	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
4-Isopropyltoluene	ND	0.0024	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
4-Methyl-2-pentanone	ND	0.028	0.24		mg/Kg	1	8/22/2023 3:29:39 AM	B99117

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-18(0.5-1)
Project: AOC 26 27
Collection Date: 8/15/2023 11:15:00 AM
Lab ID: 2308975-018
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.056	0.072		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
n-Butylbenzene	ND	0.0064	0.072		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
n-Propylbenzene	ND	0.0039	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
sec-Butylbenzene	ND	0.0062	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Styrene	ND	0.0030	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
tert-Butylbenzene	ND	0.0080	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1,1,1,2-Tetrachloroethane	ND	0.0035	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1,1,2,2-Tetrachloroethane	ND	0.0080	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Tetrachloroethene (PCE)	ND	0.0065	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
trans-1,2-DCE	ND	0.0085	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
trans-1,3-Dichloropropene	ND	0.0048	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1,2,3-Trichlorobenzene	ND	0.0037	0.048		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1,2,4-Trichlorobenzene	ND	0.0083	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1,1,1-Trichloroethane	ND	0.0080	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1,1,2-Trichloroethane	ND	0.0060	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Trichloroethene (TCE)	ND	0.0081	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Trichlorofluoromethane	ND	0.0054	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1,2,3-Trichloropropane	ND	0.0046	0.048		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Vinyl chloride	ND	0.013	0.024		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Xylenes, Total	ND	0.0081	0.048		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
1,4-Dioxane	ND	0.12	0.24		mg/Kg	1	8/22/2023 3:29:39 AM	B99117
Surr: Dibromofluoromethane	99.5	0	73-145		%Rec	1	8/22/2023 3:29:39 AM	B99117
Surr: 1,2-Dichloroethane-d4	92.1	0	64.8-147		%Rec	1	8/22/2023 3:29:39 AM	B99117
Surr: Toluene-d8	102	0	70-130		%Rec	1	8/22/2023 3:29:39 AM	B99117
Surr: 4-Bromofluorobenzene	101	0	62.1-144		%Rec	1	8/22/2023 3:29:39 AM	B99117

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-18(10-11)
Project: AOC 26 27
Collection Date: 8/15/2023 11:20:00 AM
Lab ID: 2308975-019
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.059	0.094		µg/Kg	1	8/22/2023 8:00:51 PM	76927
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	8.3	9.7		mg/Kg	1	9/1/2023 8:01:29 PM	76950
Motor Oil Range Organics (MRO)	ND	27	48		mg/Kg	1	9/1/2023 8:01:29 PM	76950
Surr: DNOP	98.9	0	69-147		%Rec	1	9/1/2023 8:01:29 PM	76950
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	0.74	2.9		mg/Kg	1	8/22/2023 6:15:24 AM	GS991
Surr: BFB	106	0	15-244		%Rec	1	8/22/2023 6:15:24 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	60	60		mg/Kg	20	8/23/2023 1:32:02 PM	77012
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.48		mg/Kg	5	8/30/2023 4:43:56 PM	77031
Arsenic	0.67	0.24	0.48		mg/Kg	5	9/6/2023 10:28:47 AM	77031
Lead	7.6	0.24	0.48		mg/Kg	5	8/30/2023 4:43:56 PM	77031
Nickel	14	0.34	0.48		mg/Kg	5	9/6/2023 10:28:47 AM	77031
Selenium	2.3	0.48	0.48		mg/Kg	5	9/6/2023 10:28:47 AM	77031
Silver	ND	0.24	0.48		mg/Kg	5	9/6/2023 10:28:47 AM	77031
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.072	0.072		mg/Kg	1	8/29/2023 2:45:12 PM	77142
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	700	0.24	0.48		mg/Kg	5	8/28/2023 6:29:54 PM	77031
Beryllium	0.92	0.096	0.19		mg/Kg	2	8/28/2023 6:21:31 PM	77031
Cadmium	ND	0.096	0.19		mg/Kg	2	8/28/2023 6:21:31 PM	77031
Chromium	9.0	0.29	0.38		mg/Kg	2	8/28/2023 6:21:31 PM	77031
Cobalt	4.5	0.096	0.19		mg/Kg	2	8/28/2023 6:21:31 PM	77031
Iron	9900	96	190		mg/Kg	100	8/29/2023 12:48:08 PM	77031
Manganese	1400	0.96	0.96		mg/Kg	10	8/29/2023 12:46:47 PM	77031
Vanadium	11	0.096	0.19		mg/Kg	2	8/28/2023 6:21:31 PM	77031
Zinc	14	1.5	1.9		mg/Kg	2	8/28/2023 6:21:31 PM	77031
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.19	0.20		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Acenaphthylene	ND	0.19	0.20		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Aniline	ND	0.12	0.20		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Anthracene	ND	0.20	0.20		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Azobenzene	ND	0.21	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Benz(a)anthracene	ND	0.21	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003

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ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-18(10-11)
Project: AOC 26 27
Collection Date: 8/15/2023 11:20:00 AM
Lab ID: 2308975-019
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Benzo(b)fluoranthene	ND	0.20	0.20		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Benzo(g,h,i)perylene	ND	0.22	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Benzo(k)fluoranthene	ND	0.20	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Benzoic acid	ND	0.20	0.50		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Benzyl alcohol	ND	0.18	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Bis(2-chloroethoxy)methane	ND	0.17	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Bis(2-chloroethyl)ether	ND	0.24	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Bis(2-chloroisopropyl)ether	ND	0.17	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Bis(2-ethylhexyl)phthalate	ND	0.31	0.50		mg/Kg	1	8/24/2023 7:36:59 PM	77003
4-Bromophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Butyl benzyl phthalate	ND	0.21	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Carbazole	ND	0.22	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
4-Chloro-3-methylphenol	ND	0.19	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
4-Chloroaniline	ND	0.14	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
2-Chloronaphthalene	ND	0.18	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
2-Chlorophenol	ND	0.14	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
4-Chlorophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Chrysene	ND	0.22	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Di-n-butyl phthalate	ND	0.59	1.0		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Di-n-octyl phthalate	ND	0.21	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Dibenz(a,h)anthracene	ND	0.22	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Dibenzofuran	ND	0.20	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
1,2-Dichlorobenzene	ND	0.16	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
1,3-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
1,4-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
3,3´-Dichlorobenzidine	ND	0.25	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Diethyl phthalate	ND	1.8	3.0		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Dimethyl phthalate	ND	0.23	0.40		mg/Kg	1	8/24/2023 7:36:59 PM	77003
2,4-Dichlorophenol	ND	0.21	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
2,4-Dimethylphenol	ND	0.17	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
4,6-Dinitro-2-methylphenol	ND	0.22	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
2,4-Dinitrophenol	ND	0.23	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
2,4-Dinitrotoluene	ND	0.20	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
2,6-Dinitrotoluene	ND	0.22	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Fluoranthene	ND	0.21	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Fluorene	ND	0.19	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Hexachlorobenzene	ND	0.17	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Hexachlorobutadiene	ND	0.15	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-18(10-11)
Project: AOC 26 27
Collection Date: 8/15/2023 11:20:00 AM
Lab ID: 2308975-019
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.091	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Hexachloroethane	ND	0.20	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Indeno(1,2,3-cd)pyrene	ND	0.22	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Isophorone	ND	0.17	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
1-Methylnaphthalene	ND	0.16	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
2-Methylnaphthalene	ND	0.17	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
2-Methylphenol	ND	0.15	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
3+4-Methylphenol	ND	0.17	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
N-Nitrosodi-n-propylamine	ND	0.19	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
N-Nitrosodimethylamine	ND	0.15	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
N-Nitrosodiphenylamine	ND	0.22	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Naphthalene	ND	0.15	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
2-Nitroaniline	ND	0.19	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
3-Nitroaniline	ND	0.14	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
4-Nitroaniline	ND	0.12	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Nitrobenzene	ND	0.16	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
2-Nitrophenol	ND	0.16	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
4-Nitrophenol	ND	0.19	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Pentachlorophenol	ND	0.24	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Phenanthrene	ND	0.21	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Phenol	ND	0.24	0.30		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Pyrene	ND	0.21	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Pyridine	ND	0.19	1.0		mg/Kg	1	8/24/2023 7:36:59 PM	77003
1,2,4-Trichlorobenzene	ND	0.14	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
2,4,5-Trichlorophenol	ND	0.21	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
2,4,6-Trichlorophenol	ND	0.18	0.25		mg/Kg	1	8/24/2023 7:36:59 PM	77003
Surr: 2-Fluorophenol	39.0		15-123		%Rec	1	8/24/2023 7:36:59 PM	77003
Surr: Phenol-d5	44.5		15-141		%Rec	1	8/24/2023 7:36:59 PM	77003
Surr: 2,4,6-Tribromophenol	45.0		23-118		%Rec	1	8/24/2023 7:36:59 PM	77003
Surr: Nitrobenzene-d5	33.3		15-125		%Rec	1	8/24/2023 7:36:59 PM	77003
Surr: 2-Fluorobiphenyl	40.8		15-129		%Rec	1	8/24/2023 7:36:59 PM	77003
Surr: 4-Terphenyl-d14	53.1		31.1-134		%Rec	1	8/24/2023 7:36:59 PM	77003
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0047	0.015		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Toluene	ND	0.0053	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Ethylbenzene	ND	0.0035	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Methyl tert-butyl ether (MTBE)	ND	0.017	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1,2,4-Trimethylbenzene	ND	0.0041	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1,3,5-Trimethylbenzene	ND	0.0067	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-18(10-11)
Project: AOC 26 27
Collection Date: 8/15/2023 11:20:00 AM
Lab ID: 2308975-019
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.0067	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1,2-Dibromoethane (EDB)	ND	0.0047	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Naphthalene	ND	0.011	0.059		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1-Methylnaphthalene	ND	0.0087	0.12		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
2-Methylnaphthalene	ND	0.030	0.12		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Acetone	ND	0.44	0.44		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Bromobenzene	ND	0.0062	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Bromodichloromethane	ND	0.0063	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Bromoform	ND	0.0071	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Bromomethane	ND	0.096	0.12		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
2-Butanone	ND	0.16	0.29		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Carbon disulfide	ND	0.0071	0.29		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Carbon tetrachloride	ND	0.0083	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Chlorobenzene	ND	0.0029	0.059		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Chloroethane	ND	0.0041	0.059		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Chloroform	ND	0.0040	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Chloromethane	ND	0.029	0.088		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
2-Chlorotoluene	ND	0.0079	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
4-Chlorotoluene	ND	0.0061	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
cis-1,2-DCE	ND	0.015	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
cis-1,3-Dichloropropene	ND	0.0039	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1,2-Dibromo-3-chloropropane	ND	0.013	0.059		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Dibromochloromethane	ND	0.0039	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Dibromomethane	ND	0.0045	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1,2-Dichlorobenzene	ND	0.0061	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1,3-Dichlorobenzene	ND	0.0055	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1,4-Dichlorobenzene	ND	0.0078	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Dichlorodifluoromethane	ND	0.012	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1,1-Dichloroethane	ND	0.0024	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1,1-Dichloroethene	ND	0.017	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1,2-Dichloropropane	ND	0.0050	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1,3-Dichloropropane	ND	0.0031	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
2,2-Dichloropropane	ND	0.0034	0.059		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1,1-Dichloropropene	ND	0.0031	0.059		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Hexachlorobutadiene	ND	0.059	0.059		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
2-Hexanone	ND	0.013	0.29		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Isopropylbenzene	ND	0.0054	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
4-Isopropyltoluene	ND	0.0029	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
4-Methyl-2-pentanone	ND	0.034	0.29		mg/Kg	1	8/22/2023 3:59:42 AM	B99117

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-18(10-11)
Project: AOC 26 27
Collection Date: 8/15/2023 11:20:00 AM
Lab ID: 2308975-019
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.068	0.088		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
n-Butylbenzene	ND	0.0078	0.088		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
n-Propylbenzene	ND	0.0047	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
sec-Butylbenzene	ND	0.0076	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Styrene	ND	0.0037	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
tert-Butylbenzene	ND	0.0099	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1,1,1,2-Tetrachloroethane	ND	0.0043	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1,1,2,2-Tetrachloroethane	ND	0.0098	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Tetrachloroethene (PCE)	ND	0.0080	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
trans-1,2-DCE	ND	0.010	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
trans-1,3-Dichloropropene	ND	0.0059	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1,2,3-Trichlorobenzene	ND	0.0045	0.059		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1,2,4-Trichlorobenzene	ND	0.010	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1,1,1-Trichloroethane	ND	0.0098	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1,1,2-Trichloroethane	ND	0.0073	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Trichloroethene (TCE)	ND	0.010	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Trichlorofluoromethane	ND	0.0067	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1,2,3-Trichloropropane	ND	0.0056	0.059		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Vinyl chloride	ND	0.016	0.029		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Xylenes, Total	ND	0.0099	0.059		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
1,4-Dioxane	ND	0.15	0.29		mg/Kg	1	8/22/2023 3:59:42 AM	B99117
Surr: Dibromofluoromethane	111	0	73-145		%Rec	1	8/22/2023 3:59:42 AM	B99117
Surr: 1,2-Dichloroethane-d4	89.9	0	64.8-147		%Rec	1	8/22/2023 3:59:42 AM	B99117
Surr: Toluene-d8	96.5	0	70-130		%Rec	1	8/22/2023 3:59:42 AM	B99117
Surr: 4-Bromofluorobenzene	96.6	0	62.1-144		%Rec	1	8/22/2023 3:59:42 AM	B99117

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-18(18-19)
Project: AOC 26 27 **Collection Date:** 8/15/2023 11:30:00 AM
Lab ID: 2308975-020 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.061	0.099		µg/Kg	1	8/22/2023 8:15:54 PM	76927
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	8.5	9.9		mg/Kg	1	9/1/2023 8:25:27 PM	76950
Motor Oil Range Organics (MRO)	ND	27	49		mg/Kg	1	9/1/2023 8:25:27 PM	76950
Surr: DNOP	74.7	0	69-147		%Rec	1	9/1/2023 8:25:27 PM	76950
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	0.77	3.0		mg/Kg	1	8/22/2023 6:40:10 AM	GS991
Surr: BFB	106	0	15-244		%Rec	1	8/22/2023 6:40:10 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	60	60		mg/Kg	20	8/23/2023 1:44:27 PM	77012
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.25	0.51		mg/Kg	5	8/30/2023 4:48:23 PM	77031
Arsenic	0.90	0.25	0.51		mg/Kg	5	9/6/2023 10:46:29 AM	77031
Lead	9.2	0.25	0.51		mg/Kg	5	8/30/2023 4:48:23 PM	77031
Nickel	12	0.36	0.51		mg/Kg	5	8/30/2023 4:48:23 PM	77031
Selenium	2.0	0.51	0.51		mg/Kg	5	8/30/2023 4:48:23 PM	77031
Silver	ND	0.25	0.51		mg/Kg	5	9/6/2023 10:46:29 AM	77031
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.073	0.073		mg/Kg	1	8/29/2023 1:30:24 PM	77142
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	210	0.10	0.20		mg/Kg	2	8/28/2023 6:31:56 PM	77031
Beryllium	0.90	0.10	0.20		mg/Kg	2	8/28/2023 6:31:56 PM	77031
Cadmium	ND	0.10	0.20		mg/Kg	2	8/28/2023 6:31:56 PM	77031
Chromium	8.2	0.31	0.41		mg/Kg	2	8/28/2023 6:31:56 PM	77031
Cobalt	3.0	0.10	0.20		mg/Kg	2	8/28/2023 6:31:56 PM	77031
Iron	16000	100	200		mg/Kg	100	8/29/2023 12:49:27 PM	77031
Manganese	670	0.51	0.51		mg/Kg	5	8/28/2023 6:34:04 PM	77031
Vanadium	6.3	0.10	0.20		mg/Kg	2	8/28/2023 6:31:56 PM	77031
Zinc	11	1.6	2.0		mg/Kg	2	8/28/2023 6:31:56 PM	77031
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Aniline	ND	0.12	0.19		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Anthracene	ND	0.19	0.19		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Azobenzene	ND	0.20	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Benz(a)anthracene	ND	0.21	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
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E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-18(18-19)
Project: AOC 26 27
Collection Date: 8/15/2023 11:30:00 AM
Lab ID: 2308975-020
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Benzo(g,h,i)perylene	ND	0.22	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Benzoic acid	ND	0.19	0.49		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Benzyl alcohol	ND	0.18	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Bis(2-ethylhexyl)phthalate	ND	0.30	0.49		mg/Kg	1	8/28/2023 10:15:57 AM	77003
4-Bromophenyl phenyl ether	ND	0.20	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Butyl benzyl phthalate	ND	0.21	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Carbazole	ND	0.22	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Chrysene	ND	0.22	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Di-n-butyl phthalate	ND	0.58	0.97		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Dibenz(a,h)anthracene	ND	0.22	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
1,4-Dichlorobenzene	ND	0.18	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
3,3´-Dichlorobenzidine	ND	0.25	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Dimethyl phthalate	ND	0.22	0.39		mg/Kg	1	8/28/2023 10:15:57 AM	77003
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Fluoranthene	ND	0.20	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Fluorene	ND	0.19	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003

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Qualifiers:

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
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J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-18(18-19)
Project: AOC 26 27
Collection Date: 8/15/2023 11:30:00 AM
Lab ID: 2308975-020
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.089	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Isophorone	ND	0.17	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
2-Methylnaphthalene	ND	0.17	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
N-Nitrosodimethylamine	ND	0.15	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Naphthalene	ND	0.15	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
4-Nitrophenol	ND	0.19	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Phenanthrene	ND	0.20	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Phenol	ND	0.23	0.29		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Pyrene	ND	0.21	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Pyridine	ND	0.18	0.97		mg/Kg	1	8/28/2023 10:15:57 AM	77003
1,2,4-Trichlorobenzene	ND	0.14	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
2,4,5-Trichlorophenol	ND	0.21	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	8/28/2023 10:15:57 AM	77003
Surr: 2-Fluorophenol	29.5		15-123		%Rec	1	8/28/2023 10:15:57 AM	77003
Surr: Phenol-d5	36.4		15-141		%Rec	1	8/28/2023 10:15:57 AM	77003
Surr: 2,4,6-Tribromophenol	42.7		23-118		%Rec	1	8/28/2023 10:15:57 AM	77003
Surr: Nitrobenzene-d5	28.4		15-125		%Rec	1	8/28/2023 10:15:57 AM	77003
Surr: 2-Fluorobiphenyl	34.7		15-129		%Rec	1	8/28/2023 10:15:57 AM	77003
Surr: 4-Terphenyl-d14	68.0		31.1-134		%Rec	1	8/28/2023 10:15:57 AM	77003
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0049	0.015		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Toluene	ND	0.0055	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Ethylbenzene	ND	0.0036	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Methyl tert-butyl ether (MTBE)	ND	0.017	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1,2,4-Trimethylbenzene	ND	0.0043	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1,3,5-Trimethylbenzene	ND	0.0069	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-18(18-19)
Project: AOC 26 27
Collection Date: 8/15/2023 11:30:00 AM
Lab ID: 2308975-020
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.0069	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1,2-Dibromoethane (EDB)	ND	0.0049	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Naphthalene	ND	0.011	0.061		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1-Methylnaphthalene	ND	0.0090	0.12		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
2-Methylnaphthalene	ND	0.032	0.12		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Acetone	ND	0.46	0.46		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Bromobenzene	ND	0.0064	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Bromodichloromethane	ND	0.0065	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Bromoform	ND	0.0073	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Bromomethane	ND	0.099	0.12		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
2-Butanone	ND	0.17	0.30		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Carbon disulfide	ND	0.0074	0.30		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Carbon tetrachloride	ND	0.0086	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Chlorobenzene	ND	0.0030	0.061		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Chloroethane	ND	0.0042	0.061		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Chloroform	ND	0.0042	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Chloromethane	ND	0.030	0.091		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
2-Chlorotoluene	ND	0.0081	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
4-Chlorotoluene	ND	0.0064	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
cis-1,2-DCE	ND	0.015	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
cis-1,3-Dichloropropene	ND	0.0040	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1,2-Dibromo-3-chloropropane	ND	0.013	0.061		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Dibromochloromethane	ND	0.0040	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Dibromomethane	ND	0.0046	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1,2-Dichlorobenzene	ND	0.0063	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1,3-Dichlorobenzene	ND	0.0057	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1,4-Dichlorobenzene	ND	0.0081	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Dichlorodifluoromethane	ND	0.012	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1,1-Dichloroethane	ND	0.0025	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1,1-Dichloroethene	ND	0.017	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1,2-Dichloropropane	ND	0.0052	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1,3-Dichloropropane	ND	0.0032	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
2,2-Dichloropropane	ND	0.0036	0.061		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1,1-Dichloropropene	ND	0.0032	0.061		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Hexachlorobutadiene	ND	0.061	0.061		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
2-Hexanone	ND	0.013	0.30		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Isopropylbenzene	ND	0.0056	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
4-Isopropyltoluene	ND	0.0030	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
4-Methyl-2-pentanone	ND	0.035	0.30		mg/Kg	1	8/22/2023 4:29:53 AM	B99117

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
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Lab ID: 2308975-020
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.071	0.091		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
n-Butylbenzene	ND	0.0081	0.091		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
n-Propylbenzene	ND	0.0049	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
sec-Butylbenzene	ND	0.0079	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Styrene	ND	0.0038	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
tert-Butylbenzene	ND	0.010	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1,1,1,2-Tetrachloroethane	ND	0.0045	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1,1,2,2-Tetrachloroethane	ND	0.010	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Tetrachloroethene (PCE)	ND	0.0083	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
trans-1,2-DCE	ND	0.011	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
trans-1,3-Dichloropropene	ND	0.0062	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1,2,3-Trichlorobenzene	ND	0.0047	0.061		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1,2,4-Trichlorobenzene	ND	0.011	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1,1,1-Trichloroethane	ND	0.010	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1,1,2-Trichloroethane	ND	0.0076	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Trichloroethene (TCE)	ND	0.010	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Trichlorofluoromethane	ND	0.0069	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1,2,3-Trichloropropane	ND	0.0058	0.061		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Vinyl chloride	ND	0.017	0.030		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Xylenes, Total	ND	0.010	0.061		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
1,4-Dioxane	ND	0.15	0.30		mg/Kg	1	8/22/2023 4:29:53 AM	B99117
Surr: Dibromofluoromethane	107	0	73-145		%Rec	1	8/22/2023 4:29:53 AM	B99117
Surr: 1,2-Dichloroethane-d4	93.2	0	64.8-147		%Rec	1	8/22/2023 4:29:53 AM	B99117
Surr: Toluene-d8	93.3	0	70-130		%Rec	1	8/22/2023 4:29:53 AM	B99117
Surr: 4-Bromofluorobenzene	101	0	62.1-144		%Rec	1	8/22/2023 4:29:53 AM	B99117

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-01(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 1:50:00 PM
Lab ID: 2308975-021 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.052	0.085		µg/Kg	1	8/22/2023 8:30:50 PM	76928
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	4800	85	99		mg/Kg	10	8/22/2023 6:31:36 PM	76951
Motor Oil Range Organics (MRO)	330	270	500	JD	mg/Kg	10	8/22/2023 6:31:36 PM	76951
Surr: DNOP	0	0	69-147	S	%Rec	10	8/22/2023 6:31:36 PM	76951
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	61	13	52		mg/Kg	20	8/22/2023 10:43:27 PM	GS991
Surr: BFB	164	0	15-244		%Rec	20	8/22/2023 10:43:27 PM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	60	60		mg/Kg	20	8/23/2023 1:56:52 PM	77012
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.52		mg/Kg	5	8/30/2023 4:52:48 PM	77031
Arsenic	2.3	0.26	0.52		mg/Kg	5	9/6/2023 10:55:19 AM	77031
Lead	8.9	0.26	0.52		mg/Kg	5	9/6/2023 10:55:19 AM	77031
Nickel	5.2	0.37	0.52		mg/Kg	5	9/6/2023 10:55:19 AM	77031
Selenium	1.9	0.52	0.52		mg/Kg	5	9/7/2023 1:50:40 PM	77031
Silver	ND	0.26	0.52		mg/Kg	5	9/6/2023 10:55:19 AM	77031
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.074	0.074		mg/Kg	1	8/29/2023 1:41:03 PM	77143
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	780	0.26	0.52		mg/Kg	5	8/28/2023 6:37:51 PM	77031
Beryllium	0.49	0.10	0.21		mg/Kg	2	8/28/2023 6:35:57 PM	77031
Cadmium	ND	0.10	0.21		mg/Kg	2	8/28/2023 6:35:57 PM	77031
Chromium	3.0	0.31	0.42		mg/Kg	2	8/28/2023 6:35:57 PM	77031
Cobalt	2.4	0.10	0.21		mg/Kg	2	8/28/2023 6:35:57 PM	77031
Iron	6600	100	210		mg/Kg	100	8/29/2023 12:52:02 PM	77031
Manganese	2600	1.0	1.0		mg/Kg	10	8/29/2023 12:50:44 PM	77031
Vanadium	13	0.10	0.21		mg/Kg	2	8/28/2023 6:35:57 PM	77031
Zinc	7.5	1.7	2.1		mg/Kg	2	8/28/2023 6:35:57 PM	77031
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	1.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Acenaphthylene	ND	1.8	1.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Aniline	ND	1.2	1.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Anthracene	ND	1.9	1.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Azobenzene	ND	2.0	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Benz(a)anthracene	ND	2.0	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003

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Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Benzo(b)fluoranthene	ND	1.9	1.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Benzo(g,h,i)perylene	ND	2.2	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Benzo(k)fluoranthene	ND	2.0	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Benzoic acid	ND	1.9	4.8	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Benzyl alcohol	ND	1.7	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Bis(2-chloroethoxy)methane	ND	1.6	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Bis(2-chloroethyl)ether	ND	2.3	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Bis(2-chloroisopropyl)ether	ND	1.6	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Bis(2-ethylhexyl)phthalate	ND	3.0	4.8	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
4-Bromophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Butyl benzyl phthalate	ND	2.0	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Carbazole	ND	2.2	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
4-Chloro-3-methylphenol	ND	1.9	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
4-Chloroaniline	ND	1.4	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
2-Chloronaphthalene	ND	1.7	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
2-Chlorophenol	ND	1.3	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
4-Chlorophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Chrysene	ND	2.2	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Di-n-butyl phthalate	ND	5.7	9.6	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Di-n-octyl phthalate	ND	2.0	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Dibenz(a,h)anthracene	ND	2.1	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Dibenzofuran	ND	1.9	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
1,2-Dichlorobenzene	ND	1.6	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
1,3-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
1,4-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
3,3´-Dichlorobenzidine	ND	2.4	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Diethyl phthalate	ND	17	29	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Dimethyl phthalate	ND	2.2	3.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
2,4-Dichlorophenol	ND	2.0	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
2,4-Dimethylphenol	ND	1.6	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
4,6-Dinitro-2-methylphenol	ND	2.2	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
2,4-Dinitrophenol	ND	2.2	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
2,4-Dinitrotoluene	ND	1.9	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
2,6-Dinitrotoluene	ND	2.2	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Fluoranthene	ND	2.0	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Fluorene	ND	1.9	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Hexachlorobenzene	ND	1.7	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Hexachlorobutadiene	ND	1.4	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.88	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Hexachloroethane	ND	1.9	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Indeno(1,2,3-cd)pyrene	ND	2.1	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Isophorone	ND	1.7	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
1-Methylnaphthalene	5.1	1.6	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
2-Methylnaphthalene	7.0	1.6	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
2-Methylphenol	ND	1.4	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
3+4-Methylphenol	ND	1.6	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
N-Nitrosodi-n-propylamine	ND	1.9	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
N-Nitrosodimethylamine	ND	1.4	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
N-Nitrosodiphenylamine	ND	2.1	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Naphthalene	ND	1.4	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
2-Nitroaniline	ND	1.9	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
3-Nitroaniline	ND	1.4	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
4-Nitroaniline	ND	1.2	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Nitrobenzene	ND	1.5	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
2-Nitrophenol	ND	1.6	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
4-Nitrophenol	ND	1.8	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Pentachlorophenol	ND	2.4	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Phenanthrene	2.0	2.0	2.4	JD	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Phenol	ND	2.3	2.9	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Pyrene	ND	2.1	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Pyridine	ND	1.8	9.6	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
1,2,4-Trichlorobenzene	ND	1.3	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
2,4,5-Trichlorophenol	ND	2.1	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
2,4,6-Trichlorophenol	ND	1.8	2.4	D	mg/Kg	10	8/28/2023 10:57:16 AM	77003
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	8/28/2023 10:57:16 AM	77003
Surr: Phenol-d5	0		15-141	SD	%Rec	10	8/28/2023 10:57:16 AM	77003
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	8/28/2023 10:57:16 AM	77003
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	8/28/2023 10:57:16 AM	77003
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	8/28/2023 10:57:16 AM	77003
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	8/28/2023 10:57:16 AM	77003
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.084	0.21		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Toluene	ND	0.094	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Ethylbenzene	0.48	0.062	0.52	J	mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Methyl tert-butyl ether (MTBE)	ND	0.29	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1,2,4-Trimethylbenzene	2.4	0.074	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1,3,5-Trimethylbenzene	0.52	0.12	0.52	J	mg/Kg	20	8/22/2023 5:00:17 AM	B99117

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-01(0.5-1)
Project: AOC 26 27
Collection Date: 8/15/2023 1:50:00 PM
Lab ID: 2308975-021
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.12	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1,2-Dibromoethane (EDB)	ND	0.084	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Naphthalene	2.3	0.19	1.0		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1-Methylnaphthalene	9.3	0.15	2.1		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
2-Methylnaphthalene	12	0.54	2.1		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Acetone	ND	7.8	7.8		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Bromobenzene	ND	0.11	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Bromodichloromethane	ND	0.11	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Bromoform	ND	0.13	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Bromomethane	ND	1.7	2.1		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
2-Butanone	ND	2.9	5.2		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Carbon disulfide	ND	0.13	5.2		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Carbon tetrachloride	ND	0.15	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Chlorobenzene	ND	0.052	1.0		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Chloroethane	ND	0.072	1.0		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Chloroform	ND	0.072	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Chloromethane	ND	0.51	1.6		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
2-Chlorotoluene	ND	0.14	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
4-Chlorotoluene	ND	0.11	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
cis-1,2-DCE	ND	0.26	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
cis-1,3-Dichloropropene	ND	0.069	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1,2-Dibromo-3-chloropropane	ND	0.23	1.0		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Dibromochloromethane	ND	0.068	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Dibromomethane	ND	0.079	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1,2-Dichlorobenzene	ND	0.11	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1,3-Dichlorobenzene	ND	0.099	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1,4-Dichlorobenzene	ND	0.14	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Dichlorodifluoromethane	ND	0.21	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1,1-Dichloroethane	ND	0.042	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1,1-Dichloroethene	ND	0.30	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1,2-Dichloropropane	ND	0.089	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1,3-Dichloropropane	ND	0.056	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
2,2-Dichloropropane	ND	0.061	1.0		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1,1-Dichloropropene	ND	0.055	1.0		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Hexachlorobutadiene	ND	1.0	1.0		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
2-Hexanone	ND	0.23	5.2		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Isopropylbenzene	0.61	0.097	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
4-Isopropyltoluene	0.84	0.052	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
4-Methyl-2-pentanone	ND	0.61	5.2		mg/Kg	20	8/22/2023 5:00:17 AM	B99117

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-01(0.5-1)
Project: AOC 26 27
Collection Date: 8/15/2023 1:50:00 PM
Lab ID: 2308975-021
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	1.2	1.6		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
n-Butylbenzene	2.1	0.14	1.6		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
n-Propylbenzene	1.2	0.084	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
sec-Butylbenzene	1.5	0.14	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Styrene	ND	0.066	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
tert-Butylbenzene	ND	0.18	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1,1,1,2-Tetrachloroethane	ND	0.077	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1,1,2,2-Tetrachloroethane	ND	0.17	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Tetrachloroethene (PCE)	ND	0.14	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
trans-1,2-DCE	ND	0.19	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
trans-1,3-Dichloropropene	ND	0.11	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1,2,3-Trichlorobenzene	ND	0.081	1.0		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1,2,4-Trichlorobenzene	ND	0.18	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1,1,1-Trichloroethane	ND	0.17	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1,1,2-Trichloroethane	ND	0.13	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Trichloroethene (TCE)	ND	0.18	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Trichlorofluoromethane	ND	0.12	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1,2,3-Trichloropropane	ND	0.10	1.0		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Vinyl chloride	ND	0.28	0.52		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Xylenes, Total	0.21	0.18	1.0	J	mg/Kg	20	8/22/2023 5:00:17 AM	B99117
1,4-Dioxane	ND	2.6	5.2		mg/Kg	20	8/22/2023 5:00:17 AM	B99117
Surr: Dibromofluoromethane	105	0	73-145		%Rec	20	8/22/2023 5:00:17 AM	B99117
Surr: 1,2-Dichloroethane-d4	87.0	0	64.8-147		%Rec	20	8/22/2023 5:00:17 AM	B99117
Surr: Toluene-d8	98.7	0	70-130		%Rec	20	8/22/2023 5:00:17 AM	B99117
Surr: 4-Bromofluorobenzene	102	0	62.1-144		%Rec	20	8/22/2023 5:00:17 AM	B99117

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-01(15-16)
Project: AOC 26 27 **Collection Date:** 8/15/2023 2:00:00 PM
Lab ID: 2308975-022 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.056	0.090		µg/Kg	1	8/22/2023 9:31:00 PM	76928
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	230	8.0	9.3		mg/Kg	1	8/22/2023 8:23:03 PM	76951
Motor Oil Range Organics (MRO)	29	26	46	J	mg/Kg	1	8/22/2023 8:23:03 PM	76951
Surr: DNOP	105	0	69-147		%Rec	1	8/22/2023 8:23:03 PM	76951
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	5.4	1.5	5.8	J	mg/Kg	1	8/22/2023 11:06:55 PM	GS991
Surr: BFB	145	0	15-244		%Rec	1	8/22/2023 11:06:55 PM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	60	60		mg/Kg	20	8/23/2023 2:09:16 PM	77012
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.49		mg/Kg	5	8/30/2023 4:57:14 PM	77031
Arsenic	1.7	0.24	0.49		mg/Kg	5	9/6/2023 11:04:10 AM	77031
Lead	8.4	0.24	0.49		mg/Kg	5	8/30/2023 4:57:14 PM	77031
Nickel	6.0	0.34	0.49		mg/Kg	5	9/6/2023 11:04:10 AM	77031
Selenium	1.7	0.49	0.49		mg/Kg	5	9/7/2023 1:55:05 PM	77031
Silver	ND	0.24	0.49		mg/Kg	5	9/6/2023 11:04:10 AM	77031
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.068	0.068		mg/Kg	1	8/29/2023 2:47:21 PM	77143
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	860	0.24	0.49		mg/Kg	5	8/28/2023 6:41:44 PM	77031
Beryllium	0.57	0.098	0.20		mg/Kg	2	8/28/2023 6:39:44 PM	77031
Cadmium	ND	0.098	0.20		mg/Kg	2	8/28/2023 6:39:44 PM	77031
Chromium	3.7	0.29	0.39		mg/Kg	2	8/28/2023 6:39:44 PM	77031
Cobalt	2.9	0.098	0.20		mg/Kg	2	8/28/2023 6:39:44 PM	77031
Iron	6900	98	200		mg/Kg	100	8/29/2023 12:58:43 PM	77031
Manganese	700	0.49	0.49		mg/Kg	5	8/28/2023 6:41:44 PM	77031
Vanadium	11	0.098	0.20		mg/Kg	2	8/28/2023 6:39:44 PM	77031
Zinc	9.7	1.6	2.0		mg/Kg	2	8/28/2023 6:39:44 PM	77031
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.19	0.20		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Acenaphthylene	ND	0.19	0.20		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Aniline	ND	0.12	0.20		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Anthracene	ND	0.20	0.20		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Azobenzene	ND	0.21	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Benz(a)anthracene	ND	0.21	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
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B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-01(15-16)
Project: AOC 26 27
Collection Date: 8/15/2023 2:00:00 PM
Lab ID: 2308975-022
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Benzo(b)fluoranthene	ND	0.20	0.20		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Benzo(g,h,i)perylene	ND	0.22	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Benzo(k)fluoranthene	ND	0.20	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Benzoic acid	ND	0.20	0.50		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Benzyl alcohol	ND	0.18	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Bis(2-chloroethoxy)methane	ND	0.17	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Bis(2-chloroethyl)ether	ND	0.23	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Bis(2-chloroisopropyl)ether	ND	0.16	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Bis(2-ethylhexyl)phthalate	ND	0.31	0.50		mg/Kg	1	8/28/2023 11:38:36 AM	77003
4-Bromophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Butyl benzyl phthalate	ND	0.21	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Carbazole	ND	0.22	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
4-Chloro-3-methylphenol	ND	0.19	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
4-Chloroaniline	ND	0.14	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
2-Chloronaphthalene	ND	0.18	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
2-Chlorophenol	ND	0.14	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
4-Chlorophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Chrysene	ND	0.22	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Di-n-butyl phthalate	ND	0.59	0.99		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Di-n-octyl phthalate	ND	0.21	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Dibenz(a,h)anthracene	ND	0.22	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Dibenzofuran	ND	0.19	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
1,2-Dichlorobenzene	ND	0.16	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
1,3-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
1,4-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
3,3´-Dichlorobenzidine	ND	0.25	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Diethyl phthalate	ND	1.8	3.0		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Dimethyl phthalate	ND	0.23	0.40		mg/Kg	1	8/28/2023 11:38:36 AM	77003
2,4-Dichlorophenol	ND	0.20	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
2,4-Dimethylphenol	ND	0.16	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
4,6-Dinitro-2-methylphenol	ND	0.22	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
2,4-Dinitrophenol	ND	0.23	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
2,4-Dinitrotoluene	ND	0.20	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
2,6-Dinitrotoluene	ND	0.22	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Fluoranthene	ND	0.21	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Fluorene	ND	0.19	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Hexachlorobenzene	ND	0.17	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Hexachlorobutadiene	ND	0.15	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-01(15-16)
Project: AOC 26 27 **Collection Date:** 8/15/2023 2:00:00 PM
Lab ID: 2308975-022 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.091	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Hexachloroethane	ND	0.20	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Indeno(1,2,3-cd)pyrene	ND	0.22	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Isophorone	ND	0.17	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
1-Methylnaphthalene	ND	0.16	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
2-Methylnaphthalene	ND	0.17	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
2-Methylphenol	ND	0.15	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
3+4-Methylphenol	ND	0.17	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
N-Nitrosodi-n-propylamine	ND	0.19	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
N-Nitrosodimethylamine	ND	0.15	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
N-Nitrosodiphenylamine	ND	0.22	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Naphthalene	ND	0.15	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
2-Nitroaniline	ND	0.19	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
3-Nitroaniline	ND	0.14	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
4-Nitroaniline	ND	0.12	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Nitrobenzene	ND	0.16	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
2-Nitrophenol	ND	0.16	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
4-Nitrophenol	ND	0.19	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Pentachlorophenol	ND	0.24	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Phenanthrene	ND	0.21	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Phenol	ND	0.24	0.30		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Pyrene	ND	0.21	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Pyridine	ND	0.19	0.99		mg/Kg	1	8/28/2023 11:38:36 AM	77003
1,2,4-Trichlorobenzene	ND	0.14	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
2,4,5-Trichlorophenol	ND	0.21	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
2,4,6-Trichlorophenol	ND	0.18	0.25		mg/Kg	1	8/28/2023 11:38:36 AM	77003
Surr: 2-Fluorophenol	36.5		15-123		%Rec	1	8/28/2023 11:38:36 AM	77003
Surr: Phenol-d5	46.3		15-141		%Rec	1	8/28/2023 11:38:36 AM	77003
Surr: 2,4,6-Tribromophenol	47.9		23-118		%Rec	1	8/28/2023 11:38:36 AM	77003
Surr: Nitrobenzene-d5	38.8		15-125		%Rec	1	8/28/2023 11:38:36 AM	77003
Surr: 2-Fluorobiphenyl	43.7		15-129		%Rec	1	8/28/2023 11:38:36 AM	77003
Surr: 4-Terphenyl-d14	62.9		31.1-134		%Rec	1	8/28/2023 11:38:36 AM	77003
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0094	0.029		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Toluene	ND	0.011	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Ethylbenzene	ND	0.0070	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Methyl tert-butyl ether (MTBE)	ND	0.033	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1,2,4-Trimethylbenzene	0.052	0.0083	0.058	J	mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1,3,5-Trimethylbenzene	ND	0.013	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
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P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

CLIENT: Marathon
Client Sample ID: SB-01(15-16)
Project: AOC 26 27
Collection Date: 8/15/2023 2:00:00 PM
Lab ID: 2308975-022
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.013	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1,2-Dibromoethane (EDB)	ND	0.0094	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Naphthalene	ND	0.022	0.12		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1-Methylnaphthalene	ND	0.017	0.23		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
2-Methylnaphthalene	ND	0.061	0.23		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Acetone	ND	0.88	0.88		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Bromobenzene	ND	0.012	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Bromodichloromethane	ND	0.012	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Bromoform	ND	0.014	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Bromomethane	ND	0.19	0.23		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
2-Butanone	ND	0.33	0.58		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Carbon disulfide	ND	0.014	0.58		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Carbon tetrachloride	ND	0.017	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Chlorobenzene	ND	0.0058	0.12		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Chloroethane	ND	0.0081	0.12		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Chloroform	ND	0.0081	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Chloromethane	ND	0.058	0.18		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
2-Chlorotoluene	ND	0.016	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
4-Chlorotoluene	ND	0.012	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
cis-1,2-DCE	ND	0.029	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
cis-1,3-Dichloropropene	ND	0.0077	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1,2-Dibromo-3-chloropropane	ND	0.025	0.12		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Dibromochloromethane	ND	0.0077	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Dibromomethane	ND	0.0089	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1,2-Dichlorobenzene	ND	0.012	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1,3-Dichlorobenzene	ND	0.011	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1,4-Dichlorobenzene	ND	0.016	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Dichlorodifluoromethane	ND	0.023	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1,1-Dichloroethane	ND	0.0048	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1,1-Dichloroethene	ND	0.033	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1,2-Dichloropropane	ND	0.010	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1,3-Dichloropropane	ND	0.0062	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
2,2-Dichloropropane	ND	0.0068	0.12		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1,1-Dichloropropene	ND	0.0062	0.12		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Hexachlorobutadiene	ND	0.12	0.12		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
2-Hexanone	ND	0.026	0.58		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Isopropylbenzene	ND	0.011	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
4-Isopropyltoluene	0.034	0.0059	0.058	J	mg/Kg	1	8/22/2023 5:30:28 AM	B99117
4-Methyl-2-pentanone	ND	0.068	0.58		mg/Kg	1	8/22/2023 5:30:28 AM	B99117

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-01(15-16)
Project: AOC 26 27
Collection Date: 8/15/2023 2:00:00 PM
Lab ID: 2308975-022
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.14	0.18		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
n-Butylbenzene	0.082	0.016	0.18	J	mg/Kg	1	8/22/2023 5:30:28 AM	B99117
n-Propylbenzene	ND	0.0094	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
sec-Butylbenzene	0.085	0.015	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Styrene	ND	0.0074	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
tert-Butylbenzene	ND	0.020	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1,1,1,2-Tetrachloroethane	ND	0.0086	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1,1,2,2-Tetrachloroethane	ND	0.020	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Tetrachloroethene (PCE)	ND	0.016	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
trans-1,2-DCE	ND	0.021	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
trans-1,3-Dichloropropene	ND	0.012	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1,2,3-Trichlorobenzene	ND	0.0090	0.12		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1,2,4-Trichlorobenzene	ND	0.020	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1,1,1-Trichloroethane	ND	0.020	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1,1,2-Trichloroethane	ND	0.015	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Trichloroethene (TCE)	ND	0.020	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Trichlorofluoromethane	ND	0.013	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1,2,3-Trichloropropane	ND	0.011	0.12		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Vinyl chloride	ND	0.032	0.058		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Xylenes, Total	ND	0.020	0.12		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
1,4-Dioxane	ND	0.30	0.58		mg/Kg	1	8/22/2023 5:30:28 AM	B99117
Surr: Dibromofluoromethane	102	0	73-145		%Rec	1	8/22/2023 5:30:28 AM	B99117
Surr: 1,2-Dichloroethane-d4	91.1	0	64.8-147		%Rec	1	8/22/2023 5:30:28 AM	B99117
Surr: Toluene-d8	94.5	0	70-130		%Rec	1	8/22/2023 5:30:28 AM	B99117
Surr: 4-Bromofluorobenzene	88.2	0	62.1-144		%Rec	1	8/22/2023 5:30:28 AM	B99117

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-01(18.5-19.5)
Project: AOC 26 27
Collection Date: 8/15/2023 2:10:00 PM
Lab ID: 2308975-023
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.060	0.096		µg/Kg	1	8/22/2023 9:46:00 PM	76928
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	280	8.2	9.6		mg/Kg	1	8/22/2023 8:34:08 PM	76951
Motor Oil Range Organics (MRO)	30	27	48	J	mg/Kg	1	8/22/2023 8:34:08 PM	76951
Surr: DNOP	105	0	69-147		%Rec	1	8/22/2023 8:34:08 PM	76951
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	3.0	1.5	5.8	J	mg/Kg	1	8/22/2023 11:30:21 PM	GS9913
Surr: BFB	124	0	15-244		%Rec	1	8/22/2023 11:30:21 PM	GS9913
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	60	60		mg/Kg	20	8/23/2023 2:21:41 PM	77012
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.25	0.51		mg/Kg	5	8/30/2023 5:01:39 PM	77031
Arsenic	2.9	0.25	0.51		mg/Kg	5	9/6/2023 11:13:03 AM	77031
Lead	14	0.25	0.51		mg/Kg	5	8/30/2023 5:01:39 PM	77031
Nickel	11	0.36	0.51		mg/Kg	5	8/30/2023 5:01:39 PM	77031
Selenium	1.6	0.51	0.51		mg/Kg	5	8/30/2023 5:01:39 PM	77031
Silver	ND	0.25	0.51		mg/Kg	5	9/6/2023 11:13:03 AM	77031
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.069	0.069		mg/Kg	1	8/29/2023 2:55:56 PM	77143
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	310	0.10	0.20		mg/Kg	2	8/28/2023 6:43:39 PM	77031
Beryllium	1.3	0.10	0.20		mg/Kg	2	8/28/2023 6:43:39 PM	77031
Cadmium	ND	0.10	0.20		mg/Kg	2	8/28/2023 6:43:39 PM	77031
Chromium	5.4	0.31	0.41		mg/Kg	2	8/28/2023 6:43:39 PM	77031
Cobalt	7.5	0.10	0.20		mg/Kg	2	8/28/2023 6:43:39 PM	77031
Iron	12000	100	200		mg/Kg	100	8/29/2023 1:00:02 PM	77031
Manganese	700	0.51	0.51		mg/Kg	5	8/28/2023 6:45:46 PM	77031
Vanadium	15	0.10	0.20		mg/Kg	2	8/28/2023 6:43:39 PM	77031
Zinc	26	1.6	2.0		mg/Kg	2	8/28/2023 6:43:39 PM	77031
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Aniline	ND	0.12	0.19		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Anthracene	ND	0.19	0.19		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Azobenzene	ND	0.20	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Benz(a)anthracene	ND	0.21	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-01(18.5-19.5)
Project: AOC 26 27
Collection Date: 8/15/2023 2:10:00 PM
Lab ID: 2308975-023
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Benzo(g,h,i)perylene	ND	0.22	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Benzoic acid	ND	0.19	0.49		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Benzyl alcohol	ND	0.17	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Bis(2-ethylhexyl)phthalate	ND	0.30	0.49		mg/Kg	1	8/28/2023 12:20:09 PM	77003
4-Bromophenyl phenyl ether	ND	0.20	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Butyl benzyl phthalate	ND	0.21	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Carbazole	ND	0.22	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Chrysene	ND	0.22	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Di-n-butyl phthalate	ND	0.58	0.97		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Dibenz(a,h)anthracene	ND	0.22	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
3,3´-Dichlorobenzidine	ND	0.24	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Dimethyl phthalate	ND	0.22	0.39		mg/Kg	1	8/28/2023 12:20:09 PM	77003
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Fluoranthene	ND	0.20	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Fluorene	ND	0.19	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-01(18.5-19.5)
Project: AOC 26 27
Collection Date: 8/15/2023 2:10:00 PM
Lab ID: 2308975-023
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.089	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Isophorone	ND	0.17	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
2-Methylnaphthalene	ND	0.17	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
N-Nitrosodimethylamine	ND	0.14	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Naphthalene	ND	0.15	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
4-Nitrophenol	ND	0.18	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Phenanthrene	ND	0.20	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Phenol	ND	0.23	0.29		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Pyrene	ND	0.21	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Pyridine	ND	0.18	0.97		mg/Kg	1	8/28/2023 12:20:09 PM	77003
1,2,4-Trichlorobenzene	ND	0.14	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
2,4,5-Trichlorophenol	ND	0.21	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	8/28/2023 12:20:09 PM	77003
Surr: 2-Fluorophenol	39.5		15-123		%Rec	1	8/28/2023 12:20:09 PM	77003
Surr: Phenol-d5	51.0		15-141		%Rec	1	8/28/2023 12:20:09 PM	77003
Surr: 2,4,6-Tribromophenol	53.8		23-118		%Rec	1	8/28/2023 12:20:09 PM	77003
Surr: Nitrobenzene-d5	40.5		15-125		%Rec	1	8/28/2023 12:20:09 PM	77003
Surr: 2-Fluorobiphenyl	42.5		15-129		%Rec	1	8/28/2023 12:20:09 PM	77003
Surr: 4-Terphenyl-d14	71.5		31.1-134		%Rec	1	8/28/2023 12:20:09 PM	77003
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.046	0.14	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Toluene	ND	0.052	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Ethylbenzene	ND	0.034	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Methyl tert-butyl ether (MTBE)	ND	0.16	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1,2,4-Trimethylbenzene	ND	0.041	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1,3,5-Trimethylbenzene	ND	0.066	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-01(18.5-19.5)
Project: AOC 26 27
Collection Date: 8/15/2023 2:10:00 PM
Lab ID: 2308975-023
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.066	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1,2-Dibromoethane (EDB)	ND	0.046	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Naphthalene	ND	0.11	0.58	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1-Methylnaphthalene	ND	0.085	1.2	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
2-Methylnaphthalene	ND	0.30	1.2	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Acetone	ND	4.3	4.3	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Bromobenzene	ND	0.061	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Bromodichloromethane	ND	0.062	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Bromoform	ND	0.070	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Bromomethane	ND	0.94	1.2	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
2-Butanone	ND	1.6	2.9	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Carbon disulfide	ND	0.070	2.9	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Carbon tetrachloride	ND	0.081	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Chlorobenzene	ND	0.029	0.58	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Chloroethane	ND	0.040	0.58	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Chloroform	ND	0.040	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Chloromethane	ND	0.28	0.87	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
2-Chlorotoluene	ND	0.077	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
4-Chlorotoluene	ND	0.060	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
cis-1,2-DCE	ND	0.14	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
cis-1,3-Dichloropropene	ND	0.038	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1,2-Dibromo-3-chloropropane	ND	0.12	0.58	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Dibromochloromethane	ND	0.038	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Dibromomethane	ND	0.044	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1,2-Dichlorobenzene	ND	0.060	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1,3-Dichlorobenzene	ND	0.054	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1,4-Dichlorobenzene	ND	0.077	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Dichlorodifluoromethane	ND	0.11	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1,1-Dichloroethane	ND	0.023	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1,1-Dichloroethene	ND	0.16	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1,2-Dichloropropane	ND	0.049	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1,3-Dichloropropane	ND	0.031	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
2,2-Dichloropropane	ND	0.034	0.58	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1,1-Dichloropropene	ND	0.030	0.58	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Hexachlorobutadiene	ND	0.58	0.58	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
2-Hexanone	ND	0.13	2.9	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Isopropylbenzene	ND	0.053	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
4-Isopropyltoluene	ND	0.029	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
4-Methyl-2-pentanone	ND	0.34	2.9	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-01(18.5-19.5)
Project: AOC 26 27
Collection Date: 8/15/2023 2:10:00 PM
Lab ID: 2308975-023
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.67	0.87	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
n-Butylbenzene	ND	0.077	0.87	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
n-Propylbenzene	ND	0.047	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
sec-Butylbenzene	ND	0.075	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Styrene	ND	0.036	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
tert-Butylbenzene	ND	0.097	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1,1,1,2-Tetrachloroethane	ND	0.042	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1,1,2,2-Tetrachloroethane	ND	0.096	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Tetrachloroethene (PCE)	ND	0.079	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
trans-1,2-DCE	ND	0.10	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
trans-1,3-Dichloropropene	ND	0.058	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1,2,3-Trichlorobenzene	ND	0.045	0.58	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1,2,4-Trichlorobenzene	ND	0.10	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1,1,1-Trichloroethane	ND	0.097	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1,1,2-Trichloroethane	ND	0.072	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Trichloroethene (TCE)	ND	0.098	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Trichlorofluoromethane	ND	0.065	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1,2,3-Trichloropropane	ND	0.055	0.58	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Vinyl chloride	ND	0.16	0.29	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Xylenes, Total	ND	0.097	0.58	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
1,4-Dioxane	ND	1.5	2.9	D	mg/Kg	5	8/22/2023 6:00:38 AM	B99117
Surr: Dibromofluoromethane	99.1	0	73-145	D	%Rec	5	8/22/2023 6:00:38 AM	B99117
Surr: 1,2-Dichloroethane-d4	94.9	0	64.8-147	D	%Rec	5	8/22/2023 6:00:38 AM	B99117
Surr: Toluene-d8	92.3	0	70-130	D	%Rec	5	8/22/2023 6:00:38 AM	B99117
Surr: 4-Bromofluorobenzene	102	0	62.1-144	D	%Rec	5	8/22/2023 6:00:38 AM	B99117

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-06(11.5-12.5)
Project: AOC 26 27 **Collection Date:** 8/15/2023 1:25:00 PM
Lab ID: 2308975-024 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.058	0.094		µg/Kg	1	8/22/2023 10:00:59 PM	76928
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	5800	83	97		mg/Kg	10	8/22/2023 6:53:49 PM	76951
Motor Oil Range Organics (MRO)	310	270	490	JD	mg/Kg	10	8/22/2023 6:53:49 PM	76951
Surr: DNOP	0	0	69-147	S	%Rec	10	8/22/2023 6:53:49 PM	76951
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	13	0.61	2.4		mg/Kg	1	8/22/2023 11:53:42 PM	GS991
Surr: BFB	392	0	15-244	S	%Rec	1	8/22/2023 11:53:42 PM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	61	61		mg/Kg	20	8/23/2023 2:34:06 PM	77012
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.25	0.50		mg/Kg	5	8/30/2023 5:06:05 PM	77031
Arsenic	1.3	0.25	0.50		mg/Kg	5	9/6/2023 11:22:01 AM	77031
Lead	10	0.25	0.50		mg/Kg	5	8/30/2023 5:06:05 PM	77031
Nickel	9.4	0.35	0.50		mg/Kg	5	8/30/2023 5:06:05 PM	77031
Selenium	1.9	0.50	0.50		mg/Kg	5	8/30/2023 5:06:05 PM	77031
Silver	ND	0.25	0.50		mg/Kg	5	9/6/2023 11:22:01 AM	77031
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.072	0.072		mg/Kg	1	8/29/2023 2:59:42 PM	77143
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	550	0.25	0.50		mg/Kg	5	8/28/2023 6:56:27 PM	77031
Beryllium	0.95	0.10	0.20		mg/Kg	2	8/28/2023 6:47:39 PM	77031
Cadmium	ND	0.10	0.20		mg/Kg	2	8/28/2023 6:47:39 PM	77031
Chromium	8.2	0.30	0.40		mg/Kg	2	8/28/2023 6:47:39 PM	77031
Cobalt	4.3	0.10	0.20		mg/Kg	2	8/28/2023 6:47:39 PM	77031
Iron	13000	100	200		mg/Kg	100	8/29/2023 1:01:19 PM	77031
Manganese	400	0.20	0.20		mg/Kg	2	8/28/2023 6:47:39 PM	77031
Vanadium	16	0.10	0.20		mg/Kg	2	8/28/2023 6:47:39 PM	77031
Zinc	12	1.6	2.0		mg/Kg	2	8/28/2023 6:47:39 PM	77031
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.9	2.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Acenaphthylene	ND	1.9	2.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Aniline	ND	1.2	2.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Anthracene	ND	2.0	2.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Azobenzene	ND	2.1	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Benz(a)anthracene	ND	2.1	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-06(11.5-12.5)
Project: AOC 26 27
Collection Date: 8/15/2023 1:25:00 PM
Lab ID: 2308975-024
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Benzo(b)fluoranthene	ND	2.0	2.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Benzo(g,h,i)perylene	ND	2.2	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Benzo(k)fluoranthene	ND	2.0	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Benzoic acid	ND	2.0	5.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Benzyl alcohol	ND	1.8	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Bis(2-chloroethoxy)methane	ND	1.7	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Bis(2-chloroethyl)ether	ND	2.4	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Bis(2-chloroisopropyl)ether	ND	1.6	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Bis(2-ethylhexyl)phthalate	ND	3.1	5.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
4-Bromophenyl phenyl ether	ND	2.0	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Butyl benzyl phthalate	ND	2.1	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Carbazole	ND	2.2	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
4-Chloro-3-methylphenol	ND	1.9	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
4-Chloroaniline	ND	1.4	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
2-Chloronaphthalene	ND	1.8	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
2-Chlorophenol	ND	1.4	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
4-Chlorophenyl phenyl ether	ND	2.0	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Chrysene	ND	2.2	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Di-n-butyl phthalate	ND	5.9	9.9	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Di-n-octyl phthalate	ND	2.1	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Dibenz(a,h)anthracene	ND	2.2	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Dibenzofuran	ND	2.0	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
1,2-Dichlorobenzene	ND	1.6	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
1,3-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
1,4-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
3,3´-Dichlorobenzidine	ND	2.5	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Diethyl phthalate	ND	18	30	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Dimethyl phthalate	ND	2.3	4.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
2,4-Dichlorophenol	ND	2.1	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
2,4-Dimethylphenol	ND	1.6	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
4,6-Dinitro-2-methylphenol	ND	2.2	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
2,4-Dinitrophenol	ND	2.3	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
2,4-Dinitrotoluene	ND	2.0	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
2,6-Dinitrotoluene	ND	2.2	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Fluoranthene	ND	2.1	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Fluorene	ND	1.9	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Hexachlorobenzene	ND	1.7	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Hexachlorobutadiene	ND	1.5	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-06(11.5-12.5)
Project: AOC 26 27
Collection Date: 8/15/2023 1:25:00 PM
Lab ID: 2308975-024
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.91	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Hexachloroethane	ND	2.0	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Indeno(1,2,3-cd)pyrene	ND	2.2	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Isophorone	ND	1.7	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
1-Methylnaphthalene	9.0	1.6	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
2-Methylnaphthalene	13	1.7	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
2-Methylphenol	ND	1.5	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
3+4-Methylphenol	ND	1.7	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
N-Nitrosodi-n-propylamine	ND	1.9	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
N-Nitrosodimethylamine	ND	1.5	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
N-Nitrosodiphenylamine	ND	2.2	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Naphthalene	2.3	1.5	2.5	JD	mg/Kg	10	8/28/2023 1:01:44 PM	77003
2-Nitroaniline	ND	1.9	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
3-Nitroaniline	ND	1.4	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
4-Nitroaniline	ND	1.2	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Nitrobenzene	ND	1.6	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
2-Nitrophenol	ND	1.6	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
4-Nitrophenol	ND	1.9	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Pentachlorophenol	ND	2.4	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Phenanthrene	3.6	2.1	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Phenol	ND	2.4	3.0	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Pyrene	ND	2.1	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Pyridine	ND	1.9	9.9	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
1,2,4-Trichlorobenzene	ND	1.4	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
2,4,5-Trichlorophenol	ND	2.1	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
2,4,6-Trichlorophenol	ND	1.8	2.5	D	mg/Kg	10	8/28/2023 1:01:44 PM	77003
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	8/28/2023 1:01:44 PM	77003
Surr: Phenol-d5	0		15-141	SD	%Rec	10	8/28/2023 1:01:44 PM	77003
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	8/28/2023 1:01:44 PM	77003
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	8/28/2023 1:01:44 PM	77003
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	8/28/2023 1:01:44 PM	77003
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	8/28/2023 1:01:44 PM	77003
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	0.032	0.0038	0.012		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Toluene	ND	0.0043	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Ethylbenzene	0.46	0.0028	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Methyl tert-butyl ether (MTBE)	ND	0.013	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1,2,4-Trimethylbenzene	0.15	0.0034	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1,3,5-Trimethylbenzene	ND	0.0055	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-06(11.5-12.5)
Project: AOC 26 27
Collection Date: 8/15/2023 1:25:00 PM
Lab ID: 2308975-024
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.0054	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1,2-Dibromoethane (EDB)	ND	0.0038	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Naphthalene	0.77	0.0089	0.048		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1-Methylnaphthalene	2.8	0.071	0.96		mg/Kg	10	8/22/2023 10:36:29 AM	R99144
2-Methylnaphthalene	4.2	0.25	0.96		mg/Kg	10	8/22/2023 10:36:29 AM	R99144
Acetone	ND	0.36	0.36		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Bromobenzene	ND	0.0051	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Bromodichloromethane	ND	0.0051	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Bromoform	ND	0.0058	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Bromomethane	ND	0.078	0.096		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
2-Butanone	ND	0.13	0.24		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Carbon disulfide	ND	0.0058	0.24		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Carbon tetrachloride	ND	0.0067	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Chlorobenzene	ND	0.0024	0.048		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Chloroethane	ND	0.0033	0.048		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Chloroform	ND	0.0033	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Chloromethane	ND	0.024	0.072		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
2-Chlorotoluene	ND	0.0064	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
4-Chlorotoluene	ND	0.0050	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
cis-1,2-DCE	ND	0.012	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
cis-1,3-Dichloropropene	ND	0.0031	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1,2-Dibromo-3-chloropropane	ND	0.010	0.048		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Dibromochloromethane	ND	0.0031	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Dibromomethane	ND	0.0036	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1,2-Dichlorobenzene	ND	0.0050	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1,3-Dichlorobenzene	ND	0.0045	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1,4-Dichlorobenzene	ND	0.0064	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Dichlorodifluoromethane	ND	0.0095	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1,1-Dichloroethane	ND	0.0019	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1,1-Dichloroethene	ND	0.014	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1,2-Dichloropropane	ND	0.0041	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1,3-Dichloropropane	ND	0.0025	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
2,2-Dichloropropane	ND	0.0028	0.048		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1,1-Dichloropropene	ND	0.0025	0.048		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Hexachlorobutadiene	ND	0.048	0.048		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
2-Hexanone	ND	0.010	0.24		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Isopropylbenzene	0.32	0.0044	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
4-Isopropyltoluene	0.12	0.0024	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
4-Methyl-2-pentanone	ND	0.028	0.24		mg/Kg	1	8/22/2023 6:30:50 AM	B99117

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Qualifiers:

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-06(11.5-12.5)
Project: AOC 26 27
Collection Date: 8/15/2023 1:25:00 PM
Lab ID: 2308975-024
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.056	0.072		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
n-Butylbenzene	0.43	0.0064	0.072		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
n-Propylbenzene	0.51	0.0039	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
sec-Butylbenzene	0.49	0.0062	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Styrene	ND	0.0030	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
tert-Butylbenzene	ND	0.0080	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1,1,1,2-Tetrachloroethane	ND	0.0035	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1,1,2,2-Tetrachloroethane	ND	0.0080	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Tetrachloroethene (PCE)	ND	0.0065	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
trans-1,2-DCE	ND	0.0085	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
trans-1,3-Dichloropropene	ND	0.0048	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1,2,3-Trichlorobenzene	ND	0.0037	0.048		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1,2,4-Trichlorobenzene	ND	0.0083	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1,1,1-Trichloroethane	ND	0.0080	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1,1,2-Trichloroethane	ND	0.0060	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Trichloroethene (TCE)	ND	0.0081	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Trichlorofluoromethane	ND	0.0054	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1,2,3-Trichloropropane	ND	0.0046	0.048		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Vinyl chloride	ND	0.013	0.024		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Xylenes, Total	0.015	0.0081	0.048	J	mg/Kg	1	8/22/2023 6:30:50 AM	B99117
1,4-Dioxane	ND	0.12	0.24		mg/Kg	1	8/22/2023 6:30:50 AM	B99117
Surr: Dibromofluoromethane	102	0	73-145		%Rec	1	8/22/2023 6:30:50 AM	B99117
Surr: 1,2-Dichloroethane-d4	97.5	0	64.8-147		%Rec	1	8/22/2023 6:30:50 AM	B99117
Surr: Toluene-d8	99.1	0	70-130		%Rec	1	8/22/2023 6:30:50 AM	B99117
Surr: 4-Bromofluorobenzene	86.2	0	62.1-144		%Rec	1	8/22/2023 6:30:50 AM	B99117

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-06(10-15)
Project: AOC 26 27 **Collection Date:** 8/15/2023 1:30:00 PM
Lab ID: 2308975-025 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.061	0.098		µg/Kg	1	8/22/2023 10:16:05 PM	76928
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	4800	80	93		mg/Kg	10	8/22/2023 7:04:58 PM	76951
Motor Oil Range Organics (MRO)	300	260	470	JD	mg/Kg	10	8/22/2023 7:04:58 PM	76951
Surr: DNOP	0	0	69-147	S	%Rec	10	8/22/2023 7:04:58 PM	76951
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	130	3.7	14		mg/Kg	5	8/23/2023 12:17:03 AM	GS9913
Surr: BFB	430	0	15-244	S	%Rec	5	8/23/2023 12:17:03 AM	GS9913
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	150	60	60		mg/Kg	20	8/23/2023 3:11:20 PM	77012
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.51		mg/Kg	5	8/30/2023 5:10:32 PM	77031
Arsenic	1.5	0.26	0.51		mg/Kg	5	9/6/2023 11:48:33 AM	77031
Lead	7.6	0.26	0.51		mg/Kg	5	8/30/2023 5:10:32 PM	77031
Nickel	8.6	0.36	0.51		mg/Kg	5	8/30/2023 5:10:32 PM	77031
Selenium	1.7	0.51	0.51		mg/Kg	5	8/30/2023 5:10:32 PM	77031
Silver	ND	0.26	0.51		mg/Kg	5	9/6/2023 11:48:33 AM	77031
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.074	0.074		mg/Kg	1	8/29/2023 3:01:51 PM	77143
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	660	0.26	0.51		mg/Kg	5	8/28/2023 7:00:23 PM	77031
Beryllium	0.73	0.10	0.20		mg/Kg	2	8/28/2023 6:58:22 PM	77031
Cadmium	ND	0.10	0.20		mg/Kg	2	8/28/2023 6:58:22 PM	77031
Chromium	5.9	0.31	0.41		mg/Kg	2	8/28/2023 6:58:22 PM	77031
Cobalt	3.7	0.10	0.20		mg/Kg	2	8/28/2023 6:58:22 PM	77031
Iron	11000	100	200		mg/Kg	100	8/29/2023 1:02:36 PM	77031
Manganese	470	0.20	0.20		mg/Kg	2	8/28/2023 6:58:22 PM	77031
Vanadium	12	0.10	0.20		mg/Kg	2	8/28/2023 6:58:22 PM	77031
Zinc	11	1.6	2.0		mg/Kg	2	8/28/2023 6:58:22 PM	77031
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Aniline	ND	0.12	0.19		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Anthracene	ND	0.19	0.19		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Azobenzene	ND	0.20	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Benz(a)anthracene	ND	0.20	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003

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Qualifiers:

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
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B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-06(10-15)
Project: AOC 26 27 **Collection Date:** 8/15/2023 1:30:00 PM
Lab ID: 2308975-025 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Benzo(g,h,i)perylene	ND	0.21	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Benzoic acid	ND	0.19	0.48		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Benzyl alcohol	ND	0.17	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Bis(2-ethylhexyl)phthalate	ND	0.30	0.48		mg/Kg	1	8/28/2023 1:43:21 PM	77003
4-Bromophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Butyl benzyl phthalate	ND	0.20	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Carbazole	ND	0.22	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Chrysene	ND	0.22	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Di-n-butyl phthalate	ND	0.57	0.96		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Dibenz(a,h)anthracene	ND	0.21	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
3,3´-Dichlorobenzidine	ND	0.24	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Dimethyl phthalate	ND	0.22	0.38		mg/Kg	1	8/28/2023 1:43:21 PM	77003
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
2,6-Dinitrotoluene	ND	0.21	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Fluoranthene	ND	0.20	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Fluorene	1.3	0.19	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003

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PQL	Practical Quanitative Limit
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B	Analyte detected in the associated Method Blank
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P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-06(10-15)
Project: AOC 26 27
Collection Date: 8/15/2023 1:30:00 PM
Lab ID: 2308975-025
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.088	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Isophorone	ND	0.16	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
1-Methylnaphthalene	7.0	1.6	2.4	D	mg/Kg	10	9/6/2023 4:33:00 PM	77003
2-Methylnaphthalene	11	1.6	2.4	D	mg/Kg	10	9/6/2023 4:33:00 PM	77003
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
N-Nitrosodimethylamine	ND	0.14	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Naphthalene	1.8	0.14	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
4-Nitrophenol	ND	0.18	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Pentachlorophenol	ND	0.23	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Phenanthrene	2.3	0.20	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Phenol	ND	0.23	0.29		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Pyrene	0.32	0.21	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Pyridine	ND	0.18	0.96		mg/Kg	1	8/28/2023 1:43:21 PM	77003
1,2,4-Trichlorobenzene	ND	0.13	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
2,4,5-Trichlorophenol	ND	0.20	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	8/28/2023 1:43:21 PM	77003
Surr: 2-Fluorophenol	53.1		15-123		%Rec	1	8/28/2023 1:43:21 PM	77003
Surr: Phenol-d5	77.5		15-141		%Rec	1	8/28/2023 1:43:21 PM	77003
Surr: 2,4,6-Tribromophenol	77.1		23-118		%Rec	1	8/28/2023 1:43:21 PM	77003
Surr: Nitrobenzene-d5	0		15-125	S	%Rec	1	8/28/2023 1:43:21 PM	77003
Surr: 2-Fluorobiphenyl	84.3		15-129		%Rec	1	8/28/2023 1:43:21 PM	77003
Surr: 4-Terphenyl-d14	86.2		31.1-134		%Rec	1	8/28/2023 1:43:21 PM	77003
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.093	0.23		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Toluene	ND	0.10	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Ethylbenzene	0.95	0.069	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Methyl tert-butyl ether (MTBE)	ND	0.33	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1,2,4-Trimethylbenzene	14	0.082	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1,3,5-Trimethylbenzene	3.4	0.13	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144

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E	Above Quantitation Range/Estimated Value
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P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-06(10-15)
Project: AOC 26 27
Collection Date: 8/15/2023 1:30:00 PM
Lab ID: 2308975-025
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.13	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1,2-Dibromoethane (EDB)	ND	0.093	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Naphthalene	4.1	0.22	1.2		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1-Methylnaphthalene	14	0.17	2.3		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
2-Methylnaphthalene	21	0.60	2.3		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Acetone	ND	8.7	8.7		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Bromobenzene	ND	0.12	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Bromodichloromethane	ND	0.12	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Bromoform	ND	0.14	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Bromomethane	ND	1.9	2.3		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
2-Butanone	ND	3.2	5.8		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Carbon disulfide	ND	0.14	5.8		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Carbon tetrachloride	ND	0.16	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Chlorobenzene	ND	0.057	1.2		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Chloroethane	ND	0.080	1.2		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Chloroform	ND	0.080	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Chloromethane	ND	0.57	1.7		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
2-Chlorotoluene	ND	0.15	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
4-Chlorotoluene	ND	0.12	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
cis-1,2-DCE	ND	0.29	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
cis-1,3-Dichloropropene	ND	0.076	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1,2-Dibromo-3-chloropropane	ND	0.25	1.2		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Dibromochloromethane	ND	0.076	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Dibromomethane	ND	0.088	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1,2-Dichlorobenzene	ND	0.12	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1,3-Dichlorobenzene	ND	0.11	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1,4-Dichlorobenzene	ND	0.15	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Dichlorodifluoromethane	ND	0.23	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1,1-Dichloroethane	ND	0.047	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1,1-Dichloroethene	ND	0.33	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1,2-Dichloropropane	ND	0.099	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1,3-Dichloropropane	ND	0.062	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
2,2-Dichloropropane	ND	0.068	1.2		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1,1-Dichloropropene	ND	0.061	1.2		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Hexachlorobutadiene	ND	1.2	1.2		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
2-Hexanone	ND	0.25	5.8		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Isopropylbenzene	0.99	0.11	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
4-Isopropyltoluene	2.1	0.058	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
4-Methyl-2-pentanone	ND	0.67	5.8		mg/Kg	20	8/22/2023 11:05:08 AM	R99144

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-06(10-15)
Project: AOC 26 27
Collection Date: 8/15/2023 1:30:00 PM
Lab ID: 2308975-025
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	1.3	1.7		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
n-Butylbenzene	3.7	0.15	1.7		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
n-Propylbenzene	2.0	0.093	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
sec-Butylbenzene	2.0	0.15	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Styrene	ND	0.073	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
tert-Butylbenzene	ND	0.19	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1,1,1,2-Tetrachloroethane	ND	0.085	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1,1,2,2-Tetrachloroethane	ND	0.19	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Tetrachloroethene (PCE)	ND	0.16	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
trans-1,2-DCE	ND	0.21	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
trans-1,3-Dichloropropene	ND	0.12	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1,2,3-Trichlorobenzene	ND	0.089	1.2		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1,2,4-Trichlorobenzene	ND	0.20	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1,1,1-Trichloroethane	ND	0.19	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1,1,2-Trichloroethane	ND	0.14	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Trichloroethene (TCE)	ND	0.20	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Trichlorofluoromethane	ND	0.13	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1,2,3-Trichloropropane	ND	0.11	1.2		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Vinyl chloride	ND	0.32	0.58		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Xylenes, Total	1.6	0.20	1.2		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
1,4-Dioxane	ND	2.9	5.8		mg/Kg	20	8/22/2023 11:05:08 AM	R99144
Surr: Dibromofluoromethane	104	0	73-145		%Rec	20	8/22/2023 11:05:08 AM	R99144
Surr: 1,2-Dichloroethane-d4	91.8	0	64.8-147		%Rec	20	8/22/2023 11:05:08 AM	R99144
Surr: Toluene-d8	101	0	70-130		%Rec	20	8/22/2023 11:05:08 AM	R99144
Surr: 4-Bromofluorobenzene	101	0	62.1-144		%Rec	20	8/22/2023 11:05:08 AM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-06(17-18)
Project: AOC 26 27 **Collection Date:** 8/15/2023 1:40:00 PM
Lab ID: 2308975-026 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.059	0.095		µg/Kg	1	8/22/2023 10:31:03 PM	76928
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	8.2	9.6		mg/Kg	1	8/22/2023 6:28:18 AM	76951
Motor Oil Range Organics (MRO)	ND	26	48		mg/Kg	1	8/22/2023 6:28:18 AM	76951
Surr: DNOP	111	0	69-147		%Rec	1	8/22/2023 6:28:18 AM	76951
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	4.2	1.9	7.5	J	mg/Kg	1	8/23/2023 12:40:35 AM	GS9913
Surr: BFB	106	0	15-244		%Rec	1	8/23/2023 12:40:35 AM	GS9913
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	60	60		mg/Kg	20	8/23/2023 3:23:45 PM	77012
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.52		mg/Kg	5	8/30/2023 5:14:57 PM	77031
Arsenic	0.71	0.26	0.52		mg/Kg	5	9/6/2023 11:57:21 AM	77031
Lead	12	0.26	0.52		mg/Kg	5	8/30/2023 5:14:57 PM	77031
Nickel	15	0.36	0.52		mg/Kg	5	8/30/2023 5:14:57 PM	77031
Selenium	2.4	0.52	0.52		mg/Kg	5	8/30/2023 5:14:57 PM	77031
Silver	ND	0.26	0.52		mg/Kg	5	8/30/2023 5:14:57 PM	77031
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.075	0.075		mg/Kg	1	8/29/2023 3:04:00 PM	77143
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	110	0.10	0.21		mg/Kg	2	8/28/2023 7:02:16 PM	77031
Beryllium	1.0	0.10	0.21		mg/Kg	2	8/28/2023 7:02:16 PM	77031
Cadmium	ND	0.10	0.21		mg/Kg	2	8/28/2023 7:02:16 PM	77031
Chromium	8.3	0.31	0.41		mg/Kg	2	8/28/2023 7:02:16 PM	77031
Cobalt	6.7	0.10	0.21		mg/Kg	2	8/28/2023 7:02:16 PM	77031
Iron	13000	100	210		mg/Kg	100	8/29/2023 1:03:53 PM	77031
Manganese	200	0.21	0.21		mg/Kg	2	8/28/2023 7:02:16 PM	77031
Vanadium	13	0.10	0.21		mg/Kg	2	8/28/2023 7:02:16 PM	77031
Zinc	25	1.6	2.1		mg/Kg	2	8/28/2023 7:02:16 PM	77031
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.19	0.20		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Aniline	ND	0.12	0.20		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Anthracene	ND	0.19	0.20		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Azobenzene	ND	0.21	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Benz(a)anthracene	ND	0.21	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-06(17-18)
Project: AOC 26 27
Collection Date: 8/15/2023 1:40:00 PM
Lab ID: 2308975-026
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Benzo(b)fluoranthene	ND	0.20	0.20		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Benzo(g,h,i)perylene	ND	0.22	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Benzo(k)fluoranthene	ND	0.20	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Benzoic acid	ND	0.20	0.49		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Benzyl alcohol	ND	0.18	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Bis(2-chloroethoxy)methane	ND	0.17	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Bis(2-chloroethyl)ether	ND	0.23	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Bis(2-chloroisopropyl)ether	ND	0.16	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Bis(2-ethylhexyl)phthalate	ND	0.31	0.49		mg/Kg	1	8/28/2023 2:24:54 PM	77003
4-Bromophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Butyl benzyl phthalate	ND	0.21	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Carbazole	ND	0.22	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
4-Chloro-3-methylphenol	ND	0.19	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
4-Chloroaniline	ND	0.14	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
2-Chloronaphthalene	ND	0.17	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
2-Chlorophenol	ND	0.14	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
4-Chlorophenyl phenyl ether	ND	0.19	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Chrysene	ND	0.22	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Di-n-butyl phthalate	ND	0.59	0.99		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Di-n-octyl phthalate	ND	0.21	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Dibenz(a,h)anthracene	ND	0.22	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Dibenzofuran	ND	0.19	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
1,2-Dichlorobenzene	ND	0.16	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
1,3-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
1,4-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
3,3´-Dichlorobenzidine	ND	0.25	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Diethyl phthalate	ND	1.8	3.0		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Dimethyl phthalate	ND	0.23	0.39		mg/Kg	1	8/28/2023 2:24:54 PM	77003
2,4-Dichlorophenol	ND	0.20	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
2,4-Dimethylphenol	ND	0.16	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
4,6-Dinitro-2-methylphenol	ND	0.22	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
2,4-Dinitrophenol	ND	0.23	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
2,4-Dinitrotoluene	ND	0.20	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
2,6-Dinitrotoluene	ND	0.22	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Fluoranthene	ND	0.21	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Fluorene	ND	0.19	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Hexachlorobenzene	ND	0.17	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Hexachlorobutadiene	ND	0.15	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003

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P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-06(17-18)
Project: AOC 26 27 **Collection Date:** 8/15/2023 1:40:00 PM
Lab ID: 2308975-026 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.090	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Hexachloroethane	ND	0.20	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Indeno(1,2,3-cd)pyrene	ND	0.22	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Isophorone	ND	0.17	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
1-Methylnaphthalene	ND	0.16	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
2-Methylnaphthalene	ND	0.17	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
2-Methylphenol	ND	0.15	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
3+4-Methylphenol	ND	0.16	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
N-Nitrosodi-n-propylamine	ND	0.19	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
N-Nitrosodimethylamine	ND	0.15	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
N-Nitrosodiphenylamine	ND	0.22	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Naphthalene	ND	0.15	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
2-Nitroaniline	ND	0.19	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
3-Nitroaniline	ND	0.14	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
4-Nitroaniline	ND	0.12	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Nitrobenzene	ND	0.15	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
2-Nitrophenol	ND	0.16	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
4-Nitrophenol	ND	0.19	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Pentachlorophenol	ND	0.24	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Phenanthrene	ND	0.21	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Phenol	ND	0.24	0.30		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Pyrene	ND	0.21	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Pyridine	ND	0.19	0.99		mg/Kg	1	8/28/2023 2:24:54 PM	77003
1,2,4-Trichlorobenzene	ND	0.14	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
2,4,5-Trichlorophenol	ND	0.21	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
2,4,6-Trichlorophenol	ND	0.18	0.25		mg/Kg	1	8/28/2023 2:24:54 PM	77003
Surr: 2-Fluorophenol	38.3		15-123		%Rec	1	8/28/2023 2:24:54 PM	77003
Surr: Phenol-d5	46.9		15-141		%Rec	1	8/28/2023 2:24:54 PM	77003
Surr: 2,4,6-Tribromophenol	49.6		23-118		%Rec	1	8/28/2023 2:24:54 PM	77003
Surr: Nitrobenzene-d5	37.1		15-125		%Rec	1	8/28/2023 2:24:54 PM	77003
Surr: 2-Fluorobiphenyl	39.4		15-129		%Rec	1	8/28/2023 2:24:54 PM	77003
Surr: 4-Terphenyl-d14	59.8		31.1-134		%Rec	1	8/28/2023 2:24:54 PM	77003
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.012	0.038		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Toluene	ND	0.014	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Ethylbenzene	ND	0.0089	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Methyl tert-butyl ether (MTBE)	ND	0.042	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1,2,4-Trimethylbenzene	ND	0.011	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1,3,5-Trimethylbenzene	ND	0.017	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-06(17-18)
Project: AOC 26 27
Collection Date: 8/15/2023 1:40:00 PM
Lab ID: 2308975-026
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.017	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1,2-Dibromoethane (EDB)	ND	0.012	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Naphthalene	ND	0.028	0.15		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1-Methylnaphthalene	0.075	0.022	0.30	J	mg/Kg	1	8/22/2023 11:33:43 AM	R99144
2-Methylnaphthalene	0.11	0.078	0.30	J	mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Acetone	ND	1.1	1.1		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Bromobenzene	ND	0.016	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Bromodichloromethane	ND	0.016	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Bromoform	ND	0.018	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Bromomethane	ND	0.24	0.30		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
2-Butanone	ND	0.42	0.75		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Carbon disulfide	ND	0.018	0.75		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Carbon tetrachloride	ND	0.021	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Chlorobenzene	ND	0.0074	0.15		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Chloroethane	ND	0.010	0.15		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Chloroform	ND	0.010	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Chloromethane	ND	0.074	0.23		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
2-Chlorotoluene	ND	0.020	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
4-Chlorotoluene	ND	0.016	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
cis-1,2-DCE	ND	0.037	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
cis-1,3-Dichloropropene	ND	0.0099	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1,2-Dibromo-3-chloropropane	ND	0.032	0.15		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Dibromochloromethane	ND	0.0099	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Dibromomethane	ND	0.011	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1,2-Dichlorobenzene	ND	0.016	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1,3-Dichlorobenzene	ND	0.014	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1,4-Dichlorobenzene	ND	0.020	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Dichlorodifluoromethane	ND	0.030	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1,1-Dichloroethane	ND	0.0061	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1,1-Dichloroethene	ND	0.043	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1,2-Dichloropropane	ND	0.013	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1,3-Dichloropropane	ND	0.0080	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
2,2-Dichloropropane	ND	0.0088	0.15		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1,1-Dichloropropene	ND	0.0079	0.15		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Hexachlorobutadiene	ND	0.15	0.15		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
2-Hexanone	ND	0.033	0.75		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Isopropylbenzene	ND	0.014	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
4-Isopropyltoluene	ND	0.0075	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
4-Methyl-2-pentanone	ND	0.088	0.75		mg/Kg	1	8/22/2023 11:33:43 AM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-06(17-18)
Project: AOC 26 27
Collection Date: 8/15/2023 1:40:00 PM
Lab ID: 2308975-026
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.17	0.23		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
n-Butylbenzene	ND	0.020	0.23		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
n-Propylbenzene	ND	0.012	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
sec-Butylbenzene	ND	0.019	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Styrene	ND	0.0094	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
tert-Butylbenzene	ND	0.025	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1,1,1,2-Tetrachloroethane	ND	0.011	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1,1,2,2-Tetrachloroethane	ND	0.025	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Tetrachloroethene (PCE)	ND	0.021	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
trans-1,2-DCE	ND	0.027	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
trans-1,3-Dichloropropene	ND	0.015	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1,2,3-Trichlorobenzene	ND	0.012	0.15		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1,2,4-Trichlorobenzene	ND	0.026	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1,1,1-Trichloroethane	ND	0.025	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1,1,2-Trichloroethane	ND	0.019	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Trichloroethene (TCE)	ND	0.026	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Trichlorofluoromethane	ND	0.017	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1,2,3-Trichloropropane	ND	0.014	0.15		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Vinyl chloride	ND	0.041	0.075		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Xylenes, Total	ND	0.025	0.15		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
1,4-Dioxane	ND	0.38	0.75		mg/Kg	1	8/22/2023 11:33:43 AM	R99144
Surr: Dibromofluoromethane	107	0	73-145		%Rec	1	8/22/2023 11:33:43 AM	R99144
Surr: 1,2-Dichloroethane-d4	99.9	0	64.8-147		%Rec	1	8/22/2023 11:33:43 AM	R99144
Surr: Toluene-d8	95.7	0	70-130		%Rec	1	8/22/2023 11:33:43 AM	R99144
Surr: 4-Bromofluorobenzene	94.7	0	62.1-144		%Rec	1	8/22/2023 11:33:43 AM	R99144

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-07(5-10)
Project: AOC 26 27 **Collection Date:** 8/15/2023 3:50:00 PM
Lab ID: 2308975-027 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.058	0.093		µg/Kg	1	8/22/2023 10:46:04 PM	76928
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	1400	17	19		mg/Kg	2	8/22/2023 7:16:03 PM	76951
Motor Oil Range Organics (MRO)	62	54	97	JD	mg/Kg	2	8/22/2023 7:16:03 PM	76951
Surr: DNOP	102	0	69-147		%Rec	2	8/22/2023 7:16:03 PM	76951
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	12	0.88	3.5		mg/Kg	1	8/23/2023 1:03:54 AM	GS9913
Surr: BFB	279	0	15-244	S	%Rec	1	8/23/2023 1:03:54 AM	GS9913
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	210	60	60		mg/Kg	20	8/23/2023 3:36:09 PM	77012
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.49		mg/Kg	5	8/30/2023 5:32:44 PM	77031
Arsenic	2.2	0.24	0.49		mg/Kg	5	9/6/2023 12:01:46 PM	77031
Lead	6.9	0.24	0.49		mg/Kg	5	8/30/2023 5:32:44 PM	77031
Nickel	5.6	0.34	0.49		mg/Kg	5	9/6/2023 12:01:46 PM	77031
Selenium	1.6	0.49	0.49		mg/Kg	5	9/7/2023 1:59:30 PM	77031
Silver	ND	0.24	0.49		mg/Kg	5	9/6/2023 12:01:46 PM	77031
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.070	0.070		mg/Kg	1	8/29/2023 3:06:08 PM	77143
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	1100	0.24	0.49		mg/Kg	5	8/28/2023 7:07:46 PM	77031
Beryllium	0.44	0.097	0.19		mg/Kg	2	8/28/2023 7:05:58 PM	77031
Cadmium	ND	0.097	0.19		mg/Kg	2	8/28/2023 7:05:58 PM	77031
Chromium	3.2	0.29	0.39		mg/Kg	2	8/28/2023 7:05:58 PM	77031
Cobalt	2.5	0.097	0.19		mg/Kg	2	8/28/2023 7:05:58 PM	77031
Iron	6900	97	190		mg/Kg	100	8/29/2023 1:05:16 PM	77031
Manganese	1100	0.49	0.49		mg/Kg	5	8/28/2023 7:07:46 PM	77031
Vanadium	16	0.097	0.19		mg/Kg	2	8/28/2023 7:05:58 PM	77031
Zinc	10	1.6	1.9		mg/Kg	2	8/28/2023 7:05:58 PM	77031
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.9	2.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Acenaphthylene	ND	1.9	2.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Aniline	ND	1.2	2.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Anthracene	ND	2.0	2.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Azobenzene	ND	2.1	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Benz(a)anthracene	ND	2.1	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-07(5-10)
Project: AOC 26 27 **Collection Date:** 8/15/2023 3:50:00 PM
Lab ID: 2308975-027 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.2	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Benzo(b)fluoranthene	ND	2.0	2.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Benzo(g,h,i)perylene	ND	2.2	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Benzo(k)fluoranthene	ND	2.0	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Benzoic acid	ND	2.0	5.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Benzyl alcohol	ND	1.8	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Bis(2-chloroethoxy)methane	ND	1.7	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Bis(2-chloroethyl)ether	ND	2.4	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Bis(2-chloroisopropyl)ether	ND	1.7	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Bis(2-ethylhexyl)phthalate	ND	3.1	5.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
4-Bromophenyl phenyl ether	ND	2.0	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Butyl benzyl phthalate	ND	2.1	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Carbazole	ND	2.3	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
4-Chloro-3-methylphenol	ND	2.0	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
4-Chloroaniline	ND	1.4	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
2-Chloronaphthalene	ND	1.8	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
2-Chlorophenol	ND	1.4	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
4-Chlorophenyl phenyl ether	ND	2.0	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Chrysene	ND	2.2	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Di-n-butyl phthalate	ND	6.0	10	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Di-n-octyl phthalate	ND	2.1	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Dibenz(a,h)anthracene	ND	2.2	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Dibenzofuran	ND	2.0	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
1,2-Dichlorobenzene	ND	1.6	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
1,3-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
1,4-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
3,3´-Dichlorobenzidine	ND	2.5	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Diethyl phthalate	ND	18	30	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Dimethyl phthalate	ND	2.3	4.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
2,4-Dichlorophenol	ND	2.1	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
2,4-Dimethylphenol	ND	1.7	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
4,6-Dinitro-2-methylphenol	ND	2.2	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
2,4-Dinitrophenol	ND	2.3	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
2,4-Dinitrotoluene	ND	2.0	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
2,6-Dinitrotoluene	ND	2.2	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Fluoranthene	ND	2.1	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Fluorene	ND	1.9	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Hexachlorobenzene	ND	1.7	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Hexachlorobutadiene	ND	1.5	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-07(5-10)
Project: AOC 26 27
Collection Date: 8/15/2023 3:50:00 PM
Lab ID: 2308975-027
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.92	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Hexachloroethane	ND	2.0	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Indeno(1,2,3-cd)pyrene	ND	2.2	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Isophorone	ND	1.7	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
1-Methylnaphthalene	ND	1.6	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
2-Methylnaphthalene	1.8	1.7	2.5	JD	mg/Kg	10	8/28/2023 3:06:46 PM	77003
2-Methylphenol	ND	1.5	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
3+4-Methylphenol	ND	1.7	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
N-Nitrosodi-n-propylamine	ND	1.9	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
N-Nitrosodimethylamine	ND	1.5	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
N-Nitrosodiphenylamine	ND	2.2	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Naphthalene	ND	1.5	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
2-Nitroaniline	ND	1.9	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
3-Nitroaniline	ND	1.4	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
4-Nitroaniline	ND	1.2	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Nitrobenzene	ND	1.6	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
2-Nitrophenol	ND	1.6	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
4-Nitrophenol	ND	1.9	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Pentachlorophenol	ND	2.4	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Phenanthrene	ND	2.1	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Phenol	ND	2.4	3.0	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Pyrene	ND	2.1	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Pyridine	ND	1.9	10	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
1,2,4-Trichlorobenzene	ND	1.4	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
2,4,5-Trichlorophenol	ND	2.1	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
2,4,6-Trichlorophenol	ND	1.8	2.5	D	mg/Kg	10	8/28/2023 3:06:46 PM	77003
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	8/28/2023 3:06:46 PM	77003
Surr: Phenol-d5	0		15-141	SD	%Rec	10	8/28/2023 3:06:46 PM	77003
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	8/28/2023 3:06:46 PM	77003
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	8/28/2023 3:06:46 PM	77003
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	8/28/2023 3:06:46 PM	77003
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	8/28/2023 3:06:46 PM	77003
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0056	0.017		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Toluene	ND	0.0063	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Ethylbenzene	0.022	0.0041	0.035	J	mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Methyl tert-butyl ether (MTBE)	ND	0.020	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1,2,4-Trimethylbenzene	0.77	0.0049	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1,3,5-Trimethylbenzene	0.17	0.0079	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-07(5-10)
Project: AOC 26 27
Collection Date: 8/15/2023 3:50:00 PM
Lab ID: 2308975-027
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.0079	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1,2-Dibromoethane (EDB)	ND	0.0056	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Naphthalene	ND	0.013	0.069		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1-Methylnaphthalene	2.0	0.010	0.14		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
2-Methylnaphthalene	3.2	0.036	0.14		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Acetone	ND	0.52	0.52		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Bromobenzene	ND	0.0074	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Bromodichloromethane	ND	0.0074	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Bromoform	ND	0.0084	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Bromomethane	ND	0.11	0.14		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
2-Butanone	ND	0.19	0.35		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Carbon disulfide	ND	0.0085	0.35		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Carbon tetrachloride	ND	0.0098	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Chlorobenzene	ND	0.0034	0.069		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Chloroethane	ND	0.0048	0.069		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Chloroform	ND	0.0048	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Chloromethane	ND	0.034	0.10		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
2-Chlorotoluene	ND	0.0093	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
4-Chlorotoluene	ND	0.0073	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
cis-1,2-DCE	ND	0.017	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
cis-1,3-Dichloropropene	ND	0.0046	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1,2-Dibromo-3-chloropropane	ND	0.015	0.069		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Dibromochloromethane	ND	0.0046	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Dibromomethane	ND	0.0053	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1,2-Dichlorobenzene	ND	0.0072	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1,3-Dichlorobenzene	ND	0.0066	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1,4-Dichlorobenzene	ND	0.0093	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Dichlorodifluoromethane	ND	0.014	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1,1-Dichloroethane	ND	0.0028	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1,1-Dichloroethene	ND	0.020	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1,2-Dichloropropane	ND	0.0060	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1,3-Dichloropropane	ND	0.0037	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
2,2-Dichloropropane	ND	0.0041	0.069		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1,1-Dichloropropene	ND	0.0037	0.069		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Hexachlorobutadiene	ND	0.069	0.069		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
2-Hexanone	ND	0.015	0.35		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Isopropylbenzene	0.044	0.0064	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
4-Isopropyltoluene	0.17	0.0035	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
4-Methyl-2-pentanone	ND	0.041	0.35		mg/Kg	1	8/22/2023 12:59:26 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-07(5-10)
Project: AOC 26 27
Collection Date: 8/15/2023 3:50:00 PM
Lab ID: 2308975-027
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.081	0.10		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
n-Butylbenzene	0.36	0.0093	0.10		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
n-Propylbenzene	0.077	0.0056	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
sec-Butylbenzene	0.16	0.0090	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Styrene	ND	0.0044	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
tert-Butylbenzene	ND	0.012	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1,1,1,2-Tetrachloroethane	ND	0.0051	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1,1,2,2-Tetrachloroethane	ND	0.012	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Tetrachloroethene (PCE)	ND	0.0095	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
trans-1,2-DCE	ND	0.012	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
trans-1,3-Dichloropropene	ND	0.0070	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1,2,3-Trichlorobenzene	ND	0.0054	0.069		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1,2,4-Trichlorobenzene	ND	0.012	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1,1,1-Trichloroethane	ND	0.012	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1,1,2-Trichloroethane	ND	0.0087	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Trichloroethene (TCE)	ND	0.012	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Trichlorofluoromethane	ND	0.0079	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1,2,3-Trichloropropane	ND	0.0066	0.069		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Vinyl chloride	ND	0.019	0.035		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Xylenes, Total	0.035	0.012	0.069	J	mg/Kg	1	8/22/2023 12:59:26 PM	R99144
1,4-Dioxane	ND	0.18	0.35		mg/Kg	1	8/22/2023 12:59:26 PM	R99144
Surr: Dibromofluoromethane	100	0	73-145		%Rec	1	8/22/2023 12:59:26 PM	R99144
Surr: 1,2-Dichloroethane-d4	97.0	0	64.8-147		%Rec	1	8/22/2023 12:59:26 PM	R99144
Surr: Toluene-d8	98.8	0	70-130		%Rec	1	8/22/2023 12:59:26 PM	R99144
Surr: 4-Bromofluorobenzene	88.0	0	62.1-144		%Rec	1	8/22/2023 12:59:26 PM	R99144

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-07(11-12)
Project: AOC 26 27 **Collection Date:** 8/15/2023 3:52:00 PM
Lab ID: 2308975-028 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.061	0.099		µg/Kg	1	8/22/2023 11:01:01 PM	76928
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	330	8.4	9.8		mg/Kg	1	8/22/2023 7:25:09 AM	76951
Motor Oil Range Organics (MRO)	ND	27	49		mg/Kg	1	8/22/2023 7:25:09 AM	76951
Surr: DNOP	112	0	69-147		%Rec	1	8/22/2023 7:25:09 AM	76951
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	6.1	1.6	6.3	J	mg/Kg	1	8/23/2023 1:27:24 AM	GS9913
Surr: BFB	119	0	15-244		%Rec	1	8/23/2023 1:27:24 AM	GS9913
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	59	59		mg/Kg	20	8/23/2023 3:48:33 PM	77012
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.49	0.98		mg/Kg	10	9/6/2023 12:10:34 PM	77031
Arsenic	2.9	0.49	0.98		mg/Kg	10	9/6/2023 12:10:34 PM	77031
Lead	11	0.49	0.98		mg/Kg	10	9/6/2023 12:10:34 PM	77031
Nickel	7.8	0.69	0.98		mg/Kg	10	9/6/2023 12:10:34 PM	77031
Selenium	2.1	0.98	0.98		mg/Kg	10	9/7/2023 2:03:56 PM	77031
Silver	ND	0.49	0.98		mg/Kg	10	9/6/2023 12:10:34 PM	77031
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	0.15	0.071	0.071		mg/Kg	1	8/29/2023 3:08:15 PM	77143
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	300	0.098	0.20		mg/Kg	2	8/28/2023 7:09:41 PM	77031
Beryllium	0.51	0.098	0.20		mg/Kg	2	8/28/2023 7:09:41 PM	77031
Cadmium	ND	0.098	0.20		mg/Kg	2	8/28/2023 7:09:41 PM	77031
Chromium	4.0	0.29	0.39		mg/Kg	2	8/28/2023 7:09:41 PM	77031
Cobalt	6.9	0.098	0.20		mg/Kg	2	8/28/2023 7:09:41 PM	77031
Iron	6500	98	200		mg/Kg	100	8/29/2023 1:07:54 PM	77031
Manganese	2300	0.98	0.98		mg/Kg	10	8/29/2023 1:06:36 PM	77031
Vanadium	10	0.098	0.20		mg/Kg	2	8/28/2023 7:09:41 PM	77031
Zinc	14	1.6	2.0		mg/Kg	2	8/28/2023 7:09:41 PM	77031
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Aniline	ND	0.12	0.19		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Anthracene	ND	0.18	0.19		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Azobenzene	ND	0.20	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Benz(a)anthracene	ND	0.20	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-07(11-12)
Project: AOC 26 27
Collection Date: 8/15/2023 3:52:00 PM
Lab ID: 2308975-028
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.20	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Benzo(g,h,i)perylene	ND	0.21	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Benzo(k)fluoranthene	ND	0.19	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Benzoic acid	ND	0.19	0.47		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Benzyl alcohol	ND	0.17	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Bis(2-chloroethoxy)methane	ND	0.16	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Bis(2-chloroethyl)ether	ND	0.22	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Bis(2-chloroisopropyl)ether	ND	0.16	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Bis(2-ethylhexyl)phthalate	ND	0.29	0.47		mg/Kg	1	8/28/2023 3:48:28 PM	77003
4-Bromophenyl phenyl ether	ND	0.19	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Butyl benzyl phthalate	ND	0.20	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Carbazole	ND	0.21	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
4-Chloro-3-methylphenol	ND	0.18	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
4-Chloroaniline	ND	0.13	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
2-Chloronaphthalene	ND	0.17	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
2-Chlorophenol	ND	0.13	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
4-Chlorophenyl phenyl ether	ND	0.18	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Chrysene	ND	0.21	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Di-n-butyl phthalate	ND	0.56	0.94		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Di-n-octyl phthalate	ND	0.20	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Dibenz(a,h)anthracene	ND	0.21	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Dibenzofuran	ND	0.18	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
1,2-Dichlorobenzene	ND	0.15	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
1,3-Dichlorobenzene	ND	0.17	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
1,4-Dichlorobenzene	ND	0.17	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
3,3´-Dichlorobenzidine	ND	0.24	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Diethyl phthalate	ND	1.7	2.8		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Dimethyl phthalate	ND	0.22	0.38		mg/Kg	1	8/28/2023 3:48:28 PM	77003
2,4-Dichlorophenol	ND	0.19	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
2,4-Dimethylphenol	ND	0.16	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
4,6-Dinitro-2-methylphenol	ND	0.21	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
2,4-Dinitrophenol	ND	0.22	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
2,4-Dinitrotoluene	ND	0.19	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
2,6-Dinitrotoluene	ND	0.21	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Fluoranthene	ND	0.20	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Fluorene	ND	0.18	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Hexachlorobenzene	ND	0.16	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Hexachlorobutadiene	ND	0.14	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-07(11-12)
Project: AOC 26 27 **Collection Date:** 8/15/2023 3:52:00 PM
Lab ID: 2308975-028 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.086	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Hexachloroethane	ND	0.19	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Indeno(1,2,3-cd)pyrene	ND	0.20	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Isophorone	ND	0.16	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
1-Methylnaphthalene	ND	0.15	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
2-Methylnaphthalene	ND	0.16	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
2-Methylphenol	ND	0.14	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
3+4-Methylphenol	ND	0.16	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
N-Nitrosodi-n-propylamine	ND	0.18	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
N-Nitrosodimethylamine	ND	0.14	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
N-Nitrosodiphenylamine	ND	0.21	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Naphthalene	ND	0.14	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
2-Nitroaniline	ND	0.18	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
3-Nitroaniline	ND	0.14	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
4-Nitroaniline	ND	0.12	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Nitrobenzene	ND	0.15	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
2-Nitrophenol	ND	0.15	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
4-Nitrophenol	ND	0.18	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Pentachlorophenol	ND	0.23	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Phenanthrene	ND	0.20	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Phenol	ND	0.22	0.28		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Pyrene	ND	0.20	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Pyridine	ND	0.18	0.94		mg/Kg	1	8/28/2023 3:48:28 PM	77003
1,2,4-Trichlorobenzene	ND	0.13	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
2,4,5-Trichlorophenol	ND	0.20	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
2,4,6-Trichlorophenol	ND	0.17	0.23		mg/Kg	1	8/28/2023 3:48:28 PM	77003
Surr: 2-Fluorophenol	36.0		15-123		%Rec	1	8/28/2023 3:48:28 PM	77003
Surr: Phenol-d5	42.8		15-141		%Rec	1	8/28/2023 3:48:28 PM	77003
Surr: 2,4,6-Tribromophenol	48.8		23-118		%Rec	1	8/28/2023 3:48:28 PM	77003
Surr: Nitrobenzene-d5	35.6		15-125		%Rec	1	8/28/2023 3:48:28 PM	77003
Surr: 2-Fluorobiphenyl	38.9		15-129		%Rec	1	8/28/2023 3:48:28 PM	77003
Surr: 4-Terphenyl-d14	58.3		31.1-134		%Rec	1	8/28/2023 3:48:28 PM	77003
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.010	0.031		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Toluene	ND	0.011	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Ethylbenzene	ND	0.0075	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Methyl tert-butyl ether (MTBE)	ND	0.035	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1,2,4-Trimethylbenzene	0.024	0.0088	0.063	J	mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1,3,5-Trimethylbenzene	ND	0.014	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-07(11-12)
Project: AOC 26 27
Collection Date: 8/15/2023 3:52:00 PM
Lab ID: 2308975-028
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.014	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1,2-Dibromoethane (EDB)	ND	0.010	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Naphthalene	ND	0.023	0.13		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1-Methylnaphthalene	0.18	0.019	0.25	J	mg/Kg	1	8/22/2023 1:28:00 PM	R99144
2-Methylnaphthalene	0.27	0.065	0.25		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Acetone	ND	0.94	0.94		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Bromobenzene	ND	0.013	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Bromodichloromethane	ND	0.013	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Bromoform	ND	0.015	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Bromomethane	ND	0.20	0.25		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
2-Butanone	ND	0.35	0.63		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Carbon disulfide	ND	0.015	0.63		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Carbon tetrachloride	ND	0.018	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Chlorobenzene	ND	0.0062	0.13		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Chloroethane	ND	0.0087	0.13		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Chloroform	ND	0.0086	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Chloromethane	ND	0.062	0.19		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
2-Chlorotoluene	ND	0.017	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
4-Chlorotoluene	ND	0.013	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
cis-1,2-DCE	ND	0.031	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
cis-1,3-Dichloropropene	ND	0.0082	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1,2-Dibromo-3-chloropropane	ND	0.027	0.13		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Dibromochloromethane	ND	0.0082	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Dibromomethane	ND	0.0095	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1,2-Dichlorobenzene	ND	0.013	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1,3-Dichlorobenzene	ND	0.012	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1,4-Dichlorobenzene	ND	0.017	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Dichlorodifluoromethane	ND	0.025	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1,1-Dichloroethane	ND	0.0051	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1,1-Dichloroethene	ND	0.036	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1,2-Dichloropropane	ND	0.011	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1,3-Dichloropropane	ND	0.0067	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
2,2-Dichloropropane	ND	0.0073	0.13		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1,1-Dichloropropene	ND	0.0066	0.13		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Hexachlorobutadiene	ND	0.13	0.13		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
2-Hexanone	ND	0.027	0.63		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Isopropylbenzene	ND	0.012	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
4-Isopropyltoluene	ND	0.0063	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
4-Methyl-2-pentanone	ND	0.073	0.63		mg/Kg	1	8/22/2023 1:28:00 PM	R99144

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S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
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RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-07(11-12)
Project: AOC 26 27
Collection Date: 8/15/2023 3:52:00 PM
Lab ID: 2308975-028
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.15	0.19		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
n-Butylbenzene	0.021	0.017	0.19	J	mg/Kg	1	8/22/2023 1:28:00 PM	R99144
n-Propylbenzene	ND	0.010	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
sec-Butylbenzene	ND	0.016	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Styrene	ND	0.0079	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
tert-Butylbenzene	ND	0.021	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1,1,1,2-Tetrachloroethane	ND	0.0092	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1,1,2,2-Tetrachloroethane	ND	0.021	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Tetrachloroethene (PCE)	ND	0.017	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
trans-1,2-DCE	ND	0.022	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
trans-1,3-Dichloropropene	ND	0.013	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1,2,3-Trichlorobenzene	ND	0.0097	0.13		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1,2,4-Trichlorobenzene	ND	0.022	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1,1,1-Trichloroethane	ND	0.021	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1,1,2-Trichloroethane	ND	0.016	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Trichloroethene (TCE)	ND	0.021	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Trichlorofluoromethane	ND	0.014	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1,2,3-Trichloropropane	ND	0.012	0.13		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Vinyl chloride	ND	0.034	0.063		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Xylenes, Total	ND	0.021	0.13		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
1,4-Dioxane	ND	0.32	0.63		mg/Kg	1	8/22/2023 1:28:00 PM	R99144
Surr: Dibromofluoromethane	104	0	73-145		%Rec	1	8/22/2023 1:28:00 PM	R99144
Surr: 1,2-Dichloroethane-d4	97.9	0	64.8-147		%Rec	1	8/22/2023 1:28:00 PM	R99144
Surr: Toluene-d8	89.0	0	70-130		%Rec	1	8/22/2023 1:28:00 PM	R99144
Surr: 4-Bromofluorobenzene	94.7	0	62.1-144		%Rec	1	8/22/2023 1:28:00 PM	R99144

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-07(17-18)
Project: AOC 26 27 **Collection Date:** 8/15/2023 3:55:00 PM
Lab ID: 2308975-029 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.060	0.097		µg/Kg	1	8/22/2023 11:16:07 PM	76928
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	8.0	9.3		mg/Kg	1	8/22/2023 7:44:04 AM	76951
Motor Oil Range Organics (MRO)	ND	26	47		mg/Kg	1	8/22/2023 7:44:04 AM	76951
Surr: DNOP	111	0	69-147		%Rec	1	8/22/2023 7:44:04 AM	76951
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	0.86	3.4		mg/Kg	1	8/23/2023 1:50:47 AM	GS991
Surr: BFB	97.5	0	15-244		%Rec	1	8/23/2023 1:50:47 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	120	60	60		mg/Kg	20	8/23/2023 4:00:58 PM	77012
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.24	0.48		mg/Kg	5	8/30/2023 5:41:33 PM	77031
Arsenic	0.55	0.24	0.48		mg/Kg	5	9/6/2023 12:14:58 PM	77031
Lead	6.0	0.24	0.48		mg/Kg	5	8/30/2023 5:41:33 PM	77031
Nickel	11	0.33	0.48		mg/Kg	5	8/30/2023 5:41:33 PM	77031
Selenium	1.5	0.48	0.48		mg/Kg	5	8/30/2023 5:41:33 PM	77031
Silver	ND	0.24	0.48		mg/Kg	5	8/30/2023 5:41:33 PM	77031
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.078	0.078		mg/Kg	1	8/29/2023 3:10:22 PM	77143
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	140	0.095	0.19		mg/Kg	2	8/28/2023 7:13:31 PM	77031
Beryllium	0.86	0.095	0.19		mg/Kg	2	8/28/2023 7:13:31 PM	77031
Cadmium	ND	0.095	0.19		mg/Kg	2	8/28/2023 7:13:31 PM	77031
Chromium	8.1	0.29	0.38		mg/Kg	2	8/28/2023 7:13:31 PM	77031
Cobalt	6.9	0.095	0.19		mg/Kg	2	8/28/2023 7:13:31 PM	77031
Iron	8600	95	190		mg/Kg	100	8/29/2023 1:09:10 PM	77031
Manganese	370	0.19	0.19		mg/Kg	2	8/28/2023 7:13:31 PM	77031
Vanadium	8.7	0.095	0.19		mg/Kg	2	8/28/2023 7:13:31 PM	77031
Zinc	26	1.5	1.9		mg/Kg	2	8/28/2023 7:13:31 PM	77031
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Aniline	ND	0.12	0.19		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Anthracene	ND	0.19	0.19		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Azobenzene	ND	0.20	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Benz(a)anthracene	ND	0.21	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-07(17-18)
Project: AOC 26 27
Collection Date: 8/15/2023 3:55:00 PM
Lab ID: 2308975-029
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Benzo(g,h,i)perylene	ND	0.22	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Benzoic acid	ND	0.19	0.49		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Benzyl alcohol	ND	0.18	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Bis(2-ethylhexyl)phthalate	ND	0.30	0.49		mg/Kg	1	8/28/2023 4:30:19 PM	77003
4-Bromophenyl phenyl ether	ND	0.20	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Butyl benzyl phthalate	ND	0.21	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Carbazole	ND	0.22	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Chrysene	ND	0.22	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Di-n-butyl phthalate	ND	0.58	0.97		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Dibenz(a,h)anthracene	ND	0.22	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
1,4-Dichlorobenzene	ND	0.18	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
3,3´-Dichlorobenzidine	ND	0.25	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Dimethyl phthalate	ND	0.22	0.39		mg/Kg	1	8/28/2023 4:30:19 PM	77003
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Fluoranthene	ND	0.20	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Fluorene	ND	0.19	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-07(17-18)
Project: AOC 26 27
Collection Date: 8/15/2023 3:55:00 PM
Lab ID: 2308975-029
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.089	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Isophorone	ND	0.17	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
2-Methylnaphthalene	ND	0.17	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
N-Nitrosodimethylamine	ND	0.15	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Naphthalene	ND	0.15	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
4-Nitrophenol	ND	0.19	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Phenanthrene	ND	0.20	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Phenol	ND	0.23	0.29		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Pyrene	ND	0.21	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Pyridine	ND	0.18	0.97		mg/Kg	1	8/28/2023 4:30:19 PM	77003
1,2,4-Trichlorobenzene	ND	0.14	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
2,4,5-Trichlorophenol	ND	0.21	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	8/28/2023 4:30:19 PM	77003
Surr: 2-Fluorophenol	40.1		15-123		%Rec	1	8/28/2023 4:30:19 PM	77003
Surr: Phenol-d5	50.6		15-141		%Rec	1	8/28/2023 4:30:19 PM	77003
Surr: 2,4,6-Tribromophenol	50.5		23-118		%Rec	1	8/28/2023 4:30:19 PM	77003
Surr: Nitrobenzene-d5	40.0		15-125		%Rec	1	8/28/2023 4:30:19 PM	77003
Surr: 2-Fluorobiphenyl	44.7		15-129		%Rec	1	8/28/2023 4:30:19 PM	77003
Surr: 4-Terphenyl-d14	62.6		31.1-134		%Rec	1	8/28/2023 4:30:19 PM	77003
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0055	0.017		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Toluene	ND	0.0061	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Ethylbenzene	ND	0.0040	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Methyl tert-butyl ether (MTBE)	ND	0.019	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1,2,4-Trimethylbenzene	ND	0.0048	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1,3,5-Trimethylbenzene	ND	0.0078	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-07(17-18)
Project: AOC 26 27
Collection Date: 8/15/2023 3:55:00 PM
Lab ID: 2308975-029
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.0077	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1,2-Dibromoethane (EDB)	ND	0.0054	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Naphthalene	ND	0.013	0.068		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1-Methylnaphthalene	ND	0.010	0.14		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
2-Methylnaphthalene	ND	0.035	0.14		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Acetone	ND	0.51	0.51		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Bromobenzene	ND	0.0072	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Bromodichloromethane	ND	0.0072	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Bromoform	ND	0.0082	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Bromomethane	ND	0.11	0.14		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
2-Butanone	ND	0.19	0.34		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Carbon disulfide	ND	0.0083	0.34		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Carbon tetrachloride	ND	0.0096	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Chlorobenzene	ND	0.0034	0.068		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Chloroethane	ND	0.0047	0.068		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Chloroform	ND	0.0047	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Chloromethane	ND	0.034	0.10		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
2-Chlorotoluene	ND	0.0091	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
4-Chlorotoluene	ND	0.0071	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
cis-1,2-DCE	ND	0.017	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
cis-1,3-Dichloropropene	ND	0.0045	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1,2-Dibromo-3-chloropropane	ND	0.015	0.068		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Dibromochloromethane	ND	0.0045	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Dibromomethane	ND	0.0052	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1,2-Dichlorobenzene	ND	0.0071	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1,3-Dichlorobenzene	ND	0.0064	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1,4-Dichlorobenzene	ND	0.0091	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Dichlorodifluoromethane	ND	0.014	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1,1-Dichloroethane	ND	0.0028	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1,1-Dichloroethene	ND	0.019	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1,2-Dichloropropane	ND	0.0058	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1,3-Dichloropropane	ND	0.0036	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
2,2-Dichloropropane	ND	0.0040	0.068		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1,1-Dichloropropene	ND	0.0036	0.068		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Hexachlorobutadiene	ND	0.068	0.068		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
2-Hexanone	ND	0.015	0.34		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Isopropylbenzene	ND	0.0063	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
4-Isopropyltoluene	ND	0.0034	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
4-Methyl-2-pentanone	ND	0.040	0.34		mg/Kg	1	8/22/2023 1:56:39 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-07(17-18)
Project: AOC 26 27
Collection Date: 8/15/2023 3:55:00 PM
Lab ID: 2308975-029
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.079	0.10		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
n-Butylbenzene	ND	0.0091	0.10		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
n-Propylbenzene	ND	0.0055	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
sec-Butylbenzene	ND	0.0088	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Styrene	ND	0.0043	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
tert-Butylbenzene	ND	0.011	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1,1,1,2-Tetrachloroethane	ND	0.0050	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1,1,2,2-Tetrachloroethane	ND	0.011	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Tetrachloroethene (PCE)	ND	0.0093	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
trans-1,2-DCE	ND	0.012	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
trans-1,3-Dichloropropene	ND	0.0069	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1,2,3-Trichlorobenzene	ND	0.0053	0.068		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1,2,4-Trichlorobenzene	ND	0.012	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1,1,1-Trichloroethane	ND	0.011	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1,1,2-Trichloroethane	ND	0.0085	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Trichloroethene (TCE)	ND	0.012	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Trichlorofluoromethane	ND	0.0077	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1,2,3-Trichloropropane	ND	0.0065	0.068		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Vinyl chloride	ND	0.019	0.034		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Xylenes, Total	ND	0.011	0.068		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
1,4-Dioxane	ND	0.17	0.34		mg/Kg	1	8/22/2023 1:56:39 PM	R99144
Surr: Dibromofluoromethane	102	0	73-145		%Rec	1	8/22/2023 1:56:39 PM	R99144
Surr: 1,2-Dichloroethane-d4	96.2	0	64.8-147		%Rec	1	8/22/2023 1:56:39 PM	R99144
Surr: Toluene-d8	101	0	70-130		%Rec	1	8/22/2023 1:56:39 PM	R99144
Surr: 4-Bromofluorobenzene	96.0	0	62.1-144		%Rec	1	8/22/2023 1:56:39 PM	R99144

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-08(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 2:15:00 PM
Lab ID: 2308975-030 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.060	0.096		µg/Kg	1	8/22/2023 11:31:06 PM	76928
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	7.8	9.1		mg/Kg	1	8/22/2023 4:24:40 PM	76951
Motor Oil Range Organics (MRO)	78	25	91	J	mg/Kg	1	8/22/2023 4:24:40 PM	76951
Surr: DNOP	124	0	69-147		%Rec	1	8/22/2023 4:24:40 PM	76951
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.4	5.7		mg/Kg	1	8/23/2023 2:14:10 AM	GS991
Surr: BFB	97.6	0	15-244		%Rec	1	8/23/2023 2:14:10 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	180	60	60		mg/Kg	20	8/23/2023 4:13:23 PM	77012
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.52		mg/Kg	5	8/30/2023 5:45:57 PM	77031
Arsenic	2.0	0.26	0.52		mg/Kg	5	9/6/2023 12:19:23 PM	77031
Lead	18	0.26	0.52		mg/Kg	5	9/6/2023 12:19:23 PM	77031
Nickel	12	0.36	0.52		mg/Kg	5	9/6/2023 12:19:23 PM	77031
Selenium	1.3	0.52	0.52		mg/Kg	5	9/7/2023 2:08:21 PM	77031
Silver	ND	0.26	0.52		mg/Kg	5	9/6/2023 12:19:23 PM	77031
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	0.49	0.074	0.074		mg/Kg	1	8/29/2023 3:12:31 PM	77143
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	670	0.26	0.52		mg/Kg	5	8/28/2023 7:25:54 PM	77031
Beryllium	0.65	0.10	0.21		mg/Kg	2	8/28/2023 7:23:53 PM	77031
Cadmium	ND	0.10	0.21		mg/Kg	2	8/28/2023 7:23:53 PM	77031
Chromium	11	0.31	0.41		mg/Kg	2	8/28/2023 7:23:53 PM	77031
Cobalt	3.4	0.10	0.21		mg/Kg	2	8/28/2023 7:23:53 PM	77031
Iron	10000	100	210		mg/Kg	100	8/29/2023 1:10:33 PM	77031
Manganese	500	0.21	0.21		mg/Kg	2	8/28/2023 7:23:53 PM	77031
Vanadium	18	0.10	0.21		mg/Kg	2	8/28/2023 7:23:53 PM	77031
Zinc	33	1.7	2.1		mg/Kg	2	8/28/2023 7:23:53 PM	77031
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	2.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Acenaphthylene	ND	1.8	2.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Aniline	ND	1.2	2.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Anthracene	ND	1.9	2.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Azobenzene	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Benz(a)anthracene	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-08(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 2:15:00 PM
Lab ID: 2308975-030 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Benzo(b)fluoranthene	ND	2.0	2.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Benzo(g,h,i)perylene	ND	2.2	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Benzo(k)fluoranthene	ND	2.0	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Benzoic acid	ND	1.9	4.9	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Benzyl alcohol	ND	1.8	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Bis(2-chloroethoxy)methane	ND	1.7	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Bis(2-chloroethyl)ether	ND	2.3	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Bis(2-chloroisopropyl)ether	ND	1.6	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Bis(2-ethylhexyl)phthalate	ND	3.1	4.9	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
4-Bromophenyl phenyl ether	ND	2.0	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Butyl benzyl phthalate	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Carbazole	ND	2.2	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
4-Chloro-3-methylphenol	ND	1.9	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
4-Chloroaniline	ND	1.4	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
2-Chloronaphthalene	ND	1.7	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
2-Chlorophenol	ND	1.3	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
4-Chlorophenyl phenyl ether	ND	1.9	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Chrysene	ND	2.2	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Di-n-butyl phthalate	ND	5.9	9.8	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Di-n-octyl phthalate	ND	2.1	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Dibenz(a,h)anthracene	ND	2.2	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Dibenzofuran	ND	1.9	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
1,2-Dichlorobenzene	ND	1.6	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
1,3-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
1,4-Dichlorobenzene	ND	1.8	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
3,3´-Dichlorobenzidine	ND	2.5	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Diethyl phthalate	ND	18	30	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Dimethyl phthalate	ND	2.3	3.9	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
2,4-Dichlorophenol	ND	2.0	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
2,4-Dimethylphenol	ND	1.6	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
4,6-Dinitro-2-methylphenol	ND	2.2	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
2,4-Dinitrophenol	ND	2.3	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
2,4-Dinitrotoluene	ND	2.0	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
2,6-Dinitrotoluene	ND	2.2	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Fluoranthene	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Fluorene	ND	1.9	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Hexachlorobenzene	ND	1.7	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Hexachlorobutadiene	ND	1.5	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-08(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 2:15:00 PM
Lab ID: 2308975-030 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.90	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Hexachloroethane	ND	2.0	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Indeno(1,2,3-cd)pyrene	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Isophorone	ND	1.7	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
1-Methylnaphthalene	ND	1.6	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
2-Methylnaphthalene	ND	1.7	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
2-Methylphenol	ND	1.5	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
3+4-Methylphenol	ND	1.6	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
N-Nitrosodi-n-propylamine	ND	1.9	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
N-Nitrosodimethylamine	ND	1.5	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
N-Nitrosodiphenylamine	ND	2.2	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Naphthalene	ND	1.5	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
2-Nitroaniline	ND	1.9	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
3-Nitroaniline	ND	1.4	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
4-Nitroaniline	ND	1.2	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Nitrobenzene	ND	1.5	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
2-Nitrophenol	ND	1.6	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
4-Nitrophenol	ND	1.9	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Pentachlorophenol	ND	2.4	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Phenanthrene	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Phenol	ND	2.4	3.0	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Pyrene	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Pyridine	ND	1.8	9.8	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
1,2,4-Trichlorobenzene	ND	1.4	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
2,4,5-Trichlorophenol	ND	2.1	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
2,4,6-Trichlorophenol	ND	1.8	2.5	D	mg/Kg	10	9/13/2023 2:52:12 AM	77003
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/13/2023 2:52:12 AM	77003
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/13/2023 2:52:12 AM	77003
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/13/2023 2:52:12 AM	77003
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/13/2023 2:52:12 AM	77003
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/13/2023 2:52:12 AM	77003
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/13/2023 2:52:12 AM	77003
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0091	0.028		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Toluene	ND	0.010	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Ethylbenzene	ND	0.0068	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Methyl tert-butyl ether (MTBE)	ND	0.032	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1,2,4-Trimethylbenzene	0.021	0.0080	0.057	J	mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1,3,5-Trimethylbenzene	ND	0.013	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-08(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 2:15:00 PM
Lab ID: 2308975-030 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.013	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1,2-Dibromoethane (EDB)	ND	0.0091	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Naphthalene	ND	0.021	0.11		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1-Methylnaphthalene	ND	0.017	0.23		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
2-Methylnaphthalene	ND	0.059	0.23		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Acetone	ND	0.85	0.85		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Bromobenzene	ND	0.012	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Bromodichloromethane	ND	0.012	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Bromoform	ND	0.014	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Bromomethane	ND	0.18	0.23		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
2-Butanone	ND	0.32	0.57		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Carbon disulfide	ND	0.014	0.57		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Carbon tetrachloride	ND	0.016	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Chlorobenzene	ND	0.0056	0.11		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Chloroethane	ND	0.0079	0.11		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Chloroform	ND	0.0078	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Chloromethane	ND	0.056	0.17		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
2-Chlorotoluene	ND	0.015	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
4-Chlorotoluene	ND	0.012	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
cis-1,2-DCE	ND	0.028	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
cis-1,3-Dichloropropene	ND	0.0075	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1,2-Dibromo-3-chloropropane	ND	0.025	0.11		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Dibromochloromethane	ND	0.0075	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Dibromomethane	ND	0.0086	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1,2-Dichlorobenzene	ND	0.012	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1,3-Dichlorobenzene	ND	0.011	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1,4-Dichlorobenzene	ND	0.015	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Dichlorodifluoromethane	ND	0.023	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1,1-Dichloroethane	ND	0.0046	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1,1-Dichloroethene	ND	0.032	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1,2-Dichloropropane	ND	0.0097	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1,3-Dichloropropane	ND	0.0061	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
2,2-Dichloropropane	ND	0.0067	0.11		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1,1-Dichloropropene	ND	0.0060	0.11		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Hexachlorobutadiene	ND	0.11	0.11		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
2-Hexanone	ND	0.025	0.57		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Isopropylbenzene	ND	0.011	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
4-Isopropyltoluene	ND	0.0057	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
4-Methyl-2-pentanone	ND	0.066	0.57		mg/Kg	1	8/22/2023 2:25:19 PM	R99144

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-08(0.5-1)
Project: AOC 26 27
Collection Date: 8/15/2023 2:15:00 PM
Lab ID: 2308975-030
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.13	0.17		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
n-Butylbenzene	ND	0.015	0.17		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
n-Propylbenzene	ND	0.0092	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
sec-Butylbenzene	ND	0.015	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Styrene	ND	0.0071	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
tert-Butylbenzene	ND	0.019	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1,1,1,2-Tetrachloroethane	ND	0.0083	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1,1,2,2-Tetrachloroethane	ND	0.019	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Tetrachloroethene (PCE)	ND	0.016	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
trans-1,2-DCE	ND	0.020	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
trans-1,3-Dichloropropene	ND	0.012	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1,2,3-Trichlorobenzene	ND	0.0088	0.11		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1,2,4-Trichlorobenzene	ND	0.020	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1,1,1-Trichloroethane	ND	0.019	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1,1,2-Trichloroethane	ND	0.014	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Trichloroethene (TCE)	ND	0.019	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Trichlorofluoromethane	ND	0.013	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1,2,3-Trichloropropane	ND	0.011	0.11		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Vinyl chloride	ND	0.031	0.057		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Xylenes, Total	ND	0.019	0.11		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
1,4-Dioxane	ND	0.29	0.57		mg/Kg	1	8/22/2023 2:25:19 PM	R99144
Surr: Dibromofluoromethane	101	0	73-145		%Rec	1	8/22/2023 2:25:19 PM	R99144
Surr: 1,2-Dichloroethane-d4	98.1	0	64.8-147		%Rec	1	8/22/2023 2:25:19 PM	R99144
Surr: Toluene-d8	103	0	70-130		%Rec	1	8/22/2023 2:25:19 PM	R99144
Surr: 4-Bromofluorobenzene	103	0	62.1-144		%Rec	1	8/22/2023 2:25:19 PM	R99144

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B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-08(5-10)
Project: AOC 26 27 **Collection Date:** 8/15/2023 2:20:00 PM
Lab ID: 2308975-031 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.061	0.099		µg/Kg	1	8/22/2023 11:46:03 PM	76928
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	8.4	9.8		mg/Kg	1	8/22/2023 8:03:08 AM	76951
Motor Oil Range Organics (MRO)	ND	27	49		mg/Kg	1	8/22/2023 8:03:08 AM	76951
Surr: DNOP	115	0	69-147		%Rec	1	8/22/2023 8:03:08 AM	76951
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	0.66	2.6		mg/Kg	1	8/23/2023 2:37:31 AM	GS991
Surr: BFB	95.0	0	15-244		%Rec	1	8/23/2023 2:37:31 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	60	60		mg/Kg	20	8/24/2023 4:00:41 AM	77044
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.49	0.99		mg/Kg	10	9/6/2023 12:37:03 PM	77031
Arsenic	1.9	0.49	0.99		mg/Kg	10	9/6/2023 12:37:03 PM	77031
Lead	7.0	0.49	0.99		mg/Kg	10	9/6/2023 12:37:03 PM	77031
Nickel	5.4	0.69	0.99		mg/Kg	10	9/7/2023 2:12:46 PM	77031
Selenium	2.4	0.99	0.99		mg/Kg	10	9/7/2023 2:12:46 PM	77031
Silver	ND	0.49	0.99		mg/Kg	10	9/6/2023 12:37:03 PM	77031
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.077	0.077		mg/Kg	1	8/29/2023 3:14:39 PM	77143
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	990	0.25	0.49		mg/Kg	5	8/28/2023 7:29:40 PM	77031
Beryllium	0.44	0.099	0.20		mg/Kg	2	8/28/2023 7:27:47 PM	77031
Cadmium	ND	0.099	0.20		mg/Kg	2	8/28/2023 7:27:47 PM	77031
Chromium	4.2	0.30	0.39		mg/Kg	2	8/28/2023 7:27:47 PM	77031
Cobalt	2.9	0.099	0.20		mg/Kg	2	8/28/2023 7:27:47 PM	77031
Iron	7200	99	200		mg/Kg	100	8/29/2023 1:18:29 PM	77031
Manganese	1500	0.99	0.99		mg/Kg	10	8/29/2023 1:17:10 PM	77031
Vanadium	22	0.099	0.20		mg/Kg	2	8/28/2023 7:27:47 PM	77031
Zinc	8.8	1.6	2.0		mg/Kg	2	8/28/2023 7:27:47 PM	77031
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.19	0.20		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Aniline	ND	0.12	0.20		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Anthracene	ND	0.19	0.20		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Azobenzene	ND	0.21	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Benz(a)anthracene	ND	0.21	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-08(5-10)
Project: AOC 26 27
Collection Date: 8/15/2023 2:20:00 PM
Lab ID: 2308975-031
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Benzo(b)fluoranthene	ND	0.20	0.20		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Benzo(g,h,i)perylene	ND	0.22	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Benzo(k)fluoranthene	ND	0.20	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Benzoic acid	ND	0.20	0.49		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Benzyl alcohol	ND	0.18	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Bis(2-chloroethoxy)methane	ND	0.17	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Bis(2-chloroethyl)ether	ND	0.23	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Bis(2-chloroisopropyl)ether	ND	0.16	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Bis(2-ethylhexyl)phthalate	ND	0.31	0.49		mg/Kg	1	8/28/2023 5:12:05 PM	77003
4-Bromophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Butyl benzyl phthalate	ND	0.21	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Carbazole	ND	0.22	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
4-Chloro-3-methylphenol	ND	0.19	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
4-Chloroaniline	ND	0.14	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
2-Chloronaphthalene	ND	0.18	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
2-Chlorophenol	ND	0.14	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
4-Chlorophenyl phenyl ether	ND	0.19	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Chrysene	ND	0.22	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Di-n-butyl phthalate	ND	0.59	0.99		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Di-n-octyl phthalate	ND	0.21	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Dibenz(a,h)anthracene	ND	0.22	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Dibenzofuran	ND	0.19	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
1,2-Dichlorobenzene	ND	0.16	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
1,3-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
1,4-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
3,3´-Dichlorobenzidine	ND	0.25	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Diethyl phthalate	ND	1.8	3.0		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Dimethyl phthalate	ND	0.23	0.39		mg/Kg	1	8/28/2023 5:12:05 PM	77003
2,4-Dichlorophenol	ND	0.20	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
2,4-Dimethylphenol	ND	0.16	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
4,6-Dinitro-2-methylphenol	ND	0.22	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
2,4-Dinitrophenol	ND	0.23	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
2,4-Dinitrotoluene	ND	0.20	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
2,6-Dinitrotoluene	ND	0.22	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Fluoranthene	ND	0.21	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Fluorene	ND	0.19	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Hexachlorobenzene	ND	0.17	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Hexachlorobutadiene	ND	0.15	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-08(5-10)
Project: AOC 26 27
Collection Date: 8/15/2023 2:20:00 PM
Lab ID: 2308975-031
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.091	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Hexachloroethane	ND	0.20	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Indeno(1,2,3-cd)pyrene	ND	0.22	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Isophorone	ND	0.17	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
1-Methylnaphthalene	ND	0.16	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
2-Methylnaphthalene	ND	0.17	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
2-Methylphenol	ND	0.15	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
3+4-Methylphenol	ND	0.16	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
N-Nitrosodi-n-propylamine	ND	0.19	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
N-Nitrosodimethylamine	ND	0.15	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
N-Nitrosodiphenylamine	ND	0.22	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Naphthalene	ND	0.15	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
2-Nitroaniline	ND	0.19	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
3-Nitroaniline	ND	0.14	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
4-Nitroaniline	ND	0.12	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Nitrobenzene	ND	0.15	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
2-Nitrophenol	ND	0.16	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
4-Nitrophenol	ND	0.19	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Pentachlorophenol	ND	0.24	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Phenanthrene	ND	0.21	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Phenol	ND	0.24	0.30		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Pyrene	ND	0.21	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Pyridine	ND	0.19	0.99		mg/Kg	1	8/28/2023 5:12:05 PM	77003
1,2,4-Trichlorobenzene	ND	0.14	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
2,4,5-Trichlorophenol	ND	0.21	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
2,4,6-Trichlorophenol	ND	0.18	0.25		mg/Kg	1	8/28/2023 5:12:05 PM	77003
Surr: 2-Fluorophenol	40.9		15-123		%Rec	1	8/28/2023 5:12:05 PM	77003
Surr: Phenol-d5	52.3		15-141		%Rec	1	8/28/2023 5:12:05 PM	77003
Surr: 2,4,6-Tribromophenol	45.8		23-118		%Rec	1	8/28/2023 5:12:05 PM	77003
Surr: Nitrobenzene-d5	41.2		15-125		%Rec	1	8/28/2023 5:12:05 PM	77003
Surr: 2-Fluorobiphenyl	48.2		15-129		%Rec	1	8/28/2023 5:12:05 PM	77003
Surr: 4-Terphenyl-d14	55.3		31.1-134		%Rec	1	8/28/2023 5:12:05 PM	77003
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0042	0.013		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Toluene	ND	0.0047	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Ethylbenzene	ND	0.0031	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Methyl tert-butyl ether (MTBE)	ND	0.015	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1,2,4-Trimethylbenzene	ND	0.0037	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1,3,5-Trimethylbenzene	ND	0.0060	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144

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PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-08(5-10)
Project: AOC 26 27
Collection Date: 8/15/2023 2:20:00 PM
Lab ID: 2308975-031
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.0060	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1,2-Dibromoethane (EDB)	ND	0.0042	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Naphthalene	ND	0.0097	0.052		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1-Methylnaphthalene	ND	0.0077	0.10		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
2-Methylnaphthalene	ND	0.027	0.10		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Acetone	ND	0.39	0.39		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Bromobenzene	ND	0.0055	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Bromodichloromethane	ND	0.0056	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Bromoform	ND	0.0063	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Bromomethane	ND	0.085	0.10		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
2-Butanone	ND	0.15	0.26		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Carbon disulfide	ND	0.0064	0.26		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Carbon tetrachloride	ND	0.0074	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Chlorobenzene	ND	0.0026	0.052		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Chloroethane	ND	0.0036	0.052		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Chloroform	ND	0.0036	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Chloromethane	ND	0.026	0.078		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
2-Chlorotoluene	ND	0.0070	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
4-Chlorotoluene	ND	0.0055	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
cis-1,2-DCE	ND	0.013	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
cis-1,3-Dichloropropene	ND	0.0034	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1,2-Dibromo-3-chloropropane	ND	0.011	0.052		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Dibromochloromethane	ND	0.0034	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Dibromomethane	ND	0.0040	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1,2-Dichlorobenzene	ND	0.0054	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1,3-Dichlorobenzene	ND	0.0049	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1,4-Dichlorobenzene	ND	0.0070	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Dichlorodifluoromethane	ND	0.010	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1,1-Dichloroethane	ND	0.0021	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1,1-Dichloroethene	ND	0.015	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1,2-Dichloropropane	ND	0.0045	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1,3-Dichloropropane	ND	0.0028	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
2,2-Dichloropropane	ND	0.0031	0.052		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1,1-Dichloropropene	ND	0.0028	0.052		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Hexachlorobutadiene	ND	0.052	0.052		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
2-Hexanone	ND	0.011	0.26		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Isopropylbenzene	ND	0.0049	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
4-Isopropyltoluene	ND	0.0026	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
4-Methyl-2-pentanone	ND	0.030	0.26		mg/Kg	1	8/22/2023 2:54:02 PM	R99144

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S	% Recovery outside of standard limits. If undiluted results may be estimated.
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P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-08(5-10)
Project: AOC 26 27
Collection Date: 8/15/2023 2:20:00 PM
Lab ID: 2308975-031
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.061	0.078		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
n-Butylbenzene	ND	0.0070	0.078		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
n-Propylbenzene	ND	0.0042	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
sec-Butylbenzene	ND	0.0068	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Styrene	ND	0.0033	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
tert-Butylbenzene	ND	0.0088	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1,1,1,2-Tetrachloroethane	ND	0.0038	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1,1,2,2-Tetrachloroethane	ND	0.0087	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Tetrachloroethene (PCE)	ND	0.0072	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
trans-1,2-DCE	ND	0.0093	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
trans-1,3-Dichloropropene	ND	0.0053	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1,2,3-Trichlorobenzene	ND	0.0040	0.052		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1,2,4-Trichlorobenzene	ND	0.0091	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1,1,1-Trichloroethane	ND	0.0088	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1,1,2-Trichloroethane	ND	0.0065	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Trichloroethene (TCE)	ND	0.0089	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Trichlorofluoromethane	ND	0.0059	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1,2,3-Trichloropropane	ND	0.0050	0.052		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Vinyl chloride	ND	0.014	0.026		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Xylenes, Total	ND	0.0088	0.052		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
1,4-Dioxane	ND	0.13	0.26		mg/Kg	1	8/22/2023 2:54:02 PM	R99144
Surr: Dibromofluoromethane	103	0	73-145		%Rec	1	8/22/2023 2:54:02 PM	R99144
Surr: 1,2-Dichloroethane-d4	103	0	64.8-147		%Rec	1	8/22/2023 2:54:02 PM	R99144
Surr: Toluene-d8	102	0	70-130		%Rec	1	8/22/2023 2:54:02 PM	R99144
Surr: 4-Bromofluorobenzene	100	0	62.1-144		%Rec	1	8/22/2023 2:54:02 PM	R99144

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-08(13-14)
Project: AOC 26 27 **Collection Date:** 8/15/2023 2:23:00 PM
Lab ID: 2308975-032 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.054	0.086		µg/Kg	1	8/23/2023 12:16:06 AM	76928
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	8.2	9.5		mg/Kg	1	8/22/2023 8:22:13 AM	76951
Motor Oil Range Organics (MRO)	ND	26	48		mg/Kg	1	8/22/2023 8:22:13 AM	76951
Surr: DNOP	115	0	69-147		%Rec	1	8/22/2023 8:22:13 AM	76951
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	0.73	2.9		mg/Kg	1	8/23/2023 3:00:54 AM	GS9913
Surr: BFB	96.1	0	15-244		%Rec	1	8/23/2023 3:00:54 AM	GS9913
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	60	60		mg/Kg	20	8/24/2023 4:13:06 AM	77044
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.50	1.0		mg/Kg	10	9/6/2023 12:41:27 PM	77031
Arsenic	2.0	0.50	1.0		mg/Kg	10	9/6/2023 12:41:27 PM	77031
Lead	6.6	0.50	1.0		mg/Kg	10	9/6/2023 12:41:27 PM	77031
Nickel	5.7	0.70	1.0		mg/Kg	10	9/7/2023 2:26:06 PM	77031
Selenium	1.6	1.0	1.0		mg/Kg	10	9/8/2023 12:42:51 PM	77031
Silver	ND	0.50	1.0		mg/Kg	10	9/6/2023 12:41:27 PM	77031
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.074	0.074		mg/Kg	1	8/29/2023 3:25:21 PM	77143
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	480	0.10	0.20		mg/Kg	2	8/28/2023 7:31:35 PM	77031
Beryllium	0.52	0.10	0.20		mg/Kg	2	8/28/2023 7:31:35 PM	77031
Cadmium	ND	0.10	0.20		mg/Kg	2	8/28/2023 7:31:35 PM	77031
Chromium	4.4	0.30	0.40		mg/Kg	2	8/28/2023 7:31:35 PM	77031
Cobalt	3.0	0.10	0.20		mg/Kg	2	8/28/2023 7:31:35 PM	77031
Iron	8300	100	200		mg/Kg	100	8/29/2023 1:21:04 PM	77031
Manganese	1400	1.0	1.0		mg/Kg	10	8/29/2023 1:19:46 PM	77031
Vanadium	14	0.10	0.20		mg/Kg	2	8/28/2023 7:31:35 PM	77031
Zinc	10	1.6	2.0		mg/Kg	2	8/28/2023 7:31:35 PM	77031
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Aniline	ND	0.12	0.19		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Anthracene	ND	0.19	0.19		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Azobenzene	ND	0.20	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Benz(a)anthracene	ND	0.20	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
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B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-08(13-14)
Project: AOC 26 27
Collection Date: 8/15/2023 2:23:00 PM
Lab ID: 2308975-032
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Benzo(g,h,i)perylene	ND	0.22	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Benzoic acid	ND	0.19	0.48		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Benzyl alcohol	ND	0.17	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Bis(2-ethylhexyl)phthalate	ND	0.30	0.48		mg/Kg	1	8/28/2023 5:54:40 PM	77003
4-Bromophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Butyl benzyl phthalate	ND	0.20	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Carbazole	ND	0.22	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Chrysene	ND	0.22	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Di-n-butyl phthalate	ND	0.57	0.96		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Dibenz(a,h)anthracene	ND	0.21	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
3,3´-Dichlorobenzidine	ND	0.24	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Dimethyl phthalate	ND	0.22	0.39		mg/Kg	1	8/28/2023 5:54:40 PM	77003
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Fluoranthene	ND	0.20	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Fluorene	ND	0.19	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003

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ND	Not Detected at the Reporting Limit
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P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-08(13-14)
Project: AOC 26 27
Collection Date: 8/15/2023 2:23:00 PM
Lab ID: 2308975-032
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.088	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Isophorone	ND	0.17	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
2-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
N-Nitrosodimethylamine	ND	0.14	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Naphthalene	ND	0.14	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
4-Nitrophenol	ND	0.18	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Phenanthrene	ND	0.20	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Phenol	ND	0.23	0.29		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Pyrene	ND	0.21	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Pyridine	ND	0.18	0.96		mg/Kg	1	8/28/2023 5:54:40 PM	77003
1,2,4-Trichlorobenzene	ND	0.13	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
2,4,5-Trichlorophenol	ND	0.21	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	8/28/2023 5:54:40 PM	77003
Surr: 2-Fluorophenol	41.4		15-123		%Rec	1	8/28/2023 5:54:40 PM	77003
Surr: Phenol-d5	52.2		15-141		%Rec	1	8/28/2023 5:54:40 PM	77003
Surr: 2,4,6-Tribromophenol	52.3		23-118		%Rec	1	8/28/2023 5:54:40 PM	77003
Surr: Nitrobenzene-d5	40.2		15-125		%Rec	1	8/28/2023 5:54:40 PM	77003
Surr: 2-Fluorobiphenyl	50.7		15-129		%Rec	1	8/28/2023 5:54:40 PM	77003
Surr: 4-Terphenyl-d14	59.6		31.1-134		%Rec	1	8/28/2023 5:54:40 PM	77003
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0046	0.014		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Toluene	ND	0.0052	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Ethylbenzene	ND	0.0034	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Methyl tert-butyl ether (MTBE)	ND	0.016	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1,2,4-Trimethylbenzene	ND	0.0041	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1,3,5-Trimethylbenzene	ND	0.0066	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144

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B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-08(13-14)
Project: AOC 26 27
Collection Date: 8/15/2023 2:23:00 PM
Lab ID: 2308975-032
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.0065	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1,2-Dibromoethane (EDB)	ND	0.0046	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Naphthalene	ND	0.011	0.057		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1-Methylnaphthalene	ND	0.0085	0.11		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
2-Methylnaphthalene	ND	0.030	0.11		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Acetone	ND	0.43	0.43		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Bromobenzene	ND	0.0061	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Bromodichloromethane	ND	0.0061	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Bromoform	ND	0.0069	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Bromomethane	ND	0.093	0.11		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
2-Butanone	ND	0.16	0.29		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Carbon disulfide	ND	0.0070	0.29		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Carbon tetrachloride	ND	0.0081	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Chlorobenzene	ND	0.0028	0.057		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Chloroethane	ND	0.0040	0.057		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Chloroform	ND	0.0040	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Chloromethane	ND	0.028	0.086		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
2-Chlorotoluene	ND	0.0077	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
4-Chlorotoluene	ND	0.0060	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
cis-1,2-DCE	ND	0.014	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
cis-1,3-Dichloropropene	ND	0.0038	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1,2-Dibromo-3-chloropropane	ND	0.012	0.057		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Dibromochloromethane	ND	0.0038	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Dibromomethane	ND	0.0044	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1,2-Dichlorobenzene	ND	0.0060	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1,3-Dichlorobenzene	ND	0.0054	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1,4-Dichlorobenzene	ND	0.0077	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Dichlorodifluoromethane	ND	0.011	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1,1-Dichloroethane	ND	0.0023	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1,1-Dichloroethene	ND	0.016	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1,2-Dichloropropane	ND	0.0049	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1,3-Dichloropropane	ND	0.0031	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
2,2-Dichloropropane	ND	0.0034	0.057		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1,1-Dichloropropene	ND	0.0030	0.057		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Hexachlorobutadiene	ND	0.057	0.057		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
2-Hexanone	ND	0.013	0.29		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Isopropylbenzene	ND	0.0053	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
4-Isopropyltoluene	ND	0.0029	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
4-Methyl-2-pentanone	ND	0.033	0.29		mg/Kg	1	8/22/2023 3:22:40 PM	R99144

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
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E	Above Quantitation Range/Estimated Value
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-08(13-14)
Project: AOC 26 27
Collection Date: 8/15/2023 2:23:00 PM
Lab ID: 2308975-032
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.067	0.086		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
n-Butylbenzene	ND	0.0077	0.086		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
n-Propylbenzene	ND	0.0046	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
sec-Butylbenzene	ND	0.0074	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Styrene	ND	0.0036	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
tert-Butylbenzene	ND	0.0097	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1,1,1,2-Tetrachloroethane	ND	0.0042	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1,1,2,2-Tetrachloroethane	ND	0.0096	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Tetrachloroethene (PCE)	ND	0.0079	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
trans-1,2-DCE	ND	0.010	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
trans-1,3-Dichloropropene	ND	0.0058	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1,2,3-Trichlorobenzene	ND	0.0044	0.057		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1,2,4-Trichlorobenzene	ND	0.010	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1,1,1-Trichloroethane	ND	0.0096	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1,1,2-Trichloroethane	ND	0.0072	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Trichloroethene (TCE)	ND	0.0098	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Trichlorofluoromethane	ND	0.0065	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1,2,3-Trichloropropane	ND	0.0055	0.057		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Vinyl chloride	ND	0.016	0.029		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Xylenes, Total	ND	0.0097	0.057		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
1,4-Dioxane	ND	0.15	0.29		mg/Kg	1	8/22/2023 3:22:40 PM	R99144
Surr: Dibromofluoromethane	105	0	73-145		%Rec	1	8/22/2023 3:22:40 PM	R99144
Surr: 1,2-Dichloroethane-d4	95.5	0	64.8-147		%Rec	1	8/22/2023 3:22:40 PM	R99144
Surr: Toluene-d8	103	0	70-130		%Rec	1	8/22/2023 3:22:40 PM	R99144
Surr: 4-Bromofluorobenzene	94.3	0	62.1-144		%Rec	1	8/22/2023 3:22:40 PM	R99144

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-12(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 2:35:00 PM
Lab ID: 2308975-033 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.056	0.090		µg/Kg	1	8/23/2023 12:31:04 AM	76928
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	8.5	10		mg/Kg	1	8/22/2023 9:50:21 PM	76951
Motor Oil Range Organics (MRO)	84	28	100	J	mg/Kg	1	8/22/2023 9:50:21 PM	76951
Surr: DNOP	144	0	69-147		%Rec	1	8/22/2023 9:50:21 PM	76951
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	0.84	3.3		mg/Kg	1	8/23/2023 3:24:20 AM	GS9913
Surr: BFB	95.9	0	15-244		%Rec	1	8/23/2023 3:24:20 AM	GS9913
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	60	60		mg/Kg	20	8/24/2023 4:25:30 AM	77044
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.51	1.0		mg/Kg	10	9/6/2023 12:45:51 PM	77031
Arsenic	1.9	0.51	1.0		mg/Kg	10	9/6/2023 12:45:51 PM	77031
Lead	14	0.51	1.0		mg/Kg	10	9/6/2023 12:45:51 PM	77031
Nickel	28	0.72	1.0		mg/Kg	10	9/6/2023 12:45:51 PM	77031
Selenium	1.9	1.0	1.0		mg/Kg	10	9/8/2023 12:46:26 PM	77031
Silver	ND	0.51	1.0		mg/Kg	10	9/6/2023 12:45:51 PM	77031
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	0.19	0.075	0.075		mg/Kg	1	8/29/2023 3:29:39 PM	77143
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	570	0.26	0.51		mg/Kg	5	8/28/2023 7:37:35 PM	77031
Beryllium	0.74	0.10	0.20		mg/Kg	2	8/28/2023 7:35:32 PM	77031
Cadmium	ND	0.10	0.20		mg/Kg	2	8/28/2023 7:35:32 PM	77031
Chromium	22	0.31	0.41		mg/Kg	2	8/28/2023 7:35:32 PM	77031
Cobalt	5.4	0.10	0.20		mg/Kg	2	8/28/2023 7:35:32 PM	77031
Iron	12000	100	200		mg/Kg	100	8/29/2023 1:22:21 PM	77031
Manganese	570	0.51	0.51		mg/Kg	5	8/28/2023 7:37:35 PM	77031
Vanadium	21	0.10	0.20		mg/Kg	2	8/28/2023 7:35:32 PM	77031
Zinc	42	1.6	2.0		mg/Kg	2	8/28/2023 7:35:32 PM	77031
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	1.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Acenaphthylene	ND	1.8	1.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Aniline	ND	1.2	1.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Anthracene	ND	1.9	1.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Azobenzene	ND	2.0	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Benz(a)anthracene	ND	2.1	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-12(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 2:35:00 PM
Lab ID: 2308975-033 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Benzo(b)fluoranthene	ND	1.9	1.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Benzo(g,h,i)perylene	ND	2.2	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Benzo(k)fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Benzoic acid	ND	1.9	4.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Benzyl alcohol	ND	1.8	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Bis(2-chloroethoxy)methane	ND	1.6	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Bis(2-chloroethyl)ether	ND	2.3	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Bis(2-chloroisopropyl)ether	ND	1.6	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Bis(2-ethylhexyl)phthalate	ND	3.0	4.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
4-Bromophenyl phenyl ether	ND	2.0	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Butyl benzyl phthalate	ND	2.1	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Carbazole	ND	2.2	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
4-Chloro-3-methylphenol	ND	1.9	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
4-Chloroaniline	ND	1.4	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
2-Chloronaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
2-Chlorophenol	ND	1.3	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
4-Chlorophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Chrysene	ND	2.2	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Di-n-butyl phthalate	ND	5.8	9.7	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Di-n-octyl phthalate	ND	2.0	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Dibenz(a,h)anthracene	ND	2.2	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Dibenzofuran	ND	1.9	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
1,2-Dichlorobenzene	ND	1.6	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
1,3-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
1,4-Dichlorobenzene	ND	1.8	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
3,3´-Dichlorobenzidine	ND	2.5	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Diethyl phthalate	ND	17	29	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Dimethyl phthalate	ND	2.2	3.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
2,4-Dichlorophenol	ND	2.0	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
2,4-Dimethylphenol	ND	1.6	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
4,6-Dinitro-2-methylphenol	ND	2.2	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
2,4-Dinitrophenol	ND	2.2	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
2,4-Dinitrotoluene	ND	1.9	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
2,6-Dinitrotoluene	ND	2.2	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Fluorene	ND	1.9	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Hexachlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Hexachlorobutadiene	ND	1.4	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-12(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 2:35:00 PM
Lab ID: 2308975-033 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.89	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Hexachloroethane	ND	1.9	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Indeno(1,2,3-cd)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Isophorone	ND	1.7	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
1-Methylnaphthalene	ND	1.6	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
2-Methylnaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
2-Methylphenol	ND	1.4	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
3+4-Methylphenol	ND	1.6	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
N-Nitrosodi-n-propylamine	ND	1.9	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
N-Nitrosodimethylamine	ND	1.5	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
N-Nitrosodiphenylamine	ND	2.1	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Naphthalene	ND	1.5	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
2-Nitroaniline	ND	1.9	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
3-Nitroaniline	ND	1.4	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
4-Nitroaniline	ND	1.2	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Nitrobenzene	ND	1.5	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
2-Nitrophenol	ND	1.6	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
4-Nitrophenol	ND	1.9	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Pentachlorophenol	ND	2.4	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Phenanthrene	ND	2.0	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Phenol	ND	2.3	2.9	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Pyrene	ND	2.1	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Pyridine	ND	1.8	9.7	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
1,2,4-Trichlorobenzene	ND	1.4	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
2,4,5-Trichlorophenol	ND	2.1	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
2,4,6-Trichlorophenol	ND	1.8	2.4	D	mg/Kg	10	9/13/2023 3:34:17 AM	77003
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/13/2023 3:34:17 AM	77003
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/13/2023 3:34:17 AM	77003
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/13/2023 3:34:17 AM	77003
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/13/2023 3:34:17 AM	77003
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/13/2023 3:34:17 AM	77003
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/13/2023 3:34:17 AM	77003
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0053	0.016		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Toluene	ND	0.0060	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Ethylbenzene	ND	0.0039	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Methyl tert-butyl ether (MTBE)	ND	0.019	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1,2,4-Trimethylbenzene	ND	0.0047	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1,3,5-Trimethylbenzene	ND	0.0075	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144

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ND	Not Detected at the Reporting Limit
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RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-12(0.5-1)
Project: AOC 26 27
Collection Date: 8/15/2023 2:35:00 PM
Lab ID: 2308975-033
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.0075	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1,2-Dibromoethane (EDB)	ND	0.0053	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Naphthalene	ND	0.012	0.066		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1-Methylnaphthalene	ND	0.0098	0.13		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
2-Methylnaphthalene	ND	0.034	0.13		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Acetone	ND	0.49	0.49		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Bromobenzene	ND	0.0070	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Bromodichloromethane	ND	0.0070	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Bromoform	ND	0.0080	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Bromomethane	ND	0.11	0.13		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
2-Butanone	ND	0.18	0.33		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Carbon disulfide	ND	0.0080	0.33		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Carbon tetrachloride	ND	0.0093	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Chlorobenzene	ND	0.0033	0.066		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Chloroethane	ND	0.0046	0.066		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Chloroform	ND	0.0045	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Chloromethane	ND	0.033	0.099		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
2-Chlorotoluene	ND	0.0088	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
4-Chlorotoluene	ND	0.0069	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
cis-1,2-DCE	ND	0.016	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
cis-1,3-Dichloropropene	ND	0.0043	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1,2-Dibromo-3-chloropropane	ND	0.014	0.066		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Dibromochloromethane	ND	0.0043	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Dibromomethane	ND	0.0050	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1,2-Dichlorobenzene	ND	0.0069	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1,3-Dichlorobenzene	ND	0.0062	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1,4-Dichlorobenzene	ND	0.0088	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Dichlorodifluoromethane	ND	0.013	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1,1-Dichloroethane	ND	0.0027	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1,1-Dichloroethene	ND	0.019	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1,2-Dichloropropane	ND	0.0057	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1,3-Dichloropropane	ND	0.0035	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
2,2-Dichloropropane	ND	0.0039	0.066		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1,1-Dichloropropene	ND	0.0035	0.066		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Hexachlorobutadiene	ND	0.066	0.066		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
2-Hexanone	ND	0.014	0.33		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Isopropylbenzene	ND	0.0061	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
4-Isopropyltoluene	ND	0.0033	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
4-Methyl-2-pentanone	ND	0.038	0.33		mg/Kg	1	8/22/2023 3:51:20 PM	R99144

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-12(0.5-1)
Project: AOC 26 27
Collection Date: 8/15/2023 2:35:00 PM
Lab ID: 2308975-033
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.077	0.099		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
n-Butylbenzene	ND	0.0088	0.099		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
n-Propylbenzene	ND	0.0053	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
sec-Butylbenzene	ND	0.0085	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Styrene	ND	0.0041	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
tert-Butylbenzene	ND	0.011	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1,1,1,2-Tetrachloroethane	ND	0.0048	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1,1,2,2-Tetrachloroethane	ND	0.011	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Tetrachloroethene (PCE)	ND	0.0090	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
trans-1,2-DCE	ND	0.012	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
trans-1,3-Dichloropropene	ND	0.0067	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1,2,3-Trichlorobenzene	ND	0.0051	0.066		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1,2,4-Trichlorobenzene	ND	0.011	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1,1,1-Trichloroethane	ND	0.011	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1,1,2-Trichloroethane	ND	0.0083	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Trichloroethene (TCE)	ND	0.011	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Trichlorofluoromethane	ND	0.0075	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1,2,3-Trichloropropane	ND	0.0063	0.066		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Vinyl chloride	ND	0.018	0.033		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Xylenes, Total	ND	0.011	0.066		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
1,4-Dioxane	ND	0.17	0.33		mg/Kg	1	8/22/2023 3:51:20 PM	R99144
Surr: Dibromofluoromethane	106	0	73-145		%Rec	1	8/22/2023 3:51:20 PM	R99144
Surr: 1,2-Dichloroethane-d4	92.5	0	64.8-147		%Rec	1	8/22/2023 3:51:20 PM	R99144
Surr: Toluene-d8	98.3	0	70-130		%Rec	1	8/22/2023 3:51:20 PM	R99144
Surr: 4-Bromofluorobenzene	98.7	0	62.1-144		%Rec	1	8/22/2023 3:51:20 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-12(5-10)
Project: AOC 26 27 **Collection Date:** 8/15/2023 2:45:00 PM
Lab ID: 2308975-034 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.053	0.086		µg/Kg	1	8/23/2023 12:46:01 AM	76928
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	8.4	9.8		mg/Kg	1	8/22/2023 8:41:47 AM	76951
Motor Oil Range Organics (MRO)	ND	27	49		mg/Kg	1	8/22/2023 8:41:47 AM	76951
Surr: DNOP	117	0	69-147		%Rec	1	8/22/2023 8:41:47 AM	76951
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.3	5.3		mg/Kg	1	8/23/2023 3:47:48 AM	GS991
Surr: BFB	106	0	15-244		%Rec	1	8/23/2023 3:47:48 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	60	60		mg/Kg	20	8/24/2023 4:37:55 AM	77044
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.25	0.50		mg/Kg	5	8/30/2023 6:03:33 PM	77031
Arsenic	1.5	0.25	0.50		mg/Kg	5	9/6/2023 12:50:16 PM	77031
Lead	10	0.25	0.50		mg/Kg	5	8/30/2023 6:03:33 PM	77031
Nickel	9.2	0.35	0.50		mg/Kg	5	8/30/2023 6:03:33 PM	77031
Selenium	1.7	0.50	0.50		mg/Kg	5	8/30/2023 6:03:33 PM	77031
Silver	ND	0.25	0.50		mg/Kg	5	8/30/2023 6:03:33 PM	77031
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.075	0.075		mg/Kg	1	8/29/2023 3:31:49 PM	77143
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	400	0.10	0.20		mg/Kg	2	8/28/2023 7:39:29 PM	77031
Beryllium	0.92	0.10	0.20		mg/Kg	2	8/28/2023 7:39:29 PM	77031
Cadmium	ND	0.10	0.20		mg/Kg	2	8/28/2023 7:39:29 PM	77031
Chromium	7.2	0.30	0.40		mg/Kg	2	8/28/2023 7:39:29 PM	77031
Cobalt	4.0	0.10	0.20		mg/Kg	2	8/28/2023 7:39:29 PM	77031
Iron	13000	100	200		mg/Kg	100	8/29/2023 1:23:40 PM	77031
Manganese	280	0.20	0.20		mg/Kg	2	8/28/2023 7:39:29 PM	77031
Vanadium	16	0.10	0.20		mg/Kg	2	8/28/2023 7:39:29 PM	77031
Zinc	12	1.6	2.0		mg/Kg	2	8/28/2023 7:39:29 PM	77031
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Aniline	ND	0.12	0.19		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Anthracene	ND	0.19	0.19		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Azobenzene	ND	0.20	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Benz(a)anthracene	ND	0.21	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-12(5-10)
Project: AOC 26 27
Collection Date: 8/15/2023 2:45:00 PM
Lab ID: 2308975-034
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Benzo(g,h,i)perylene	ND	0.22	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Benzoic acid	ND	0.19	0.48		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Benzyl alcohol	ND	0.17	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Bis(2-ethylhexyl)phthalate	ND	0.30	0.48		mg/Kg	1	8/28/2023 6:37:33 PM	77003
4-Bromophenyl phenyl ether	ND	0.20	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Butyl benzyl phthalate	ND	0.20	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Carbazole	ND	0.22	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Chrysene	ND	0.22	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Di-n-butyl phthalate	ND	0.58	0.97		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Dibenz(a,h)anthracene	ND	0.21	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
3,3´-Dichlorobenzidine	ND	0.24	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Dimethyl phthalate	ND	0.22	0.39		mg/Kg	1	8/28/2023 6:37:33 PM	77003
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Fluoranthene	ND	0.20	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Fluorene	ND	0.19	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-12(5-10)
Project: AOC 26 27 **Collection Date:** 8/15/2023 2:45:00 PM
Lab ID: 2308975-034 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.089	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Isophorone	ND	0.17	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
2-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
N-Nitrosodimethylamine	ND	0.14	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Naphthalene	ND	0.15	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
4-Nitrophenol	ND	0.18	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Phenanthrene	ND	0.20	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Phenol	ND	0.23	0.29		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Pyrene	ND	0.21	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Pyridine	ND	0.18	0.97		mg/Kg	1	8/28/2023 6:37:33 PM	77003
1,2,4-Trichlorobenzene	ND	0.13	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
2,4,5-Trichlorophenol	ND	0.21	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	8/28/2023 6:37:33 PM	77003
Surr: 2-Fluorophenol	40.7		15-123		%Rec	1	8/28/2023 6:37:33 PM	77003
Surr: Phenol-d5	50.3		15-141		%Rec	1	8/28/2023 6:37:33 PM	77003
Surr: 2,4,6-Tribromophenol	51.1		23-118		%Rec	1	8/28/2023 6:37:33 PM	77003
Surr: Nitrobenzene-d5	36.4		15-125		%Rec	1	8/28/2023 6:37:33 PM	77003
Surr: 2-Fluorobiphenyl	44.3		15-129		%Rec	1	8/28/2023 6:37:33 PM	77003
Surr: 4-Terphenyl-d14	58.5		31.1-134		%Rec	1	8/28/2023 6:37:33 PM	77003
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0085	0.026		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Toluene	ND	0.0095	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Ethylbenzene	ND	0.0063	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Methyl tert-butyl ether (MTBE)	ND	0.030	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1,2,4-Trimethylbenzene	0.016	0.0074	0.053	J	mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1,3,5-Trimethylbenzene	ND	0.012	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-12(5-10)
Project: AOC 26 27
Collection Date: 8/15/2023 2:45:00 PM
Lab ID: 2308975-034
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.012	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1,2-Dibromoethane (EDB)	ND	0.0084	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Naphthalene	ND	0.020	0.11		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1-Methylnaphthalene	ND	0.016	0.21		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
2-Methylnaphthalene	0.056	0.055	0.21	J	mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Acetone	ND	0.79	0.79		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Bromobenzene	ND	0.011	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Bromodichloromethane	ND	0.011	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Bromoform	ND	0.013	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Bromomethane	ND	0.17	0.21		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
2-Butanone	ND	0.29	0.53		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Carbon disulfide	ND	0.013	0.53		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Carbon tetrachloride	ND	0.015	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Chlorobenzene	ND	0.0052	0.11		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Chloroethane	ND	0.0073	0.11		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Chloroform	ND	0.0072	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Chloromethane	ND	0.052	0.16		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
2-Chlorotoluene	ND	0.014	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
4-Chlorotoluene	ND	0.011	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
cis-1,2-DCE	ND	0.026	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
cis-1,3-Dichloropropene	ND	0.0069	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1,2-Dibromo-3-chloropropane	ND	0.023	0.11		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Dibromochloromethane	ND	0.0069	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Dibromomethane	ND	0.0080	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1,2-Dichlorobenzene	ND	0.011	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1,3-Dichlorobenzene	ND	0.0099	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1,4-Dichlorobenzene	ND	0.014	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Dichlorodifluoromethane	ND	0.021	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1,1-Dichloroethane	ND	0.0043	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1,1-Dichloroethene	ND	0.030	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1,2-Dichloropropane	ND	0.0090	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1,3-Dichloropropane	ND	0.0056	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
2,2-Dichloropropane	ND	0.0062	0.11		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1,1-Dichloropropene	ND	0.0056	0.11		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Hexachlorobutadiene	ND	0.11	0.11		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
2-Hexanone	ND	0.023	0.53		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Isopropylbenzene	ND	0.0098	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
4-Isopropyltoluene	0.017	0.0053	0.053	J	mg/Kg	1	8/22/2023 4:20:00 PM	R99144
4-Methyl-2-pentanone	ND	0.061	0.53		mg/Kg	1	8/22/2023 4:20:00 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-12(5-10)
Project: AOC 26 27
Collection Date: 8/15/2023 2:45:00 PM
Lab ID: 2308975-034
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.12	0.16		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
n-Butylbenzene	ND	0.014	0.16		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
n-Propylbenzene	ND	0.0085	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
sec-Butylbenzene	0.018	0.014	0.053	J	mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Styrene	ND	0.0066	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
tert-Butylbenzene	ND	0.018	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1,1,1,2-Tetrachloroethane	ND	0.0077	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1,1,2,2-Tetrachloroethane	ND	0.018	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Tetrachloroethene (PCE)	ND	0.014	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
trans-1,2-DCE	ND	0.019	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
trans-1,3-Dichloropropene	ND	0.011	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1,2,3-Trichlorobenzene	ND	0.0081	0.11		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1,2,4-Trichlorobenzene	ND	0.018	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1,1,1-Trichloroethane	ND	0.018	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1,1,2-Trichloroethane	ND	0.013	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Trichloroethene (TCE)	ND	0.018	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Trichlorofluoromethane	ND	0.012	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1,2,3-Trichloropropane	ND	0.010	0.11		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Vinyl chloride	ND	0.029	0.053		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Xylenes, Total	ND	0.018	0.11		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
1,4-Dioxane	ND	0.27	0.53		mg/Kg	1	8/22/2023 4:20:00 PM	R99144
Surr: Dibromofluoromethane	103	0	73-145		%Rec	1	8/22/2023 4:20:00 PM	R99144
Surr: 1,2-Dichloroethane-d4	92.0	0	64.8-147		%Rec	1	8/22/2023 4:20:00 PM	R99144
Surr: Toluene-d8	101	0	70-130		%Rec	1	8/22/2023 4:20:00 PM	R99144
Surr: 4-Bromofluorobenzene	98.0	0	62.1-144		%Rec	1	8/22/2023 4:20:00 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-15(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 3:30:00 PM
Lab ID: 2308975-035 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.057	0.092		µg/Kg	1	8/23/2023 1:00:57 AM	76928
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	17	8.0	9.3		mg/Kg	1	8/22/2023 10:01:14 PM	76951
Motor Oil Range Organics (MRO)	83	26	93	J	mg/Kg	1	8/22/2023 10:01:14 PM	76951
Surr: DNOP	116	0	69-147		%Rec	1	8/22/2023 10:01:14 PM	76951
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.5	5.9		mg/Kg	1	8/23/2023 4:11:14 AM	GS991
Surr: BFB	96.5	0	15-244		%Rec	1	8/23/2023 4:11:14 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	61	61		mg/Kg	20	8/24/2023 4:50:20 AM	77044
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.26	0.52		mg/Kg	5	8/30/2023 6:07:58 PM	77032
Arsenic	2.1	0.26	0.52		mg/Kg	5	9/6/2023 12:54:40 PM	77032
Lead	13	0.26	0.52		mg/Kg	5	8/30/2023 6:07:58 PM	77032
Nickel	11	0.36	0.52		mg/Kg	5	9/7/2023 2:35:06 PM	77032
Selenium	0.39	0.10	0.10		mg/Kg	1	9/8/2023 12:49:58 PM	77032
Silver	ND	0.26	0.52		mg/Kg	5	9/6/2023 12:54:40 PM	77032
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	0.18	0.068	0.068		mg/Kg	1	8/29/2023 3:33:58 PM	77143
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	700	0.26	0.52		mg/Kg	5	8/28/2023 9:39:27 AM	77032
Beryllium	0.83	0.10	0.21		mg/Kg	2	8/24/2023 3:06:59 PM	77032
Cadmium	ND	0.10	0.21		mg/Kg	2	8/24/2023 3:06:59 PM	77032
Chromium	25	0.31	0.41		mg/Kg	2	8/24/2023 3:06:59 PM	77032
Cobalt	5.0	0.10	0.21		mg/Kg	2	8/24/2023 3:06:59 PM	77032
Iron	15000	100	210		mg/Kg	100	8/28/2023 9:52:10 AM	77032
Manganese	540	0.52	0.52		mg/Kg	5	8/28/2023 9:39:27 AM	77032
Vanadium	22	0.10	0.21		mg/Kg	2	8/24/2023 3:06:59 PM	77032
Zinc	73	1.7	2.1		mg/Kg	2	8/24/2023 3:06:59 PM	77032
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	1.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Acenaphthylene	ND	1.8	1.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Aniline	ND	1.2	1.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Anthracene	ND	1.9	1.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Azobenzene	ND	2.0	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Benz(a)anthracene	ND	2.0	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-15(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 3:30:00 PM
Lab ID: 2308975-035 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Benzo(b)fluoranthene	ND	1.9	1.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Benzo(g,h,i)perylene	ND	2.1	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Benzo(k)fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Benzoic acid	ND	1.9	4.8	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Benzyl alcohol	ND	1.7	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Bis(2-chloroethoxy)methane	ND	1.6	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Bis(2-chloroethyl)ether	ND	2.3	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Bis(2-chloroisopropyl)ether	ND	1.6	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Bis(2-ethylhexyl)phthalate	ND	3.0	4.8	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
4-Bromophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Butyl benzyl phthalate	ND	2.0	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Carbazole	ND	2.2	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
4-Chloro-3-methylphenol	ND	1.9	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
4-Chloroaniline	ND	1.3	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
2-Chloronaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
2-Chlorophenol	ND	1.3	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
4-Chlorophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Chrysene	ND	2.2	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Di-n-butyl phthalate	ND	5.7	9.6	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Di-n-octyl phthalate	ND	2.0	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Dibenz(a,h)anthracene	ND	2.1	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Dibenzofuran	ND	1.9	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
1,2-Dichlorobenzene	ND	1.6	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
1,3-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
1,4-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
3,3´-Dichlorobenzidine	ND	2.4	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Diethyl phthalate	ND	17	29	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Dimethyl phthalate	ND	2.2	3.8	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
2,4-Dichlorophenol	ND	2.0	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
2,4-Dimethylphenol	ND	1.6	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
4,6-Dinitro-2-methylphenol	ND	2.2	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
2,4-Dinitrophenol	ND	2.2	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
2,4-Dinitrotoluene	ND	1.9	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
2,6-Dinitrotoluene	ND	2.1	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Fluorene	ND	1.9	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Hexachlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Hexachlorobutadiene	ND	1.4	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-15(0.5-1)
Project: AOC 26 27
Collection Date: 8/15/2023 3:30:00 PM
Lab ID: 2308975-035
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.88	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Hexachloroethane	ND	1.9	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Indeno(1,2,3-cd)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Isophorone	ND	1.6	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
1-Methylnaphthalene	ND	1.6	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
2-Methylnaphthalene	ND	1.6	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
2-Methylphenol	ND	1.4	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
3+4-Methylphenol	ND	1.6	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
N-Nitrosodi-n-propylamine	ND	1.9	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
N-Nitrosodimethylamine	ND	1.4	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
N-Nitrosodiphenylamine	ND	2.1	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Naphthalene	ND	1.4	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
2-Nitroaniline	ND	1.9	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
3-Nitroaniline	ND	1.4	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
4-Nitroaniline	ND	1.2	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Nitrobenzene	ND	1.5	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
2-Nitrophenol	ND	1.6	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
4-Nitrophenol	ND	1.8	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Pentachlorophenol	ND	2.3	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Phenanthrene	ND	2.0	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Phenol	ND	2.3	2.9	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Pyrene	ND	2.1	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Pyridine	ND	1.8	9.6	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
1,2,4-Trichlorobenzene	ND	1.3	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
2,4,5-Trichlorophenol	ND	2.0	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
2,4,6-Trichlorophenol	ND	1.7	2.4	D	mg/Kg	10	9/13/2023 4:16:32 AM	77003
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/13/2023 4:16:32 AM	77003
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/13/2023 4:16:32 AM	77003
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/13/2023 4:16:32 AM	77003
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/13/2023 4:16:32 AM	77003
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/13/2023 4:16:32 AM	77003
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/13/2023 4:16:32 AM	77003
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0095	0.029		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Toluene	ND	0.011	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Ethylbenzene	ND	0.0070	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Methyl tert-butyl ether (MTBE)	ND	0.033	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1,2,4-Trimethylbenzene	0.027	0.0083	0.059	J	mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1,3,5-Trimethylbenzene	ND	0.013	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-15(0.5-1)
Project: AOC 26 27 **Collection Date:** 8/15/2023 3:30:00 PM
Lab ID: 2308975-035 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.013	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1,2-Dibromoethane (EDB)	ND	0.0094	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Naphthalene	0.026	0.022	0.12	J	mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1-Methylnaphthalene	0.064	0.017	0.24	J	mg/Kg	1	8/22/2023 4:48:43 PM	R99144
2-Methylnaphthalene	0.089	0.061	0.24	J	mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Acetone	ND	0.88	0.88		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Bromobenzene	ND	0.012	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Bromodichloromethane	ND	0.013	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Bromoform	ND	0.014	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Bromomethane	ND	0.19	0.24		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
2-Butanone	ND	0.33	0.59		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Carbon disulfide	ND	0.014	0.59		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Carbon tetrachloride	ND	0.017	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Chlorobenzene	ND	0.0058	0.12		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Chloroethane	ND	0.0082	0.12		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Chloroform	ND	0.0081	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Chloromethane	ND	0.058	0.18		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
2-Chlorotoluene	ND	0.016	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
4-Chlorotoluene	ND	0.012	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
cis-1,2-DCE	ND	0.029	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
cis-1,3-Dichloropropene	ND	0.0077	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1,2-Dibromo-3-chloropropane	ND	0.025	0.12		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Dibromochloromethane	ND	0.0077	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Dibromomethane	ND	0.0090	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1,2-Dichlorobenzene	ND	0.012	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1,3-Dichlorobenzene	ND	0.011	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1,4-Dichlorobenzene	ND	0.016	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Dichlorodifluoromethane	ND	0.023	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1,1-Dichloroethane	ND	0.0048	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1,1-Dichloroethene	ND	0.033	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1,2-Dichloropropane	ND	0.010	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1,3-Dichloropropane	ND	0.0063	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
2,2-Dichloropropane	ND	0.0069	0.12		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1,1-Dichloropropene	ND	0.0062	0.12		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Hexachlorobutadiene	ND	0.12	0.12		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
2-Hexanone	ND	0.026	0.59		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Isopropylbenzene	ND	0.011	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
4-Isopropyltoluene	ND	0.0059	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
4-Methyl-2-pentanone	ND	0.069	0.59		mg/Kg	1	8/22/2023 4:48:43 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-15(0.5-1)
Project: AOC 26 27
Collection Date: 8/15/2023 3:30:00 PM
Lab ID: 2308975-035
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.14	0.18		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
n-Butylbenzene	ND	0.016	0.18		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
n-Propylbenzene	ND	0.0095	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
sec-Butylbenzene	ND	0.015	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Styrene	ND	0.0074	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
tert-Butylbenzene	ND	0.020	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1,1,1,2-Tetrachloroethane	ND	0.0086	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1,1,2,2-Tetrachloroethane	ND	0.020	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Tetrachloroethene (PCE)	ND	0.016	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
trans-1,2-DCE	ND	0.021	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
trans-1,3-Dichloropropene	ND	0.012	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1,2,3-Trichlorobenzene	ND	0.0091	0.12		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1,2,4-Trichlorobenzene	ND	0.020	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1,1,1-Trichloroethane	ND	0.020	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1,1,2-Trichloroethane	ND	0.015	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Trichloroethene (TCE)	ND	0.020	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Trichlorofluoromethane	ND	0.013	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1,2,3-Trichloropropane	ND	0.011	0.12		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Vinyl chloride	ND	0.032	0.059		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Xylenes, Total	ND	0.020	0.12		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
1,4-Dioxane	ND	0.30	0.59		mg/Kg	1	8/22/2023 4:48:43 PM	R99144
Surr: Dibromofluoromethane	105	0	73-145		%Rec	1	8/22/2023 4:48:43 PM	R99144
Surr: 1,2-Dichloroethane-d4	93.7	0	64.8-147		%Rec	1	8/22/2023 4:48:43 PM	R99144
Surr: Toluene-d8	99.3	0	70-130		%Rec	1	8/22/2023 4:48:43 PM	R99144
Surr: 4-Bromofluorobenzene	94.5	0	62.1-144		%Rec	1	8/22/2023 4:48:43 PM	R99144

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** SB-15(18-19)
Project: AOC 26 27 **Collection Date:** 8/15/2023 3:45:00 PM
Lab ID: 2308975-036 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.054	0.087		µg/Kg	1	8/23/2023 1:15:56 AM	76928
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	10	7.8	9.1		mg/Kg	1	8/22/2023 9:00:52 AM	76951
Motor Oil Range Organics (MRO)	ND	25	46		mg/Kg	1	8/22/2023 9:00:52 AM	76951
Surr: DNOP	121	0	69-147		%Rec	1	8/22/2023 9:00:52 AM	76951
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.9	7.5		mg/Kg	1	8/23/2023 4:34:42 AM	GS991
Surr: BFB	94.7	0	15-244		%Rec	1	8/23/2023 4:34:42 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	60	60		mg/Kg	20	8/24/2023 5:02:44 AM	77044
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.49	0.98		mg/Kg	10	9/6/2023 1:03:29 PM	77032
Arsenic	1.4	0.49	0.98		mg/Kg	10	9/6/2023 1:03:29 PM	77032
Lead	12	0.49	0.98		mg/Kg	10	9/6/2023 1:03:29 PM	77032
Nickel	14	0.68	0.98		mg/Kg	10	9/7/2023 2:39:34 PM	77032
Selenium	2.4	0.98	0.98		mg/Kg	10	9/8/2023 12:53:29 PM	77032
Silver	ND	0.49	0.98		mg/Kg	10	9/6/2023 1:03:29 PM	77032
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.069	0.069		mg/Kg	1	8/29/2023 3:36:09 PM	77143
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	170	0.098	0.20		mg/Kg	2	8/24/2023 3:22:45 PM	77032
Beryllium	1.2	0.098	0.20		mg/Kg	2	8/24/2023 3:22:45 PM	77032
Cadmium	ND	0.098	0.20		mg/Kg	2	8/24/2023 3:22:45 PM	77032
Chromium	12	0.29	0.39		mg/Kg	2	8/24/2023 3:22:45 PM	77032
Cobalt	4.6	0.098	0.20		mg/Kg	2	8/24/2023 3:22:45 PM	77032
Iron	20000	98	200		mg/Kg	100	8/28/2023 9:56:02 AM	77032
Manganese	1700	0.98	0.98		mg/Kg	10	8/28/2023 9:54:09 AM	77032
Vanadium	45	0.098	0.20		mg/Kg	2	8/24/2023 3:22:45 PM	77032
Zinc	23	1.6	2.0		mg/Kg	2	8/24/2023 3:22:45 PM	77032
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.17	0.19		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Acenaphthylene	ND	0.17	0.19		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Aniline	ND	0.11	0.19		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Anthracene	ND	0.18	0.19		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Azobenzene	ND	0.19	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Benz(a)anthracene	ND	0.20	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-15(18-19)
Project: AOC 26 27
Collection Date: 8/15/2023 3:45:00 PM
Lab ID: 2308975-036
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.20	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Benzo(b)fluoranthene	ND	0.18	0.19		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Benzo(g,h,i)perylene	ND	0.21	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Benzo(k)fluoranthene	ND	0.19	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Benzoic acid	ND	0.18	0.46		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Benzyl alcohol	ND	0.17	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Bis(2-chloroethoxy)methane	ND	0.16	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Bis(2-chloroethyl)ether	ND	0.22	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Bis(2-chloroisopropyl)ether	ND	0.15	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Bis(2-ethylhexyl)phthalate	ND	0.29	0.46		mg/Kg	1	8/28/2023 7:20:57 PM	77003
4-Bromophenyl phenyl ether	ND	0.19	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Butyl benzyl phthalate	ND	0.20	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Carbazole	ND	0.21	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
4-Chloro-3-methylphenol	ND	0.18	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
4-Chloroaniline	ND	0.13	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
2-Chloronaphthalene	ND	0.16	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
2-Chlorophenol	ND	0.13	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
4-Chlorophenyl phenyl ether	ND	0.18	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Chrysene	ND	0.21	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Di-n-butyl phthalate	ND	0.55	0.93		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Di-n-octyl phthalate	ND	0.19	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Dibenz(a,h)anthracene	ND	0.21	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Dibenzofuran	ND	0.18	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
1,2-Dichlorobenzene	ND	0.15	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
1,3-Dichlorobenzene	ND	0.17	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
1,4-Dichlorobenzene	ND	0.17	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
3,3´-Dichlorobenzidine	ND	0.23	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Diethyl phthalate	ND	1.7	2.8		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Dimethyl phthalate	ND	0.21	0.37		mg/Kg	1	8/28/2023 7:20:57 PM	77003
2,4-Dichlorophenol	ND	0.19	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
2,4-Dimethylphenol	ND	0.15	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
4,6-Dinitro-2-methylphenol	ND	0.21	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
2,4-Dinitrophenol	ND	0.21	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
2,4-Dinitrotoluene	ND	0.18	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
2,6-Dinitrotoluene	ND	0.21	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Fluoranthene	ND	0.19	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Fluorene	ND	0.18	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Hexachlorobenzene	ND	0.16	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Hexachlorobutadiene	ND	0.14	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-15(18-19)
Project: AOC 26 27
Collection Date: 8/15/2023 3:45:00 PM
Lab ID: 2308975-036
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.085	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Hexachloroethane	ND	0.18	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Indeno(1,2,3-cd)pyrene	ND	0.20	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Isophorone	ND	0.16	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
1-Methylnaphthalene	ND	0.15	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
2-Methylnaphthalene	ND	0.16	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
2-Methylphenol	ND	0.14	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
3+4-Methylphenol	ND	0.15	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
N-Nitrosodi-n-propylamine	ND	0.18	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
N-Nitrosodimethylamine	ND	0.14	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
N-Nitrosodiphenylamine	ND	0.20	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Naphthalene	ND	0.14	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
2-Nitroaniline	ND	0.18	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
3-Nitroaniline	ND	0.13	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
4-Nitroaniline	ND	0.12	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Nitrobenzene	ND	0.14	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
2-Nitrophenol	ND	0.15	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
4-Nitrophenol	ND	0.18	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Pentachlorophenol	ND	0.23	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Phenanthrene	ND	0.19	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Phenol	ND	0.22	0.28		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Pyrene	ND	0.20	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Pyridine	ND	0.17	0.93		mg/Kg	1	8/28/2023 7:20:57 PM	77003
1,2,4-Trichlorobenzene	ND	0.13	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
2,4,5-Trichlorophenol	ND	0.20	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
2,4,6-Trichlorophenol	ND	0.17	0.23		mg/Kg	1	8/28/2023 7:20:57 PM	77003
Surr: 2-Fluorophenol	56.7		15-123		%Rec	1	8/28/2023 7:20:57 PM	77003
Surr: Phenol-d5	72.4		15-141		%Rec	1	8/28/2023 7:20:57 PM	77003
Surr: 2,4,6-Tribromophenol	68.1		23-118		%Rec	1	8/28/2023 7:20:57 PM	77003
Surr: Nitrobenzene-d5	48.0		15-125		%Rec	1	8/28/2023 7:20:57 PM	77003
Surr: 2-Fluorobiphenyl	58.4		15-129		%Rec	1	8/28/2023 7:20:57 PM	77003
Surr: 4-Terphenyl-d14	70.9		31.1-134		%Rec	1	8/28/2023 7:20:57 PM	77003
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.012	0.037		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Toluene	ND	0.014	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Ethylbenzene	ND	0.0089	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Methyl tert-butyl ether (MTBE)	ND	0.042	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1,2,4-Trimethylbenzene	ND	0.011	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1,3,5-Trimethylbenzene	ND	0.017	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-15(18-19)
Project: AOC 26 27
Collection Date: 8/15/2023 3:45:00 PM
Lab ID: 2308975-036
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.017	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1,2-Dibromoethane (EDB)	ND	0.012	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Naphthalene	ND	0.028	0.15		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1-Methylnaphthalene	ND	0.022	0.30		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
2-Methylnaphthalene	ND	0.078	0.30		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Acetone	ND	1.1	1.1		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Bromobenzene	ND	0.016	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Bromodichloromethane	ND	0.016	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Bromoform	ND	0.018	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Bromomethane	ND	0.24	0.30		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
2-Butanone	ND	0.42	0.75		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Carbon disulfide	ND	0.018	0.75		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Carbon tetrachloride	ND	0.021	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Chlorobenzene	ND	0.0074	0.15		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Chloroethane	ND	0.010	0.15		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Chloroform	ND	0.010	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Chloromethane	ND	0.074	0.22		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
2-Chlorotoluene	ND	0.020	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
4-Chlorotoluene	ND	0.016	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
cis-1,2-DCE	ND	0.037	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
cis-1,3-Dichloropropene	ND	0.0099	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1,2-Dibromo-3-chloropropane	ND	0.032	0.15		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Dibromochloromethane	ND	0.0098	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Dibromomethane	ND	0.011	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1,2-Dichlorobenzene	ND	0.016	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1,3-Dichlorobenzene	ND	0.014	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1,4-Dichlorobenzene	ND	0.020	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Dichlorodifluoromethane	ND	0.030	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1,1-Dichloroethane	ND	0.0061	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1,1-Dichloroethene	ND	0.043	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1,2-Dichloropropane	ND	0.013	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1,3-Dichloropropane	ND	0.0080	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
2,2-Dichloropropane	ND	0.0088	0.15		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1,1-Dichloropropene	ND	0.0079	0.15		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Hexachlorobutadiene	ND	0.15	0.15		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
2-Hexanone	ND	0.033	0.75		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Isopropylbenzene	ND	0.014	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
4-Isopropyltoluene	ND	0.0075	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
4-Methyl-2-pentanone	ND	0.087	0.75		mg/Kg	1	8/22/2023 5:17:22 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: SB-15(18-19)
Project: AOC 26 27
Collection Date: 8/15/2023 3:45:00 PM
Lab ID: 2308975-036
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.17	0.22		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
n-Butylbenzene	ND	0.020	0.22		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
n-Propylbenzene	ND	0.012	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
sec-Butylbenzene	ND	0.019	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Styrene	ND	0.0094	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
tert-Butylbenzene	ND	0.025	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1,1,1,2-Tetrachloroethane	ND	0.011	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1,1,2,2-Tetrachloroethane	ND	0.025	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Tetrachloroethene (PCE)	ND	0.021	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
trans-1,2-DCE	ND	0.027	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
trans-1,3-Dichloropropene	ND	0.015	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1,2,3-Trichlorobenzene	ND	0.012	0.15		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1,2,4-Trichlorobenzene	ND	0.026	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1,1,1-Trichloroethane	ND	0.025	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1,1,2-Trichloroethane	ND	0.019	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Trichloroethene (TCE)	ND	0.025	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Trichlorofluoromethane	ND	0.017	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1,2,3-Trichloropropane	ND	0.014	0.15		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Vinyl chloride	ND	0.041	0.075		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Xylenes, Total	ND	0.025	0.15		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
1,4-Dioxane	ND	0.38	0.75		mg/Kg	1	8/22/2023 5:17:22 PM	R99144
Surr: Dibromofluoromethane	105	0	73-145		%Rec	1	8/22/2023 5:17:22 PM	R99144
Surr: 1,2-Dichloroethane-d4	94.7	0	64.8-147		%Rec	1	8/22/2023 5:17:22 PM	R99144
Surr: Toluene-d8	99.5	0	70-130		%Rec	1	8/22/2023 5:17:22 PM	R99144
Surr: 4-Bromofluorobenzene	92.7	0	62.1-144		%Rec	1	8/22/2023 5:17:22 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: MeOH Blank
Project: AOC 26 27
Collection Date: 8/15/2023 4:30:00 PM
Lab ID: 2308975-037
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0080	0.025		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Toluene	ND	0.0090	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Ethylbenzene	ND	0.0059	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Methyl tert-butyl ether (MTBE)	ND	0.028	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1,2,4-Trimethylbenzene	ND	0.0071	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1,3,5-Trimethylbenzene	ND	0.011	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1,2-Dichloroethane (EDC)	ND	0.011	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1,2-Dibromoethane (EDB)	ND	0.0080	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Naphthalene	ND	0.019	0.10		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1-Methylnaphthalene	ND	0.015	0.20		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
2-Methylnaphthalene	ND	0.052	0.20		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Acetone	ND	0.75	0.75		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Bromobenzene	ND	0.011	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Bromodichloromethane	ND	0.011	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Bromoform	ND	0.012	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Bromomethane	ND	0.16	0.20		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
2-Butanone	ND	0.28	0.50		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Carbon disulfide	ND	0.012	0.50		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Carbon tetrachloride	ND	0.014	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Chlorobenzene	ND	0.0050	0.10		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Chloroethane	ND	0.0069	0.10		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Chloroform	ND	0.0069	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Chloromethane	ND	0.049	0.15		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
2-Chlorotoluene	ND	0.013	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
4-Chlorotoluene	ND	0.010	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
cis-1,2-DCE	ND	0.025	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
cis-1,3-Dichloropropene	ND	0.0066	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1,2-Dibromo-3-chloropropane	ND	0.022	0.10		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Dibromochloromethane	ND	0.0066	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Dibromomethane	ND	0.0076	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1,2-Dichlorobenzene	ND	0.010	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1,3-Dichlorobenzene	ND	0.0094	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1,4-Dichlorobenzene	ND	0.013	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Dichlorodifluoromethane	ND	0.020	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1,1-Dichloroethane	ND	0.0041	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1,1-Dichloroethene	ND	0.028	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1,2-Dichloropropane	ND	0.0086	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1,3-Dichloropropane	ND	0.0053	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
2,2-Dichloropropane	ND	0.0059	0.10		mg/Kg	1	8/22/2023 5:46:03 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: MeOH Blank
Project: AOC 26 27
Collection Date: 8/15/2023 4:30:00 PM
Lab ID: 2308975-037
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,1-Dichloropropene	ND	0.0053	0.10		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Hexachlorobutadiene	ND	0.10	0.10		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
2-Hexanone	ND	0.022	0.50		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Isopropylbenzene	ND	0.0093	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
4-Isopropyltoluene	ND	0.0050	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
4-Methyl-2-pentanone	ND	0.058	0.50		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Methylene chloride	ND	0.12	0.15		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
n-Butylbenzene	ND	0.013	0.15		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
n-Propylbenzene	ND	0.0081	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
sec-Butylbenzene	ND	0.013	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Styrene	ND	0.0063	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
tert-Butylbenzene	ND	0.017	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1,1,1,2-Tetrachloroethane	ND	0.0073	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1,1,2,2-Tetrachloroethane	ND	0.017	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Tetrachloroethene (PCE)	ND	0.014	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
trans-1,2-DCE	ND	0.018	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
trans-1,3-Dichloropropene	ND	0.010	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1,2,3-Trichlorobenzene	ND	0.0077	0.10		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1,2,4-Trichlorobenzene	ND	0.017	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1,1,1-Trichloroethane	ND	0.017	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1,1,2-Trichloroethane	ND	0.013	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Trichloroethene (TCE)	ND	0.017	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Trichlorofluoromethane	ND	0.011	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1,2,3-Trichloropropane	ND	0.0095	0.10		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Vinyl chloride	ND	0.027	0.050		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Xylenes, Total	ND	0.017	0.10		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
1,4-Dioxane	ND	0.25	0.50		mg/Kg	1	8/22/2023 5:46:03 PM	R99144
Surr: Dibromofluoromethane	106	0	73-145		%Rec	1	8/22/2023 5:46:03 PM	R99144
Surr: 1,2-Dichloroethane-d4	87.8	0	64.8-147		%Rec	1	8/22/2023 5:46:03 PM	R99144
Surr: Toluene-d8	102	0	70-130		%Rec	1	8/22/2023 5:46:03 PM	R99144
Surr: 4-Bromofluorobenzene	93.7	0	62.1-144		%Rec	1	8/22/2023 5:46:03 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0815-1
Project: AOC 26 27 **Collection Date:** 8/15/2023
Lab ID: 2308975-038 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.059	0.094		µg/Kg	1	8/23/2023 1:30:55 AM	76928
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **PRD**	
Diesel Range Organics (DRO)	14	7.6	8.9		mg/Kg	1	8/22/2023 6:09:05 PM	76951
Motor Oil Range Organics (MRO)	59	25	89	J	mg/Kg	1	8/22/2023 6:09:05 PM	76951
Surr: DNOP	105	0	69-147		%Rec	1	8/22/2023 6:09:05 PM	76951
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	0.75	2.9		mg/Kg	1	8/23/2023 4:58:11 AM	GS991
Surr: BFB	98.8	0	15-244		%Rec	1	8/23/2023 4:58:11 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	65	60	60		mg/Kg	20	8/24/2023 5:15:08 AM	77044
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.52	1.0		mg/Kg	10	9/6/2023 1:07:53 PM	77032
Arsenic	2.1	0.52	1.0		mg/Kg	10	9/6/2023 1:07:53 PM	77032
Lead	9.7	0.52	1.0		mg/Kg	10	9/6/2023 1:07:53 PM	77032
Nickel	8.8	0.73	1.0		mg/Kg	10	9/7/2023 2:43:58 PM	77032
Selenium	1.6	1.0	1.0		mg/Kg	10	9/8/2023 12:57:01 PM	77032
Silver	ND	0.52	1.0		mg/Kg	10	9/6/2023 1:07:53 PM	77032
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	0.090	0.072	0.072		mg/Kg	1	8/29/2023 3:38:17 PM	77143
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	1100	0.26	0.52		mg/Kg	5	8/24/2023 3:29:38 PM	77032
Beryllium	0.65	0.10	0.21		mg/Kg	2	8/24/2023 3:27:23 PM	77032
Cadmium	ND	0.10	0.21		mg/Kg	2	8/24/2023 3:27:23 PM	77032
Chromium	6.5	0.31	0.42		mg/Kg	2	8/24/2023 3:27:23 PM	77032
Cobalt	3.4	0.10	0.21		mg/Kg	2	8/24/2023 3:27:23 PM	77032
Iron	11000	100	210		mg/Kg	100	8/28/2023 9:59:53 AM	77032
Manganese	920	0.52	0.52		mg/Kg	5	8/24/2023 3:29:38 PM	77032
Vanadium	23	0.10	0.21		mg/Kg	2	8/24/2023 3:27:23 PM	77032
Zinc	16	1.7	2.1		mg/Kg	2	8/24/2023 3:27:23 PM	77032
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	1.8	1.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Acenaphthylene	ND	1.8	1.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Aniline	ND	1.2	1.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Anthracene	ND	1.9	1.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Azobenzene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Benz(a)anthracene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
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P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0815-1
Project: AOC 26 27 **Collection Date:** 8/15/2023
Lab ID: 2308975-038 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Benzo(b)fluoranthene	ND	1.9	1.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Benzo(g,h,i)perylene	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Benzo(k)fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Benzoic acid	ND	1.9	4.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Benzyl alcohol	ND	1.8	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Bis(2-chloroethoxy)methane	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Bis(2-chloroethyl)ether	ND	2.3	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Bis(2-chloroisopropyl)ether	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Bis(2-ethylhexyl)phthalate	ND	3.0	4.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
4-Bromophenyl phenyl ether	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Butyl benzyl phthalate	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Carbazole	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
4-Chloro-3-methylphenol	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
4-Chloroaniline	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
2-Chloronaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
2-Chlorophenol	ND	1.3	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
4-Chlorophenyl phenyl ether	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Chrysene	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Di-n-butyl phthalate	ND	5.8	9.7	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Di-n-octyl phthalate	ND	2.0	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Dibenz(a,h)anthracene	ND	2.2	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Dibenzofuran	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
1,2-Dichlorobenzene	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
1,3-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
1,4-Dichlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
3,3´-Dichlorobenzidine	ND	2.5	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Diethyl phthalate	ND	17	29	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Dimethyl phthalate	ND	2.2	3.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
2,4-Dichlorophenol	ND	2.0	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
2,4-Dimethylphenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
4,6-Dinitro-2-methylphenol	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
2,4-Dinitrophenol	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
2,4-Dinitrotoluene	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
2,6-Dinitrotoluene	ND	2.2	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Fluoranthene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Fluorene	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Hexachlorobenzene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Hexachlorobutadiene	ND	1.4	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0815-1
Project: AOC 26 27 **Collection Date:** 8/15/2023
Lab ID: 2308975-038 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.89	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Hexachloroethane	ND	1.9	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Indeno(1,2,3-cd)pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Isophorone	ND	1.7	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
1-Methylnaphthalene	ND	1.6	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
2-Methylnaphthalene	ND	1.7	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
2-Methylphenol	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
3+4-Methylphenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
N-Nitrosodi-n-propylamine	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
N-Nitrosodimethylamine	ND	1.5	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
N-Nitrosodiphenylamine	ND	2.1	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Naphthalene	ND	1.5	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
2-Nitroaniline	ND	1.9	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
3-Nitroaniline	ND	1.4	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
4-Nitroaniline	ND	1.2	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Nitrobenzene	ND	1.5	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
2-Nitrophenol	ND	1.6	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
4-Nitrophenol	ND	1.8	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Pentachlorophenol	ND	2.4	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Phenanthrene	ND	2.0	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Phenol	ND	2.3	2.9	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Pyrene	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Pyridine	ND	1.8	9.7	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
1,2,4-Trichlorobenzene	ND	1.4	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
2,4,5-Trichlorophenol	ND	2.1	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
2,4,6-Trichlorophenol	ND	1.8	2.4	D	mg/Kg	10	9/11/2023 5:41:24 PM	77003
Surr: 2-Fluorophenol	0		15-123	SD	%Rec	10	9/11/2023 5:41:24 PM	77003
Surr: Phenol-d5	0		15-141	SD	%Rec	10	9/11/2023 5:41:24 PM	77003
Surr: 2,4,6-Tribromophenol	0		23-118	SD	%Rec	10	9/11/2023 5:41:24 PM	77003
Surr: Nitrobenzene-d5	0		15-125	SD	%Rec	10	9/11/2023 5:41:24 PM	77003
Surr: 2-Fluorobiphenyl	0		15-129	SD	%Rec	10	9/11/2023 5:41:24 PM	77003
Surr: 4-Terphenyl-d14	0		31.1-134	SD	%Rec	10	9/11/2023 5:41:24 PM	77003
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0047	0.015		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Toluene	ND	0.0053	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Ethylbenzene	ND	0.0035	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Methyl tert-butyl ether (MTBE)	ND	0.017	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1,2,4-Trimethylbenzene	0.028	0.0042	0.029	J	mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1,3,5-Trimethylbenzene	0.0084	0.0067	0.029	J	mg/Kg	1	8/22/2023 6:14:40 PM	R99144

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0815-1
Project: AOC 26 27 **Collection Date:** 8/15/2023
Lab ID: 2308975-038 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.0067	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1,2-Dibromoethane (EDB)	ND	0.0047	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Naphthalene	ND	0.011	0.059		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1-Methylnaphthalene	0.014	0.0087	0.12	J	mg/Kg	1	8/22/2023 6:14:40 PM	R99144
2-Methylnaphthalene	ND	0.031	0.12		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Acetone	ND	0.44	0.44		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Bromobenzene	ND	0.0063	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Bromodichloromethane	ND	0.0063	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Bromoform	ND	0.0071	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Bromomethane	ND	0.096	0.12		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
2-Butanone	ND	0.16	0.29		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Carbon disulfide	ND	0.0072	0.29		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Carbon tetrachloride	ND	0.0083	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Chlorobenzene	ND	0.0029	0.059		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Chloroethane	ND	0.0041	0.059		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Chloroform	ND	0.0041	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Chloromethane	ND	0.029	0.088		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
2-Chlorotoluene	ND	0.0079	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
4-Chlorotoluene	ND	0.0062	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
cis-1,2-DCE	ND	0.015	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
cis-1,3-Dichloropropene	ND	0.0039	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1,2-Dibromo-3-chloropropane	ND	0.013	0.059		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Dibromochloromethane	ND	0.0039	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Dibromomethane	ND	0.0045	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1,2-Dichlorobenzene	ND	0.0061	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1,3-Dichlorobenzene	ND	0.0056	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1,4-Dichlorobenzene	ND	0.0079	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Dichlorodifluoromethane	ND	0.012	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1,1-Dichloroethane	ND	0.0024	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1,1-Dichloroethene	ND	0.017	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1,2-Dichloropropane	ND	0.0051	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1,3-Dichloropropane	ND	0.0031	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
2,2-Dichloropropane	ND	0.0035	0.059		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1,1-Dichloropropene	ND	0.0031	0.059		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Hexachlorobutadiene	ND	0.059	0.059		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
2-Hexanone	ND	0.013	0.29		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Isopropylbenzene	ND	0.0055	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
4-Isopropyltoluene	ND	0.0030	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
4-Methyl-2-pentanone	ND	0.034	0.29		mg/Kg	1	8/22/2023 6:14:40 PM	R99144

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J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0815-1
Project: AOC 26 27
Collection Date: 8/15/2023
Lab ID: 2308975-038
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.068	0.088		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
n-Butylbenzene	ND	0.0079	0.088		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
n-Propylbenzene	0.0079	0.0048	0.029	J	mg/Kg	1	8/22/2023 6:14:40 PM	R99144
sec-Butylbenzene	ND	0.0076	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Styrene	ND	0.0037	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
tert-Butylbenzene	ND	0.0099	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1,1,1,2-Tetrachloroethane	ND	0.0043	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1,1,2,2-Tetrachloroethane	ND	0.0099	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Tetrachloroethene (PCE)	ND	0.0081	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
trans-1,2-DCE	ND	0.011	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
trans-1,3-Dichloropropene	ND	0.0060	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1,2,3-Trichlorobenzene	ND	0.0046	0.059		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1,2,4-Trichlorobenzene	ND	0.010	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1,1,1-Trichloroethane	ND	0.0099	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1,1,2-Trichloroethane	ND	0.0074	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Trichloroethene (TCE)	ND	0.010	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Trichlorofluoromethane	ND	0.0067	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1,2,3-Trichloropropane	ND	0.0056	0.059		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Vinyl chloride	ND	0.016	0.029		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Xylenes, Total	ND	0.010	0.059		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
1,4-Dioxane	ND	0.15	0.29		mg/Kg	1	8/22/2023 6:14:40 PM	R99144
Surr: Dibromofluoromethane	105	0	73-145		%Rec	1	8/22/2023 6:14:40 PM	R99144
Surr: 1,2-Dichloroethane-d4	97.0	0	64.8-147		%Rec	1	8/22/2023 6:14:40 PM	R99144
Surr: Toluene-d8	99.9	0	70-130		%Rec	1	8/22/2023 6:14:40 PM	R99144
Surr: 4-Bromofluorobenzene	101	0	62.1-144		%Rec	1	8/22/2023 6:14:40 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0815-2
Project: AOC 26 27 **Collection Date:** 8/15/2023
Lab ID: 2308975-039 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.058	0.093		µg/Kg	1	8/23/2023 1:45:56 AM	76928
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	7.8	9.1		mg/Kg	1	8/22/2023 9:19:47 AM	76951
Motor Oil Range Organics (MRO)	ND	25	46		mg/Kg	1	8/22/2023 9:19:47 AM	76951
Surr: DNOP	121	0	69-147		%Rec	1	8/22/2023 9:19:47 AM	76951
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	0.80	3.2		mg/Kg	1	8/23/2023 5:21:40 AM	GS991
Surr: BFB	94.9	0	15-244		%Rec	1	8/23/2023 5:21:40 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	60	60		mg/Kg	20	8/26/2023 9:19:38 AM	77116
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.49	0.98		mg/Kg	10	9/6/2023 1:12:18 PM	77148
Arsenic	0.86	0.49	0.98	J	mg/Kg	10	9/6/2023 1:12:18 PM	77148
Lead	10	0.49	0.98		mg/Kg	10	9/6/2023 1:12:18 PM	77148
Nickel	15	0.68	0.98		mg/Kg	10	9/7/2023 2:48:22 PM	77148
Selenium	2.5	0.98	0.98		mg/Kg	10	9/8/2023 1:00:33 PM	77148
Silver	ND	0.49	0.98		mg/Kg	10	9/6/2023 1:12:18 PM	77148
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.071	0.071		mg/Kg	1	8/29/2023 3:40:25 PM	77143
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	450	0.098	0.20		mg/Kg	2	8/30/2023 4:58:04 PM	77148
Beryllium	1.1	0.098	0.20		mg/Kg	2	8/30/2023 4:58:04 PM	77148
Cadmium	ND	0.098	0.20		mg/Kg	2	8/30/2023 4:58:04 PM	77148
Chromium	13	0.29	0.39		mg/Kg	2	8/30/2023 4:58:04 PM	77148
Cobalt	6.1	0.098	0.20		mg/Kg	2	8/30/2023 4:58:04 PM	77148
Iron	15000	98	200		mg/Kg	100	8/30/2023 5:08:37 PM	77148
Manganese	940	0.49	0.49		mg/Kg	5	8/30/2023 4:59:48 PM	77148
Vanadium	31	0.098	0.20		mg/Kg	2	8/30/2023 4:58:04 PM	77148
Zinc	17	1.6	2.0		mg/Kg	2	8/30/2023 4:58:04 PM	77148
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Aniline	ND	0.12	0.19		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Anthracene	ND	0.19	0.19		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Azobenzene	ND	0.20	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Benz(a)anthracene	ND	0.20	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0815-2
Project: AOC 26 27 **Collection Date:** 8/15/2023
Lab ID: 2308975-039 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Benzo(g,h,i)perylene	ND	0.21	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Benzoic acid	ND	0.19	0.48		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Benzyl alcohol	ND	0.17	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Bis(2-ethylhexyl)phthalate	ND	0.30	0.48		mg/Kg	1	9/6/2023 6:43:03 PM	77079
4-Bromophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Butyl benzyl phthalate	ND	0.20	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Carbazole	ND	0.22	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Chrysene	ND	0.22	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Di-n-butyl phthalate	ND	0.57	0.96		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Dibenz(a,h)anthracene	ND	0.21	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
3,3´-Dichlorobenzidine	ND	0.24	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Dimethyl phthalate	ND	0.22	0.38		mg/Kg	1	9/6/2023 6:43:03 PM	77079
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Fluoranthene	ND	0.20	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Fluorene	ND	0.19	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0815-2
Project: AOC 26 27 **Collection Date:** 8/15/2023
Lab ID: 2308975-039 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.088	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Isophorone	ND	0.17	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
2-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
N-Nitrosodimethylamine	ND	0.14	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Naphthalene	ND	0.14	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
4-Nitrophenol	ND	0.18	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Phenanthrene	ND	0.20	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Phenol	ND	0.23	0.29		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Pyrene	ND	0.21	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Pyridine	ND	0.18	0.96		mg/Kg	1	9/6/2023 6:43:03 PM	77079
1,2,4-Trichlorobenzene	ND	0.13	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
2,4,5-Trichlorophenol	ND	0.21	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	9/6/2023 6:43:03 PM	77079
Surr: 2-Fluorophenol	47.1		15-123		%Rec	1	9/6/2023 6:43:03 PM	77079
Surr: Phenol-d5	53.6		15-141		%Rec	1	9/6/2023 6:43:03 PM	77079
Surr: 2,4,6-Tribromophenol	66.4		23-118		%Rec	1	9/6/2023 6:43:03 PM	77079
Surr: Nitrobenzene-d5	43.0		15-125		%Rec	1	9/6/2023 6:43:03 PM	77079
Surr: 2-Fluorobiphenyl	46.0		15-129		%Rec	1	9/6/2023 6:43:03 PM	77079
Surr: 4-Terphenyl-d14	67.1		31.1-134		%Rec	1	9/6/2023 6:43:03 PM	77079
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.0051	0.016		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Toluene	ND	0.0057	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Ethylbenzene	ND	0.0038	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Methyl tert-butyl ether (MTBE)	ND	0.018	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1,2,4-Trimethylbenzene	ND	0.0045	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1,3,5-Trimethylbenzene	ND	0.0072	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
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B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0815-2
Project: AOC 26 27
Collection Date: 8/15/2023
Lab ID: 2308975-039
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.0072	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1,2-Dibromoethane (EDB)	ND	0.0051	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Naphthalene	ND	0.012	0.063		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1-Methylnaphthalene	ND	0.0093	0.13		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
2-Methylnaphthalene	ND	0.033	0.13		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Acetone	ND	0.47	0.47		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Bromobenzene	ND	0.0067	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Bromodichloromethane	ND	0.0067	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Bromoform	ND	0.0076	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Bromomethane	ND	0.10	0.13		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
2-Butanone	ND	0.18	0.32		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Carbon disulfide	ND	0.0077	0.32		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Carbon tetrachloride	ND	0.0089	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Chlorobenzene	ND	0.0031	0.063		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Chloroethane	ND	0.0044	0.063		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Chloroform	ND	0.0043	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Chloromethane	ND	0.031	0.095		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
2-Chlorotoluene	ND	0.0084	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
4-Chlorotoluene	ND	0.0066	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
cis-1,2-DCE	ND	0.016	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
cis-1,3-Dichloropropene	ND	0.0041	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1,2-Dibromo-3-chloropropane	ND	0.014	0.063		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Dibromochloromethane	ND	0.0041	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Dibromomethane	ND	0.0048	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1,2-Dichlorobenzene	ND	0.0066	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1,3-Dichlorobenzene	ND	0.0060	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1,4-Dichlorobenzene	ND	0.0084	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Dichlorodifluoromethane	ND	0.013	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1,1-Dichloroethane	ND	0.0026	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1,1-Dichloroethene	ND	0.018	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1,2-Dichloropropane	ND	0.0054	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1,3-Dichloropropane	ND	0.0034	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
2,2-Dichloropropane	ND	0.0037	0.063		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1,1-Dichloropropene	ND	0.0033	0.063		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Hexachlorobutadiene	ND	0.063	0.063		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
2-Hexanone	ND	0.014	0.32		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Isopropylbenzene	ND	0.0058	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
4-Isopropyltoluene	ND	0.0032	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
4-Methyl-2-pentanone	ND	0.037	0.32		mg/Kg	1	8/22/2023 6:43:10 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0815-2
Project: AOC 26 27
Collection Date: 8/15/2023
Lab ID: 2308975-039
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.073	0.095		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
n-Butylbenzene	ND	0.0084	0.095		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
n-Propylbenzene	ND	0.0051	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
sec-Butylbenzene	ND	0.0082	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Styrene	ND	0.0040	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
tert-Butylbenzene	ND	0.011	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1,1,1,2-Tetrachloroethane	ND	0.0046	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1,1,2,2-Tetrachloroethane	ND	0.011	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Tetrachloroethene (PCE)	ND	0.0086	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
trans-1,2-DCE	ND	0.011	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
trans-1,3-Dichloropropene	ND	0.0064	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1,2,3-Trichlorobenzene	ND	0.0049	0.063		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1,2,4-Trichlorobenzene	ND	0.011	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1,1,1-Trichloroethane	ND	0.011	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1,1,2-Trichloroethane	ND	0.0079	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Trichloroethene (TCE)	ND	0.011	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Trichlorofluoromethane	ND	0.0072	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1,2,3-Trichloropropane	ND	0.0060	0.063		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Vinyl chloride	ND	0.017	0.032		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Xylenes, Total	ND	0.011	0.063		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
1,4-Dioxane	ND	0.16	0.32		mg/Kg	1	8/22/2023 6:43:10 PM	R99144
Surr: Dibromofluoromethane	102	0	73-145		%Rec	1	8/22/2023 6:43:10 PM	R99144
Surr: 1,2-Dichloroethane-d4	92.1	0	64.8-147		%Rec	1	8/22/2023 6:43:10 PM	R99144
Surr: Toluene-d8	104	0	70-130		%Rec	1	8/22/2023 6:43:10 PM	R99144
Surr: 4-Bromofluorobenzene	96.8	0	62.1-144		%Rec	1	8/22/2023 6:43:10 PM	R99144

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0815-3
Project: AOC 26 27 **Collection Date:** 8/15/2023
Lab ID: 2308975-040 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.055	0.089		µg/Kg	1	8/23/2023 2:00:56 AM	76928
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	430	8.3	9.7		mg/Kg	1	8/22/2023 9:38:32 AM	76951
Motor Oil Range Organics (MRO)	ND	27	48		mg/Kg	1	8/22/2023 9:38:32 AM	76951
Surr: DNOP	117	0	69-147		%Rec	1	8/22/2023 9:38:32 AM	76951
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	6.6	6.6		mg/Kg	1	8/24/2023 7:05:39 AM	GS991
Surr: BFB	142	0	15-244		%Rec	1	8/24/2023 7:05:39 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	60	60		mg/Kg	20	8/26/2023 9:32:03 AM	77116
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.50	1.0		mg/Kg	10	9/6/2023 1:34:26 PM	77148
Arsenic	4.4	0.50	1.0		mg/Kg	10	9/6/2023 1:34:26 PM	77148
Lead	19	0.50	1.0		mg/Kg	10	9/6/2023 1:34:26 PM	77148
Nickel	11	0.70	1.0		mg/Kg	10	9/7/2023 2:52:46 PM	77148
Selenium	3.5	1.0	1.0		mg/Kg	10	9/8/2023 1:04:04 PM	77148
Silver	ND	0.50	1.0		mg/Kg	10	9/6/2023 1:34:26 PM	77148
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.074	0.074		mg/Kg	1	8/29/2023 3:46:49 PM	77143
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	340	0.25	0.50		mg/Kg	5	8/30/2023 5:17:08 PM	77148
Beryllium	0.66	0.10	0.20		mg/Kg	2	8/30/2023 5:10:14 PM	77148
Cadmium	ND	0.10	0.20		mg/Kg	2	8/30/2023 5:10:14 PM	77148
Chromium	6.4	0.30	0.40		mg/Kg	2	8/30/2023 5:10:14 PM	77148
Cobalt	8.5	0.25	0.50		mg/Kg	5	8/30/2023 5:17:08 PM	77148
Iron	10000	100	200		mg/Kg	100	8/30/2023 5:31:28 PM	77148
Manganese	1800	1.0	1.0		mg/Kg	10	8/30/2023 5:29:49 PM	77148
Vanadium	13	0.10	0.20		mg/Kg	2	8/30/2023 5:10:14 PM	77148
Zinc	19	1.6	2.0		mg/Kg	2	8/30/2023 5:10:14 PM	77148
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.19	0.20		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Acenaphthylene	ND	0.19	0.20		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Aniline	ND	0.12	0.20		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Anthracene	ND	0.20	0.20		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Azobenzene	ND	0.21	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Benz(a)anthracene	ND	0.21	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079

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Qualifiers:

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ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
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P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0815-3
Project: AOC 26 27 **Collection Date:** 8/15/2023
Lab ID: 2308975-040 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Benzo(b)fluoranthene	ND	0.20	0.20		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Benzo(g,h,i)perylene	ND	0.22	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Benzo(k)fluoranthene	ND	0.20	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Benzoic acid	ND	0.20	0.50		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Benzyl alcohol	ND	0.18	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Bis(2-chloroethoxy)methane	ND	0.17	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Bis(2-chloroethyl)ether	ND	0.24	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Bis(2-chloroisopropyl)ether	ND	0.16	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Bis(2-ethylhexyl)phthalate	ND	0.31	0.50		mg/Kg	1	9/8/2023 8:50:10 PM	77079
4-Bromophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Butyl benzyl phthalate	ND	0.21	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Carbazole	ND	0.22	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
4-Chloro-3-methylphenol	ND	0.19	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
4-Chloroaniline	ND	0.14	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
2-Chloronaphthalene	ND	0.18	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
2-Chlorophenol	ND	0.14	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
4-Chlorophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Chrysene	ND	0.22	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Di-n-butyl phthalate	ND	0.59	0.99		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Di-n-octyl phthalate	ND	0.21	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Dibenz(a,h)anthracene	ND	0.22	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Dibenzofuran	ND	0.20	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
1,2-Dichlorobenzene	ND	0.16	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
1,3-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
1,4-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
3,3´-Dichlorobenzidine	ND	0.25	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Diethyl phthalate	ND	1.8	3.0		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Dimethyl phthalate	ND	0.23	0.40		mg/Kg	1	9/8/2023 8:50:10 PM	77079
2,4-Dichlorophenol	ND	0.21	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
2,4-Dimethylphenol	ND	0.16	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
4,6-Dinitro-2-methylphenol	ND	0.22	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
2,4-Dinitrophenol	ND	0.23	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
2,4-Dinitrotoluene	ND	0.20	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
2,6-Dinitrotoluene	ND	0.22	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Fluoranthene	ND	0.21	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Fluorene	ND	0.19	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Hexachlorobenzene	ND	0.17	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Hexachlorobutadiene	ND	0.15	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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ND	Not Detected at the Reporting Limit
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S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
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J	Analyte detected below quantitation limits
P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0815-3
Project: AOC 26 27 **Collection Date:** 8/15/2023
Lab ID: 2308975-040 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.091	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Hexachloroethane	ND	0.20	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Indeno(1,2,3-cd)pyrene	ND	0.22	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Isophorone	ND	0.17	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
1-Methylnaphthalene	ND	0.16	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
2-Methylnaphthalene	ND	0.17	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
2-Methylphenol	ND	0.15	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
3+4-Methylphenol	ND	0.17	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
N-Nitrosodi-n-propylamine	ND	0.19	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
N-Nitrosodimethylamine	ND	0.15	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
N-Nitrosodiphenylamine	ND	0.22	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Naphthalene	ND	0.15	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
2-Nitroaniline	ND	0.19	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
3-Nitroaniline	ND	0.14	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
4-Nitroaniline	ND	0.12	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Nitrobenzene	ND	0.16	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
2-Nitrophenol	ND	0.16	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
4-Nitrophenol	ND	0.19	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Pentachlorophenol	ND	0.24	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Phenanthrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Phenol	ND	0.24	0.30		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Pyridine	ND	0.19	0.99		mg/Kg	1	9/8/2023 8:50:10 PM	77079
1,2,4-Trichlorobenzene	ND	0.14	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
2,4,5-Trichlorophenol	ND	0.21	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
2,4,6-Trichlorophenol	ND	0.18	0.25		mg/Kg	1	9/8/2023 8:50:10 PM	77079
Surr: 2-Fluorophenol	59.5		15-123		%Rec	1	9/8/2023 8:50:10 PM	77079
Surr: Phenol-d5	69.2		15-141		%Rec	1	9/8/2023 8:50:10 PM	77079
Surr: 2,4,6-Tribromophenol	78.9		23-118		%Rec	1	9/8/2023 8:50:10 PM	77079
Surr: Nitrobenzene-d5	57.0		15-125		%Rec	1	9/8/2023 8:50:10 PM	77079
Surr: 2-Fluorobiphenyl	58.2		15-129		%Rec	1	9/8/2023 8:50:10 PM	77079
Surr: 4-Terphenyl-d14	82.7		31.1-134		%Rec	1	9/8/2023 8:50:10 PM	77079
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.053	0.16		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Toluene	ND	0.059	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Ethylbenzene	ND	0.039	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Methyl tert-butyl ether (MTBE)	ND	0.19	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1,2,4-Trimethylbenzene	0.25	0.046	0.33	J	mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1,3,5-Trimethylbenzene	ND	0.075	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix
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PQL	Practical Quanitative Limit
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B	Analyte detected in the associated Method Blank
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J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0815-3
Project: AOC 26 27 **Collection Date:** 8/15/2023
Lab ID: 2308975-040 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.075	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1,2-Dibromoethane (EDB)	ND	0.053	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Naphthalene	ND	0.12	0.66		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1-Methylnaphthalene	0.32	0.097	1.3	J	mg/Kg	5	8/22/2023 7:11:44 PM	R99144
2-Methylnaphthalene	ND	0.34	1.3		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Acetone	ND	4.9	4.9		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Bromobenzene	ND	0.070	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Bromodichloromethane	ND	0.070	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Bromoform	ND	0.079	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Bromomethane	ND	1.1	1.3		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
2-Butanone	ND	1.8	3.3		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Carbon disulfide	ND	0.080	3.3		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Carbon tetrachloride	ND	0.093	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Chlorobenzene	ND	0.033	0.66		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Chloroethane	ND	0.046	0.66		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Chloroform	ND	0.045	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Chloromethane	ND	0.32	0.99		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
2-Chlorotoluene	ND	0.088	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
4-Chlorotoluene	ND	0.069	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
cis-1,2-DCE	ND	0.16	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
cis-1,3-Dichloropropene	ND	0.043	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1,2-Dibromo-3-chloropropane	ND	0.14	0.66		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Dibromochloromethane	ND	0.043	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Dibromomethane	ND	0.050	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1,2-Dichlorobenzene	ND	0.068	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1,3-Dichlorobenzene	ND	0.062	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1,4-Dichlorobenzene	ND	0.088	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Dichlorodifluoromethane	ND	0.13	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1,1-Dichloroethane	ND	0.027	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1,1-Dichloroethene	ND	0.19	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1,2-Dichloropropane	ND	0.056	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1,3-Dichloropropane	ND	0.035	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
2,2-Dichloropropane	ND	0.039	0.66		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1,1-Dichloropropene	ND	0.035	0.66		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Hexachlorobutadiene	ND	0.66	0.66		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
2-Hexanone	ND	0.14	3.3		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Isopropylbenzene	ND	0.061	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
4-Isopropyltoluene	0.11	0.033	0.33	J	mg/Kg	5	8/22/2023 7:11:44 PM	R99144
4-Methyl-2-pentanone	ND	0.38	3.3		mg/Kg	5	8/22/2023 7:11:44 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0815-3
Project: AOC 26 27
Collection Date: 8/15/2023
Lab ID: 2308975-040
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.76	0.99		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
n-Butylbenzene	0.24	0.088	0.99	J	mg/Kg	5	8/22/2023 7:11:44 PM	R99144
n-Propylbenzene	0.16	0.053	0.33	J	mg/Kg	5	8/22/2023 7:11:44 PM	R99144
sec-Butylbenzene	0.38	0.085	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Styrene	ND	0.041	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
tert-Butylbenzene	ND	0.11	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1,1,1,2-Tetrachloroethane	ND	0.048	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1,1,2,2-Tetrachloroethane	ND	0.11	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Tetrachloroethene (PCE)	ND	0.090	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
trans-1,2-DCE	ND	0.12	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
trans-1,3-Dichloropropene	ND	0.067	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1,2,3-Trichlorobenzene	ND	0.051	0.66		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1,2,4-Trichlorobenzene	ND	0.11	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1,1,1-Trichloroethane	ND	0.11	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1,1,2-Trichloroethane	ND	0.082	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Trichloroethene (TCE)	ND	0.11	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Trichlorofluoromethane	ND	0.075	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1,2,3-Trichloropropane	ND	0.063	0.66		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Vinyl chloride	ND	0.18	0.33		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Xylenes, Total	ND	0.11	0.66		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
1,4-Dioxane	ND	1.7	3.3		mg/Kg	5	8/22/2023 7:11:44 PM	R99144
Surr: Dibromofluoromethane	112	0	73-145		%Rec	5	8/22/2023 7:11:44 PM	R99144
Surr: 1,2-Dichloroethane-d4	98.3	0	64.8-147		%Rec	5	8/22/2023 7:11:44 PM	R99144
Surr: Toluene-d8	100	0	70-130		%Rec	5	8/22/2023 7:11:44 PM	R99144
Surr: 4-Bromofluorobenzene	92.7	0	62.1-144		%Rec	5	8/22/2023 7:11:44 PM	R99144

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0815-4
Project: AOC 26 27 **Collection Date:** 8/15/2023
Lab ID: 2308975-041 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.055	0.088		µg/Kg	1	8/23/2023 2:15:57 AM	76928
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	8.1	9.5		mg/Kg	1	8/22/2023 9:57:21 AM	76951
Motor Oil Range Organics (MRO)	ND	26	47		mg/Kg	1	8/22/2023 9:57:21 AM	76951
Surr: DNOP	122	0	69-147		%Rec	1	8/22/2023 9:57:21 AM	76951
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.7	6.8		mg/Kg	1	8/23/2023 6:08:43 AM	GS991
Surr: BFB	97.7	0	15-244		%Rec	1	8/23/2023 6:08:43 AM	GS991
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	60	60		mg/Kg	20	8/26/2023 9:44:27 AM	77116
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.48	0.97		mg/Kg	10	9/6/2023 1:38:50 PM	77148
Arsenic	1.4	0.48	0.97		mg/Kg	10	9/6/2023 1:38:50 PM	77148
Lead	12	0.48	0.97		mg/Kg	10	9/6/2023 1:38:50 PM	77148
Nickel	15	0.68	0.97		mg/Kg	10	9/7/2023 2:57:10 PM	77148
Selenium	2.6	0.97	0.97		mg/Kg	10	9/8/2023 1:07:36 PM	77148
Silver	ND	0.48	0.97		mg/Kg	10	9/6/2023 1:38:50 PM	77148
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.075	0.075		mg/Kg	1	8/29/2023 3:53:17 PM	77143
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	680	0.24	0.48		mg/Kg	5	8/30/2023 5:34:56 PM	77148
Beryllium	0.88	0.097	0.19		mg/Kg	2	8/30/2023 5:33:05 PM	77148
Cadmium	ND	0.097	0.19		mg/Kg	2	8/30/2023 5:33:05 PM	77148
Chromium	11	0.29	0.39		mg/Kg	2	8/30/2023 5:33:05 PM	77148
Cobalt	5.5	0.097	0.19		mg/Kg	2	8/30/2023 5:33:05 PM	77148
Iron	17000	97	190		mg/Kg	100	8/30/2023 5:38:17 PM	77148
Manganese	1600	0.97	0.97		mg/Kg	10	8/30/2023 5:36:39 PM	77148
Vanadium	45	0.097	0.19		mg/Kg	2	8/30/2023 5:33:05 PM	77148
Zinc	16	1.6	1.9		mg/Kg	2	8/30/2023 5:33:05 PM	77148
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.19		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Aniline	ND	0.12	0.19		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Anthracene	ND	0.19	0.19		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Azobenzene	ND	0.20	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Benz(a)anthracene	ND	0.21	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079

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P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0815-4
Project: AOC 26 27 **Collection Date:** 8/15/2023
Lab ID: 2308975-041 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Benzo(b)fluoranthene	ND	0.19	0.19		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Benzo(g,h,i)perylene	ND	0.22	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Benzo(k)fluoranthene	ND	0.20	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Benzoic acid	ND	0.19	0.49		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Benzyl alcohol	ND	0.18	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Bis(2-chloroethoxy)methane	ND	0.16	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Bis(2-ethylhexyl)phthalate	ND	0.30	0.49		mg/Kg	1	9/8/2023 10:27:01 PM	77079
4-Bromophenyl phenyl ether	ND	0.20	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Butyl benzyl phthalate	ND	0.21	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Carbazole	ND	0.22	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
2-Chlorophenol	ND	0.13	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
4-Chlorophenyl phenyl ether	ND	0.19	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Chrysene	ND	0.22	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Di-n-butyl phthalate	ND	0.58	0.97		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Di-n-octyl phthalate	ND	0.20	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Dibenz(a,h)anthracene	ND	0.22	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Dibenzofuran	ND	0.19	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
1,2-Dichlorobenzene	ND	0.16	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
1,3-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
1,4-Dichlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
3,3´-Dichlorobenzidine	ND	0.25	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Diethyl phthalate	ND	1.7	2.9		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Dimethyl phthalate	ND	0.22	0.39		mg/Kg	1	9/8/2023 10:27:01 PM	77079
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
2,4-Dinitrophenol	ND	0.22	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
2,4-Dinitrotoluene	ND	0.19	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Fluoranthene	ND	0.20	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Fluorene	ND	0.19	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Hexachlorobenzene	ND	0.17	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Hexachlorobutadiene	ND	0.14	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079

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*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
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S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0815-4
Project: AOC 26 27 **Collection Date:** 8/15/2023
Lab ID: 2308975-041 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.089	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Hexachloroethane	ND	0.19	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Indeno(1,2,3-cd)pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Isophorone	ND	0.17	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
1-Methylnaphthalene	ND	0.16	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
2-Methylnaphthalene	ND	0.17	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
2-Methylphenol	ND	0.14	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
N-Nitrosodimethylamine	ND	0.15	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
N-Nitrosodiphenylamine	ND	0.21	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Naphthalene	ND	0.15	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
4-Nitrophenol	ND	0.18	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Phenanthrene	ND	0.20	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Phenol	ND	0.23	0.29		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Pyrene	ND	0.21	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Pyridine	ND	0.18	0.97		mg/Kg	1	9/8/2023 10:27:01 PM	77079
1,2,4-Trichlorobenzene	ND	0.14	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
2,4,5-Trichlorophenol	ND	0.21	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
2,4,6-Trichlorophenol	ND	0.18	0.24		mg/Kg	1	9/8/2023 10:27:01 PM	77079
Surr: 2-Fluorophenol	55.8		15-123		%Rec	1	9/8/2023 10:27:01 PM	77079
Surr: Phenol-d5	66.8		15-141		%Rec	1	9/8/2023 10:27:01 PM	77079
Surr: 2,4,6-Tribromophenol	75.2		23-118		%Rec	1	9/8/2023 10:27:01 PM	77079
Surr: Nitrobenzene-d5	53.0		15-125		%Rec	1	9/8/2023 10:27:01 PM	77079
Surr: 2-Fluorobiphenyl	50.3		15-129		%Rec	1	9/8/2023 10:27:01 PM	77079
Surr: 4-Terphenyl-d14	73.3		31.1-134		%Rec	1	9/8/2023 10:27:01 PM	77079
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.011	0.034		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Toluene	ND	0.012	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Ethylbenzene	ND	0.0081	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Methyl tert-butyl ether (MTBE)	ND	0.039	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1,2,4-Trimethylbenzene	ND	0.0097	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1,3,5-Trimethylbenzene	ND	0.016	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
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S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0815-4
Project: AOC 26 27 **Collection Date:** 8/15/2023
Lab ID: 2308975-041 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.016	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1,2-Dibromoethane (EDB)	ND	0.011	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Naphthalene	ND	0.025	0.14		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1-Methylnaphthalene	ND	0.020	0.27		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
2-Methylnaphthalene	ND	0.071	0.27		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Acetone	ND	1.0	1.0		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Bromobenzene	ND	0.015	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Bromodichloromethane	ND	0.015	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Bromoform	ND	0.016	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Bromomethane	ND	0.22	0.27		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
2-Butanone	ND	0.38	0.68		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Carbon disulfide	ND	0.017	0.68		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Carbon tetrachloride	ND	0.019	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Chlorobenzene	ND	0.0068	0.14		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Chloroethane	ND	0.0095	0.14		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Chloroform	ND	0.0094	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Chloromethane	ND	0.068	0.21		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
2-Chlorotoluene	ND	0.018	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
4-Chlorotoluene	ND	0.014	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
cis-1,2-DCE	ND	0.034	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
cis-1,3-Dichloropropene	ND	0.0090	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1,2-Dibromo-3-chloropropane	ND	0.030	0.14		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Dibromochloromethane	ND	0.0090	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Dibromomethane	ND	0.010	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1,2-Dichlorobenzene	ND	0.014	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1,3-Dichlorobenzene	ND	0.013	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1,4-Dichlorobenzene	ND	0.018	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Dichlorodifluoromethane	ND	0.027	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1,1-Dichloroethane	ND	0.0056	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1,1-Dichloroethene	ND	0.039	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1,2-Dichloropropane	ND	0.012	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1,3-Dichloropropane	ND	0.0073	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
2,2-Dichloropropane	ND	0.0080	0.14		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1,1-Dichloropropene	ND	0.0072	0.14		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Hexachlorobutadiene	ND	0.14	0.14		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
2-Hexanone	ND	0.030	0.68		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Isopropylbenzene	ND	0.013	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
4-Isopropyltoluene	ND	0.0069	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
4-Methyl-2-pentanone	ND	0.080	0.68		mg/Kg	1	8/22/2023 7:40:11 PM	R99144

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0815-4
Project: AOC 26 27
Collection Date: 8/15/2023
Lab ID: 2308975-041
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.16	0.21		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
n-Butylbenzene	ND	0.018	0.21		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
n-Propylbenzene	ND	0.011	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
sec-Butylbenzene	ND	0.018	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Styrene	ND	0.0086	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
tert-Butylbenzene	ND	0.023	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1,1,1,2-Tetrachloroethane	ND	0.010	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1,1,2,2-Tetrachloroethane	ND	0.023	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Tetrachloroethene (PCE)	ND	0.019	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
trans-1,2-DCE	ND	0.024	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
trans-1,3-Dichloropropene	ND	0.014	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1,2,3-Trichlorobenzene	ND	0.011	0.14		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1,2,4-Trichlorobenzene	ND	0.024	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1,1,1-Trichloroethane	ND	0.023	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1,1,2-Trichloroethane	ND	0.017	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Trichloroethene (TCE)	ND	0.023	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Trichlorofluoromethane	ND	0.016	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1,2,3-Trichloropropane	ND	0.013	0.14		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Vinyl chloride	ND	0.037	0.068		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Xylenes, Total	ND	0.023	0.14		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
1,4-Dioxane	ND	0.35	0.68		mg/Kg	1	8/22/2023 7:40:11 PM	R99144
Surr: Dibromofluoromethane	101	0	73-145		%Rec	1	8/22/2023 7:40:11 PM	R99144
Surr: 1,2-Dichloroethane-d4	99.2	0	64.8-147		%Rec	1	8/22/2023 7:40:11 PM	R99144
Surr: Toluene-d8	99.0	0	70-130		%Rec	1	8/22/2023 7:40:11 PM	R99144
Surr: 4-Bromofluorobenzene	99.0	0	62.1-144		%Rec	1	8/22/2023 7:40:11 PM	R99144

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0815-5
Project: AOC 26 27 **Collection Date:** 8/15/2023
Lab ID: 2308975-042 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: **mb**	
1,2-Dibromoethane	ND	0.058	0.093		µg/Kg	1	8/23/2023 8:55:10 PM	76925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	8.1	9.4		mg/Kg	1	8/22/2023 1:18:55 PM	76983
Motor Oil Range Organics (MRO)	ND	26	47		mg/Kg	1	8/22/2023 1:18:55 PM	76983
Surr: DNOP	89.3	0	69-147		%Rec	1	8/22/2023 1:18:55 PM	76983
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	1.9	7.6		mg/Kg	1	8/24/2023 7:29:07 AM	77000
Surr: BFB	94.6	0	15-244		%Rec	1	8/24/2023 7:29:07 AM	77000
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	59	59		mg/Kg	20	8/26/2023 9:56:51 AM	77116
EPA METHOD 6020A: TOTAL METALS							Analyst: **ELS**	
Antimony	ND	0.49	0.97		mg/Kg	10	9/6/2023 1:43:15 PM	77148
Arsenic	0.88	0.49	0.97	J	mg/Kg	10	9/6/2023 1:43:15 PM	77148
Lead	12	0.49	0.97		mg/Kg	10	9/6/2023 1:43:15 PM	77148
Nickel	15	0.68	0.97		mg/Kg	10	9/7/2023 3:01:34 PM	77148
Selenium	2.5	0.97	0.97		mg/Kg	10	9/8/2023 1:11:07 PM	77148
Silver	ND	0.49	0.97		mg/Kg	10	9/6/2023 1:43:15 PM	77148
EPA METHOD 7471B: MERCURY							Analyst: **tem**	
Mercury	ND	0.074	0.074		mg/Kg	1	8/29/2023 1:47:30 PM	77144
EPA METHOD 6010B: SOIL METALS							Analyst: **VP**	
Barium	1400	0.49	0.97		mg/Kg	10	8/30/2023 5:43:27 PM	77148
Beryllium	0.99	0.097	0.19		mg/Kg	2	8/30/2023 5:39:55 PM	77148
Cadmium	ND	0.097	0.19		mg/Kg	2	8/30/2023 5:39:55 PM	77148
Chromium	12	0.29	0.39		mg/Kg	2	8/30/2023 5:39:55 PM	77148
Cobalt	5.3	0.097	0.19		mg/Kg	2	8/30/2023 5:39:55 PM	77148
Iron	17000	97	190		mg/Kg	100	8/30/2023 5:45:05 PM	77148
Manganese	1700	0.97	0.97		mg/Kg	10	8/30/2023 5:43:27 PM	77148
Vanadium	49	0.097	0.19		mg/Kg	2	8/30/2023 5:39:55 PM	77148
Zinc	15	1.6	1.9		mg/Kg	2	8/30/2023 5:39:55 PM	77148
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.18	0.20		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Aniline	ND	0.12	0.20		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Anthracene	ND	0.19	0.20		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Azobenzene	ND	0.21	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Benz(a)anthracene	ND	0.21	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0815-5
Project: AOC 26 27 **Collection Date:** 8/15/2023
Lab ID: 2308975-042 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Benzo(b)fluoranthene	ND	0.20	0.20		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Benzo(g,h,i)perylene	ND	0.22	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Benzo(k)fluoranthene	ND	0.20	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Benzoic acid	ND	0.19	0.49		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Benzyl alcohol	ND	0.18	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Bis(2-chloroethoxy)methane	ND	0.17	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Bis(2-chloroethyl)ether	ND	0.23	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Bis(2-chloroisopropyl)ether	ND	0.16	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Bis(2-ethylhexyl)phthalate	ND	0.31	0.49		mg/Kg	1	9/8/2023 11:10:22 PM	77079
4-Bromophenyl phenyl ether	ND	0.20	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Butyl benzyl phthalate	ND	0.21	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Carbazole	ND	0.22	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
4-Chloro-3-methylphenol	ND	0.19	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
4-Chloroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
2-Chloronaphthalene	ND	0.17	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
2-Chlorophenol	ND	0.13	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
4-Chlorophenyl phenyl ether	ND	0.19	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Chrysene	ND	0.22	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Di-n-butyl phthalate	ND	0.59	0.98		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Di-n-octyl phthalate	ND	0.21	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Dibenz(a,h)anthracene	ND	0.22	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Dibenzofuran	ND	0.19	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
1,2-Dichlorobenzene	ND	0.16	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
1,3-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
1,4-Dichlorobenzene	ND	0.18	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
3,3´-Dichlorobenzidine	ND	0.25	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Diethyl phthalate	ND	1.8	2.9		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Dimethyl phthalate	ND	0.23	0.39		mg/Kg	1	9/8/2023 11:10:22 PM	77079
2,4-Dichlorophenol	ND	0.20	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
2,4-Dimethylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
4,6-Dinitro-2-methylphenol	ND	0.22	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
2,4-Dinitrophenol	ND	0.23	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
2,4-Dinitrotoluene	ND	0.20	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
2,6-Dinitrotoluene	ND	0.22	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Fluoranthene	ND	0.21	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Fluorene	ND	0.19	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Hexachlorobenzene	ND	0.17	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Hexachlorobutadiene	ND	0.15	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0815-5
Project: AOC 26 27 **Collection Date:** 8/15/2023
Lab ID: 2308975-042 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	0.090	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Hexachloroethane	ND	0.20	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Indeno(1,2,3-cd)pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Isophorone	ND	0.17	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
1-Methylnaphthalene	ND	0.16	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
2-Methylnaphthalene	ND	0.17	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
2-Methylphenol	ND	0.15	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
3+4-Methylphenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
N-Nitrosodi-n-propylamine	ND	0.19	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
N-Nitrosodimethylamine	ND	0.15	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
N-Nitrosodiphenylamine	ND	0.22	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Naphthalene	ND	0.15	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
2-Nitroaniline	ND	0.19	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
3-Nitroaniline	ND	0.14	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
4-Nitroaniline	ND	0.12	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Nitrobenzene	ND	0.15	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
2-Nitrophenol	ND	0.16	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
4-Nitrophenol	ND	0.19	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Pentachlorophenol	ND	0.24	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Phenanthrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Phenol	ND	0.24	0.29		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Pyrene	ND	0.21	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Pyridine	ND	0.18	0.98		mg/Kg	1	9/8/2023 11:10:22 PM	77079
1,2,4-Trichlorobenzene	ND	0.14	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
2,4,5-Trichlorophenol	ND	0.21	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
2,4,6-Trichlorophenol	ND	0.18	0.25		mg/Kg	1	9/8/2023 11:10:22 PM	77079
Surr: 2-Fluorophenol	51.2		15-123		%Rec	1	9/8/2023 11:10:22 PM	77079
Surr: Phenol-d5	59.0		15-141		%Rec	1	9/8/2023 11:10:22 PM	77079
Surr: 2,4,6-Tribromophenol	62.0		23-118		%Rec	1	9/8/2023 11:10:22 PM	77079
Surr: Nitrobenzene-d5	46.4		15-125		%Rec	1	9/8/2023 11:10:22 PM	77079
Surr: 2-Fluorobiphenyl	46.4		15-129		%Rec	1	9/8/2023 11:10:22 PM	77079
Surr: 4-Terphenyl-d14	58.0		31.1-134		%Rec	1	9/8/2023 11:10:22 PM	77079
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Benzene	ND	0.012	0.038		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Toluene	ND	0.014	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Ethylbenzene	ND	0.0090	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Methyl tert-butyl ether (MTBE)	ND	0.043	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1,2,4-Trimethylbenzene	ND	0.011	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1,3,5-Trimethylbenzene	ND	0.017	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-0815-5
Project: AOC 26 27 **Collection Date:** 8/15/2023
Lab ID: 2308975-042 **Matrix:** MEOH (SOIL) **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
1,2-Dichloroethane (EDC)	ND	0.017	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1,2-Dibromoethane (EDB)	ND	0.012	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Naphthalene	ND	0.028	0.15		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1-Methylnaphthalene	ND	0.022	0.30		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
2-Methylnaphthalene	ND	0.078	0.30		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Acetone	ND	1.1	1.1		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Bromobenzene	ND	0.016	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Bromodichloromethane	ND	0.016	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Bromoform	ND	0.018	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Bromomethane	ND	0.25	0.30		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
2-Butanone	ND	0.42	0.76		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Carbon disulfide	ND	0.018	0.76		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Carbon tetrachloride	ND	0.021	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Chlorobenzene	ND	0.0075	0.15		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Chloroethane	ND	0.010	0.15		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Chloroform	ND	0.010	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Chloromethane	ND	0.075	0.23		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
2-Chlorotoluene	ND	0.020	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
4-Chlorotoluene	ND	0.016	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
cis-1,2-DCE	ND	0.038	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
cis-1,3-Dichloropropene	ND	0.010	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1,2-Dibromo-3-chloropropane	ND	0.033	0.15		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Dibromochloromethane	ND	0.0099	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Dibromomethane	ND	0.012	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1,2-Dichlorobenzene	ND	0.016	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1,3-Dichlorobenzene	ND	0.014	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1,4-Dichlorobenzene	ND	0.020	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Dichlorodifluoromethane	ND	0.030	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1,1-Dichloroethane	ND	0.0062	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1,1-Dichloroethene	ND	0.043	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1,2-Dichloropropane	ND	0.013	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1,3-Dichloropropane	ND	0.0081	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
2,2-Dichloropropane	ND	0.0089	0.15		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1,1-Dichloropropene	ND	0.0080	0.15		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Hexachlorobutadiene	ND	0.15	0.15		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
2-Hexanone	ND	0.033	0.76		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Isopropylbenzene	ND	0.014	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
4-Isopropyltoluene	ND	0.0076	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
4-Methyl-2-pentanone	ND	0.088	0.76		mg/Kg	1	8/22/2023 8:08:36 PM	R99144

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: DUP-0815-5
Project: AOC 26 27
Collection Date: 8/15/2023
Lab ID: 2308975-042
Matrix: MEOH (SOIL)
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JR**	
Methylene chloride	ND	0.18	0.23		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
n-Butylbenzene	ND	0.020	0.23		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
n-Propylbenzene	ND	0.012	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
sec-Butylbenzene	ND	0.020	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Styrene	ND	0.0095	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
tert-Butylbenzene	ND	0.025	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1,1,1,2-Tetrachloroethane	ND	0.011	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1,1,2,2-Tetrachloroethane	ND	0.025	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Tetrachloroethene (PCE)	ND	0.021	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
trans-1,2-DCE	ND	0.027	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
trans-1,3-Dichloropropene	ND	0.015	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1,2,3-Trichlorobenzene	ND	0.012	0.15		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1,2,4-Trichlorobenzene	ND	0.026	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1,1,1-Trichloroethane	ND	0.025	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1,1,2-Trichloroethane	ND	0.019	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Trichloroethene (TCE)	ND	0.026	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Trichlorofluoromethane	ND	0.017	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1,2,3-Trichloropropane	ND	0.014	0.15		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Vinyl chloride	ND	0.041	0.076		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Xylenes, Total	ND	0.026	0.15		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
1,4-Dioxane	ND	0.38	0.76		mg/Kg	1	8/22/2023 8:08:36 PM	R99144
Surr: Dibromofluoromethane	105	0	73-145		%Rec	1	8/22/2023 8:08:36 PM	R99144
Surr: 1,2-Dichloroethane-d4	90.6	0	64.8-147		%Rec	1	8/22/2023 8:08:36 PM	R99144
Surr: Toluene-d8	97.4	0	70-130		%Rec	1	8/22/2023 8:08:36 PM	R99144
Surr: 4-Bromofluorobenzene	94.6	0	62.1-144		%Rec	1	8/22/2023 8:08:36 PM	R99144

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P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: EB-0815
Project: AOC 26 27
Collection Date: 8/15/2023 4:30:00 PM
Lab ID: 2308975-043
Matrix: AQUEOUS
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **SB**	
1,2-Dibromoethane	ND	0.0040	0.0094		µg/L	1	8/24/2023 3:50:38 PM	77041
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	0.58	1.0		mg/L	1	8/23/2023 4:24:19 PM	76954
Motor Oil Range Organics (MRO)	ND	1.3	5.0		mg/L	1	8/23/2023 4:24:19 PM	76954
Surr: DNOP	74.8	0	54.5-177		%Rec	1	8/23/2023 4:24:19 PM	76954
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	0.0090	0.050		mg/L	1	8/23/2023 10:44:00 PM	R99197
Surr: BFB	101	0	15-270		%Rec	1	8/23/2023 10:44:00 PM	R99197
EPA METHOD 300.0: ANIONS							Analyst: **JTT**	
Chloride	ND	0.25	0.50		mg/L	1	8/18/2023 5:27:40 PM	R99082
EPA METHOD 200.7: METALS							Analyst: **ELS**	
Barium	ND	0.050	0.10		mg/L	1	8/23/2023 2:05:29 PM	A99201
Beryllium	ND	0.050	0.10		mg/L	1	8/23/2023 2:05:29 PM	A99201
Cadmium	ND	0.050	0.10		mg/L	1	8/23/2023 2:05:29 PM	A99201
Chromium	ND	0.15	0.20		mg/L	1	8/23/2023 2:05:29 PM	A99201
Cobalt	ND	0.050	0.10		mg/L	1	8/23/2023 2:05:29 PM	A99201
Iron	ND	1.0	2.0		mg/L	1	8/23/2023 2:05:29 PM	A99201
Manganese	ND	0.10	0.10		mg/L	1	8/23/2023 2:05:29 PM	A99201
Vanadium	ND	0.050	0.10		mg/L	1	8/23/2023 2:05:29 PM	A99201
Zinc	ND	0.80	1.0		mg/L	1	8/23/2023 2:05:29 PM	A99201
EPA 200.8: METALS							Analyst: **bcv**	
Antimony	ND	0.050	0.10		mg/L	1	8/28/2023 11:29:17 AM	77100
Arsenic	ND	0.050	0.10		mg/L	1	8/28/2023 11:29:17 AM	77100
Lead	ND	0.050	0.10		mg/L	1	8/28/2023 11:29:17 AM	77100
Nickel	ND	0.070	0.10		mg/L	1	8/28/2023 11:29:17 AM	77100
Selenium	ND	0.10	0.10		mg/L	1	8/28/2023 11:29:17 AM	77100
Silver	ND	0.050	0.10		mg/L	1	8/28/2023 11:29:17 AM	77100
EPA METHOD 245.1: MERCURY							Analyst: **tem**	
Mercury	ND	0.000081	0.00020		mg/L	1	8/22/2023 1:16:02 PM	76963
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.3	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
Acenaphthylene	ND	4.6	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
Aniline	ND	5.4	10		µg/L	1	8/24/2023 11:57:03 AM	76988
Anthracene	ND	3.9	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
Azobenzene	ND	3.8	10		µg/L	1	8/24/2023 11:57:03 AM	76988
Benz(a)anthracene	ND	6.7	10		µg/L	1	8/24/2023 11:57:03 AM	76988

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Qualifiers:

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RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: EB-0815
Project: AOC 26 27
Collection Date: 8/15/2023 4:30:00 PM
Lab ID: 2308975-043
Matrix: AQUEOUS
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Benzo(a)pyrene	ND	4.9	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
Benzo(b)fluoranthene	ND	5.7	10		µg/L	1	8/24/2023 11:57:03 AM	76988
Benzo(g,h,i)perylene	ND	4.9	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
Benzo(k)fluoranthene	ND	4.5	10		µg/L	1	8/24/2023 11:57:03 AM	76988
Benzoic acid	ND	15	20		µg/L	1	8/24/2023 11:57:03 AM	76988
Benzyl alcohol	ND	4.8	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	8/24/2023 11:57:03 AM	76988
Bis(2-chloroethyl)ether	ND	5.0	10		µg/L	1	8/24/2023 11:57:03 AM	76988
Bis(2-chloroisopropyl)ether	ND	3.6	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
Bis(2-ethylhexyl)phthalate	ND	7.0	10		µg/L	1	8/24/2023 11:57:03 AM	76988
4-Bromophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
Butyl benzyl phthalate	ND	6.5	10		µg/L	1	8/24/2023 11:57:03 AM	76988
Carbazole	ND	5.3	10		µg/L	1	8/24/2023 11:57:03 AM	76988
4-Chloro-3-methylphenol	ND	4.6	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
4-Chloroaniline	ND	4.7	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
2-Chloronaphthalene	ND	3.2	10		µg/L	1	8/24/2023 11:57:03 AM	76988
2-Chlorophenol	ND	4.5	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
4-Chlorophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
Chrysene	ND	4.7	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
Di-n-butyl phthalate	ND	19	20		µg/L	1	8/24/2023 11:57:03 AM	76988
Di-n-octyl phthalate	ND	5.6	10		µg/L	1	8/24/2023 11:57:03 AM	76988
Dibenz(a,h)anthracene	ND	4.9	10		µg/L	1	8/24/2023 11:57:03 AM	76988
Dibenzofuran	ND	4.9	10		µg/L	1	8/24/2023 11:57:03 AM	76988
1,2-Dichlorobenzene	ND	2.9	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
1,3-Dichlorobenzene	ND	3.0	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
1,4-Dichlorobenzene	ND	1.8	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
3,3´-Dichlorobenzidine	ND	5.9	10		µg/L	1	8/24/2023 11:57:03 AM	76988
Diethyl phthalate	ND	5.6	10		µg/L	1	8/24/2023 11:57:03 AM	76988
Dimethyl phthalate	ND	5.4	10		µg/L	1	8/24/2023 11:57:03 AM	76988
2,4-Dichlorophenol	ND	3.8	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
2,4-Dimethylphenol	ND	4.8	10		µg/L	1	8/24/2023 11:57:03 AM	76988
4,6-Dinitro-2-methylphenol	ND	4.2	10		µg/L	1	8/24/2023 11:57:03 AM	76988
2,4-Dinitrophenol	ND	4.7	10		µg/L	1	8/24/2023 11:57:03 AM	76988
2,4-Dinitrotoluene	ND	5.0	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
2,6-Dinitrotoluene	ND	5.3	10		µg/L	1	8/24/2023 11:57:03 AM	76988
Fluoranthene	ND	5.5	10		µg/L	1	8/24/2023 11:57:03 AM	76988
Fluorene	ND	4.7	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
Hexachlorobenzene	ND	4.6	20		µg/L	1	8/24/2023 11:57:03 AM	76988
Hexachlorobutadiene	ND	2.5	20		µg/L	1	8/24/2023 11:57:03 AM	76988

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P	Sample pH Not In Range
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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: EB-0815
Project: AOC 26 27
Collection Date: 8/15/2023 4:30:00 PM
Lab ID: 2308975-043
Matrix: AQUEOUS
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorocyclopentadiene	ND	2.2	20		µg/L	1	8/24/2023 11:57:03 AM	76988
Hexachloroethane	ND	2.8	20		µg/L	1	8/24/2023 11:57:03 AM	76988
Indeno(1,2,3-cd)pyrene	ND	5.3	10		µg/L	1	8/24/2023 11:57:03 AM	76988
Isophorone	ND	4.3	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
1-Methylnaphthalene	ND	3.1	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
2-Methylnaphthalene	ND	2.4	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
2-Methylphenol	ND	4.7	10		µg/L	1	8/24/2023 11:57:03 AM	76988
3+4-Methylphenol	ND	4.9	10		µg/L	1	8/24/2023 11:57:03 AM	76988
N-Nitrosodi-n-propylamine	ND	3.7	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
N-Nitrosodimethylamine	ND	3.1	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
N-Nitrosodiphenylamine	ND	5.2	10		µg/L	1	8/24/2023 11:57:03 AM	76988
Naphthalene	ND	3.2	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
2-Nitroaniline	ND	5.0	10		µg/L	1	8/24/2023 11:57:03 AM	76988
3-Nitroaniline	ND	5.0	10		µg/L	1	8/24/2023 11:57:03 AM	76988
4-Nitroaniline	ND	4.5	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
Nitrobenzene	ND	3.6	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
2-Nitrophenol	ND	4.4	10		µg/L	1	8/24/2023 11:57:03 AM	76988
4-Nitrophenol	ND	2.9	10		µg/L	1	8/24/2023 11:57:03 AM	76988
Pentachlorophenol	ND	4.9	20		µg/L	1	8/24/2023 11:57:03 AM	76988
Phenanthrene	ND	4.8	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
Phenol	ND	3.9	10		µg/L	1	8/24/2023 11:57:03 AM	76988
Pyrene	ND	5.2	10		µg/L	1	8/24/2023 11:57:03 AM	76988
Pyridine	ND	31	40		µg/L	1	8/24/2023 11:57:03 AM	76988
1,2,4-Trichlorobenzene	ND	2.6	5.0		µg/L	1	8/24/2023 11:57:03 AM	76988
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	8/24/2023 11:57:03 AM	76988
2,4,6-Trichlorophenol	ND	4.1	10		µg/L	1	8/24/2023 11:57:03 AM	76988
Surr: 2-Fluorophenol	78.1	0	15-84.1		%Rec	1	8/24/2023 11:57:03 AM	76988
Surr: Phenol-d5	59.2	0	16.5-50.7	S	%Rec	1	8/24/2023 11:57:03 AM	76988
Surr: 2,4,6-Tribromophenol	69.4	0	15-133		%Rec	1	8/24/2023 11:57:03 AM	76988
Surr: Nitrobenzene-d5	80.3	0	30.9-86.8		%Rec	1	8/24/2023 11:57:03 AM	76988
Surr: 2-Fluorobiphenyl	85.0	0	24.3-77.2	S	%Rec	1	8/24/2023 11:57:03 AM	76988
Surr: 4-Terphenyl-d14	103	0	52.3-118		%Rec	1	8/24/2023 11:57:03 AM	76988
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	ND	0.23	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Toluene	ND	0.20	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Ethylbenzene	ND	0.21	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
1,2,4-Trimethylbenzene	ND	0.12	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109

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B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
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P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: EB-0815
Project: AOC 26 27
Collection Date: 8/15/2023 4:30:00 PM
Lab ID: 2308975-043
Matrix: AQUEOUS
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
1,2-Dichloroethane (EDC)	ND	0.30	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Naphthalene	ND	0.24	2.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
2-Methylnaphthalene	1.3	0.69	4.0	J	µg/L	1	8/21/2023 4:27:00 PM	R99109
Acetone	4.3	2.5	10	J	µg/L	1	8/21/2023 4:27:00 PM	R99109
Bromobenzene	ND	0.28	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Bromodichloromethane	ND	0.20	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Bromoform	ND	0.31	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Bromomethane	ND	0.85	3.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
2-Butanone	ND	2.0	10		µg/L	1	8/21/2023 4:27:00 PM	R99109
Carbon disulfide	ND	0.59	10		µg/L	1	8/21/2023 4:27:00 PM	R99109
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Chlorobenzene	ND	0.46	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Chloroethane	ND	0.38	2.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Chloroform	ND	0.13	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Chloromethane	ND	0.41	3.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
cis-1,3-Dichloropropene	ND	0.12	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Dibromochloromethane	ND	0.28	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Dibromomethane	ND	0.31	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
1,4-Dichlorobenzene	ND	0.10	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
1,1-Dichloroethane	ND	0.30	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
1,1-Dichloroethene	ND	0.20	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
1,2-Dichloropropane	ND	0.20	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
1,1-Dichloropropene	ND	0.18	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Hexachlorobutadiene	ND	0.42	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
2-Hexanone	ND	1.8	10		µg/L	1	8/21/2023 4:27:00 PM	R99109
Isopropylbenzene	ND	0.18	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
4-Methyl-2-pentanone	ND	0.67	10		µg/L	1	8/21/2023 4:27:00 PM	R99109

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Analytical Report
Lab Order **2308975**
Date Reported: **9/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: EB-0815
Project: AOC 26 27
Collection Date: 8/15/2023 4:30:00 PM
Lab ID: 2308975-043 **Matrix:** AQUEOUS **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Methylene Chloride	ND	0.50	3.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
n-Butylbenzene	ND	0.13	3.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
n-Propylbenzene	ND	0.11	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
sec-Butylbenzene	ND	0.14	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Styrene	ND	0.14	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Tetrachloroethene (PCE)	ND	0.18	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
trans-1,2-DCE	ND	0.19	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
1,2,3-Trichlorobenzene	ND	0.25	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
1,1,1-Trichloroethane	ND	0.081	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
1,1,2-Trichloroethane	ND	0.20	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Trichloroethene (TCE)	ND	0.20	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Trichlorofluoromethane	ND	0.16	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
1,2,3-Trichloropropane	ND	0.16	2.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Vinyl chloride	ND	0.32	1.0		µg/L	1	8/21/2023 4:27:00 PM	R99109
Xylenes, Total	ND	0.37	1.5		µg/L	1	8/21/2023 4:27:00 PM	R99109
Surr: 1,2-Dichloroethane-d4	120	0	70-130		%Rec	1	8/21/2023 4:27:00 PM	R99109
Surr: 4-Bromofluorobenzene	112	0	70-130		%Rec	1	8/21/2023 4:27:00 PM	R99109
Surr: Dibromofluoromethane	123	0	70-130		%Rec	1	8/21/2023 4:27:00 PM	R99109
Surr: Toluene-d8	104	0	70-130		%Rec	1	8/21/2023 4:27:00 PM	R99109

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA Method 200.7: Metals**
Client ID: **PBW** Batch ID: **A99201** RunNo: **99201**
Prep Date: Analysis Date: **8/23/2023** SeqNo: **3616909** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0030								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	0.0095	0.050								J
Manganese	ND	0.0020								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Sample ID: **LCSLL** SampType: **LCSLL** TestCode: **EPA Method 200.7: Metals**
Client ID: **BatchQC** Batch ID: **A99201** RunNo: **99201**
Prep Date: Analysis Date: **8/23/2023** SeqNo: **3616910** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0030	0.0030	0.002000	0	148	50	150			J
Beryllium	0.0019	0.0020	0.002000	0	95.6	50	150			J
Cadmium	0.0020	0.0020	0.002000	0	101	50	150			
Chromium	0.0057	0.0060	0.006000	0	95.4	50	150			J
Cobalt	0.0050	0.0060	0.006000	0	83.8	50	150			J
Iron	0.018	0.050	0.02000	0	92.3	50	150			J
Manganese	0.0020	0.0020	0.002000	0	99.5	50	150			J
Vanadium	0.0091	0.050	0.01000	0	91.5	50	150			J
Zinc	0.0087	0.010	0.01000	0	87.4	50	150			J

Sample ID: **LCS** SampType: **LCS** TestCode: **EPA Method 200.7: Metals**
Client ID: **LCSW** Batch ID: **A99201** RunNo: **99201**
Prep Date: Analysis Date: **8/23/2023** SeqNo: **3616911** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0030	0.5000	0	97.5	85	115			
Beryllium	0.48	0.0020	0.5000	0	97.0	85	115			
Cadmium	0.48	0.0020	0.5000	0	95.4	85	115			
Chromium	0.49	0.0060	0.5000	0	98.0	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.2	85	115			
Iron	0.49	0.050	0.5000	0	98.0	85	115			
Manganese	0.49	0.0020	0.5000	0	97.2	85	115			
Vanadium	0.48	0.050	0.5000	0	95.4	85	115			
Zinc	0.45	0.010	0.5000	0	90.9	85	115			

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB-77100** SampType: **MBLK** TestCode: **EPA 200.8: Metals**
Client ID: **PBW** Batch ID: **77100** RunNo: **99275**
Prep Date: **8/25/2023** Analysis Date: **8/28/2023** SeqNo: **3621316** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.00050								
Lead	ND	0.00050								
Nickel	ND	0.00050								
Selenium	ND	0.0010								
Silver	ND	0.00050								

Sample ID: **MSLCSLL-77100** SampType: **LCSLL** TestCode: **EPA 200.8: Metals**
Client ID: **BatchQC** Batch ID: **77100** RunNo: **99275**
Prep Date: **8/25/2023** Analysis Date: **8/28/2023** SeqNo: **3621317** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0011	0.0010	0.001000	0	109	50	150			
Lead	0.00049	0.00050	0.0005000	0	98.5	50	150			J
Selenium	0.0011	0.0010	0.001000	0	107	50	150			
Silver	0.00047	0.00050	0.0005000	0	93.1	50	150			J

Sample ID: **MSLCS-77100** SampType: **LCS** TestCode: **EPA 200.8: Metals**
Client ID: **LCSW** Batch ID: **77100** RunNo: **99275**
Prep Date: **8/25/2023** Analysis Date: **8/28/2023** SeqNo: **3621318** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	102	85	115			
Arsenic	0.025	0.00050	0.02500	0	98.7	85	115			
Lead	0.012	0.00050	0.01250	0	98.8	85	115			
Nickel	0.025	0.00050	0.02500	0	100	85	115			
Selenium	0.025	0.0010	0.02500	0	99.9	85	115			
Silver	0.012	0.00050	0.01250	0	97.9	85	115			

Sample ID: **MSLCSLL-TL-77100** SampType: **LCSLL** TestCode: **EPA 200.8: Metals**
Client ID: **BatchQC** Batch ID: **77100** RunNo: **99275**
Prep Date: **8/25/2023** Analysis Date: **8/28/2023** SeqNo: **3621319** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00038	0.00050	0.0005000	0	76.2	50	150			J
Nickel	0.00053	0.00050	0.0005000	0	106	50	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **MB-76963**	SampType: **MBLK**	TestCode: **EPA Method 245.1: Mercury**
Client ID: **PBW**	Batch ID: **76963**	RunNo: **99142**
Prep Date: **8/21/2023**	Analysis Date: **8/22/2023**	SeqNo: **3613925** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: **LCSLL-76963**	SampType: **LCSLL**	TestCode: **EPA Method 245.1: Mercury**
Client ID: **BatchQC**	Batch ID: **76963**	RunNo: **99142**
Prep Date: **8/21/2023**	Analysis Date: **8/22/2023**	SeqNo: **3613926** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00017	0.00020	0.0001500	0	112	50	150			J

Sample ID: **LCS-76963**	SampType: **LCS**	TestCode: **EPA Method 245.1: Mercury**
Client ID: **LCSW**	Batch ID: **76963**	RunNo: **99142**
Prep Date: **8/21/2023**	Analysis Date: **8/22/2023**	SeqNo: **3613927** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.6	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB-76953**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **76953**	RunNo: **99079**							
Prep Date: **8/18/2023**	Analysis Date: **8/18/2023**	SeqNo: **3611734**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-76953**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **76953**	RunNo: **99079**							
Prep Date: **8/18/2023**	Analysis Date: **8/18/2023**	SeqNo: **3611735**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.3	90	110			

Sample ID: **MB-77044**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **77044**	RunNo: **99168**							
Prep Date: **8/23/2023**	Analysis Date: **8/23/2023**	SeqNo: **3617092**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-77044**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **77044**	RunNo: **99168**							
Prep Date: **8/23/2023**	Analysis Date: **8/23/2023**	SeqNo: **3617093**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.1	90	110			

Sample ID: **MB-77012**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **77012**	RunNo: **99202**							
Prep Date: **8/22/2023**	Analysis Date: **8/23/2023**	SeqNo: **3617115**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-77012**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **77012**	RunNo: **99202**							
Prep Date: **8/22/2023**	Analysis Date: **8/23/2023**	SeqNo: **3617117**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.0	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **MB-77044**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **77044**	RunNo: **99202**							
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617267**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **MB-77116**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **77116**	RunNo: **99266**							
Prep Date: **8/25/2023**	Analysis Date: **8/26/2023**	SeqNo: **3620955**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-77116**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **77116**	RunNo: **99266**							
Prep Date: **8/25/2023**	Analysis Date: **8/26/2023**	SeqNo: **3620958**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.6	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R99082**	RunNo: **99082**							
Prep Date:	Analysis Date: **8/18/2023**	SeqNo: **3611579**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R99082**	RunNo: **99082**							
Prep Date:	Analysis Date: **8/18/2023**	SeqNo: **3611580**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	95.9	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB-76927**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **PBS**	Batch ID: **76927**	RunNo: **99162**
Prep Date: **8/22/2023**	Analysis Date: **8/22/2023**	SeqNo: **3616385** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.10								

Sample ID: **MB-76928**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **PBS**	Batch ID: **76928**	RunNo: **99162**
Prep Date: **8/22/2023**	Analysis Date: **8/22/2023**	SeqNo: **3616386** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.10								

Sample ID: **LCS-76927**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **LCSS**	Batch ID: **76927**	RunNo: **99162**
Prep Date: **8/22/2023**	Analysis Date: **8/22/2023**	SeqNo: **3616387** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	1.3	0.10	1.000	0	131	70	130			S

Sample ID: **LCS-76928**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **LCSS**	Batch ID: **76928**	RunNo: **99162**
Prep Date: **8/22/2023**	Analysis Date: **8/22/2023**	SeqNo: **3616388** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	1.3	0.10	1.000	0	129	70	130			

Sample ID: **MB-76927**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **PBS**	Batch ID: **76927**	RunNo: **99162**
Prep Date: **8/22/2023**	Analysis Date: **8/22/2023**	SeqNo: **3616405** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.10								

Sample ID: **MB-76928**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **PBS**	Batch ID: **76928**	RunNo: **99162**
Prep Date: **8/22/2023**	Analysis Date: **8/22/2023**	SeqNo: **3616413** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **LCS-76927**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **LCSS**	Batch ID: **76927**	RunNo: **99162**
Prep Date: **8/22/2023**	Analysis Date: **8/22/2023**	SeqNo: **3616414** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	1.3	0.10	1.000	0	133	70	130			S

Sample ID: **LCS-76928**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **LCSS**	Batch ID: **76928**	RunNo: **99162**
Prep Date: **8/22/2023**	Analysis Date: **8/22/2023**	SeqNo: **3616415** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	1.3	0.10	1.000	0	127	70	130			

Sample ID: **2308975-001AMS**	SampType: **MS**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **SB-24(0.5-1)**	Batch ID: **76927**	RunNo: **99162**
Prep Date: **8/22/2023**	Analysis Date: **8/22/2023**	SeqNo: **3616417** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.93	0.092	0.9162	0	102	65	135			

Sample ID: **2308975-021AMS**	SampType: **MS**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **SB-01(0.5-1)**	Batch ID: **76928**	RunNo: **99162**
Prep Date: **8/22/2023**	Analysis Date: **8/22/2023**	SeqNo: **3616418** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.74	0.082	0.8235	0	90.2	65	135			

Sample ID: **2308975-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **SB-24(0.5-1)**	Batch ID: **76927**	RunNo: **99162**
Prep Date: **8/22/2023**	Analysis Date: **8/22/2023**	SeqNo: **3616419** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	1.1	0.096	0.9642	0	117	65	135	18.9	20	

Sample ID: **2308975-021AMSD**	SampType: **MSD**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **SB-01(0.5-1)**	Batch ID: **76928**	RunNo: **99162**
Prep Date: **8/22/2023**	Analysis Date: **8/22/2023**	SeqNo: **3616420** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.65	0.083	0.8274	0	78.6	65	135	13.3	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **LCSD-76928**	SampType: **LCSD**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **LCSS02**	Batch ID: **76928**	RunNo: **99162**
Prep Date: **8/22/2023**	Analysis Date: **8/22/2023**	SeqNo: **3616507** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	1.4	0.10	1.000	0	139	70	130	7.22	20	S

Sample ID: **LCSD-76928**	SampType: **LCSD**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **LCSS02**	Batch ID: **76928**	RunNo: **99162**
Prep Date: **8/22/2023**	Analysis Date: **8/22/2023**	SeqNo: **3616508** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	1.3	0.10	1.000	0	133	70	130	4.51	20	S

Sample ID: **MB-76925**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **PBS**	Batch ID: **76925**	RunNo: **99194**
Prep Date: **8/23/2023**	Analysis Date: **8/23/2023**	SeqNo: **3616517** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.10								

Sample ID: **LCS-76925**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **LCSS**	Batch ID: **76925**	RunNo: **99194**
Prep Date: **8/23/2023**	Analysis Date: **8/23/2023**	SeqNo: **3616519** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.62	0.10	1.000	0	61.5	70	130			S

Sample ID: **MB-76925**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **PBS**	Batch ID: **76925**	RunNo: **99194**
Prep Date: **8/23/2023**	Analysis Date: **8/23/2023**	SeqNo: **3616529** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.10								

Sample ID: **LCS-76925**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **LCSS**	Batch ID: **76925**	RunNo: **99194**
Prep Date: **8/23/2023**	Analysis Date: **8/23/2023**	SeqNo: **3616531** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	1.1	0.10	1.000	0	114	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **2308975-042AMS**	SampType: **MS**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **DUP-0815-5**	Batch ID: **76925**	RunNo: **99194**
Prep Date: **8/23/2023**	Analysis Date: **8/23/2023**	SeqNo: **3616699** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.93	0.091	0.9067	0	103	65	135			

Sample ID: **2308975-042AMSD**	SampType: **MSD**	TestCode: **EPA Method 8011/504.1 Modified: EDB**
Client ID: **DUP-0815-5**	Batch ID: **76925**	RunNo: **99194**
Prep Date: **8/23/2023**	Analysis Date: **8/23/2023**	SeqNo: **3616701** Units: **µg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.77	0.095	0.9537	0	80.9	65	135	19.1	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB-77041**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **PBW**	Batch ID: **77041**	RunNo: **99225**
Prep Date: **8/24/2023**	Analysis Date: **8/24/2023**	SeqNo: **3618289** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: **LCS-77041**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **LCSW**	Batch ID: **77041**	RunNo: **99225**
Prep Date: **8/24/2023**	Analysis Date: **8/24/2023**	SeqNo: **3618290** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.10	0.010	0.1000	0	100	70	130			

Sample ID: **LCSD-77041**	SampType: **LCSD**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **LCSS02**	Batch ID: **77041**	RunNo: **99225**
Prep Date: **8/24/2023**	Analysis Date: **8/24/2023**	SeqNo: **3618291** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.1000	0	108	70	130	7.62	20	

Sample ID: **MB-77041**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **PBW**	Batch ID: **77041**	RunNo: **99225**
Prep Date: **8/24/2023**	Analysis Date: **8/24/2023**	SeqNo: **3618300** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: **LCS-77041**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **LCSW**	Batch ID: **77041**	RunNo: **99225**
Prep Date: **8/24/2023**	Analysis Date: **8/24/2023**	SeqNo: **3618301** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.10	0.010	0.1000	0	99.9	70	130			

Sample ID: **LCSD-77041**	SampType: **LCSD**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **LCSS02**	Batch ID: **77041**	RunNo: **99225**
Prep Date: **8/24/2023**	Analysis Date: **8/24/2023**	SeqNo: **3618302** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.10	0.010	0.1000	0	103	70	130	3.11	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID:	**MB-77032**	SampType:	**MBLK**	TestCode:	**EPA Method 6020A: Total Metals**
Client ID:	**PBS**	Batch ID:	**77032**	RunNo:	**99290**
Prep Date:	**8/23/2023**	Analysis Date:	**8/28/2023**	SeqNo:	**3622142** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.20								
Arsenic	ND	0.20								
Lead	ND	0.20								
Silver	ND	0.20								

Sample ID:	**MSLCSLL-77032**	SampType:	**LCSLL**	TestCode:	**EPA Method 6020A: Total Metals**
Client ID:	**BatchQC**	Batch ID:	**77032**	RunNo:	**99290**
Prep Date:	**8/23/2023**	Analysis Date:	**8/28/2023**	SeqNo:	**3622144** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.10	0.20	0.1000	0	101	70	130			J
Silver	0.10	0.20	0.1000	0	104	70	130			J

Sample ID:	**MSLCS-77032**	SampType:	**LCS**	TestCode:	**EPA Method 6020A: Total Metals**
Client ID:	**LCSS**	Batch ID:	**77032**	RunNo:	**99290**
Prep Date:	**8/23/2023**	Analysis Date:	**8/28/2023**	SeqNo:	**3622146** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	4.9	0.20	5.000	0	97.5	80	120			
Arsenic	4.5	0.20	5.000	0	89.2	80	120			
Lead	5.1	0.20	5.000	0	103	80	120			
Silver	2.4	0.20	2.500	0	95.5	80	120			

Sample ID:	**MSLCSLL-77032**	SampType:	**LCSLL**	TestCode:	**EPA Method 6020A: Total Metals**
Client ID:	**BatchQC**	Batch ID:	**77032**	RunNo:	**99290**
Prep Date:	**8/23/2023**	Analysis Date:	**8/28/2023**	SeqNo:	**3622148** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.11	0.20	0.1000	0	110	70	130			J
Lead	0.15	0.20	0.1000	0	150	70	130			JS

Sample ID:	**MB-77032**	SampType:	**MBLK**	TestCode:	**EPA Method 6020A: Total Metals**
Client ID:	**PBS**	Batch ID:	**77032**	RunNo:	**99336**
Prep Date:	**8/23/2023**	Analysis Date:	**8/29/2023**	SeqNo:	**3624450** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nickel	ND	0.20								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MSLCS-77032** SampType: **LCS** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **LCSS** Batch ID: **77032** RunNo: **99336**
Prep Date: **8/23/2023** Analysis Date: **8/29/2023** SeqNo: **3624452** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nickel	5.5	0.20	5.000	0	110	80	120			

Sample ID: **MB-76972** SampType: **MBLK** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **PBS** Batch ID: **76972** RunNo: **99336**
Prep Date: **8/21/2023** Analysis Date: **8/29/2023** SeqNo: **3624464** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.20								
Arsenic	ND	0.20								
Lead	ND	0.20								
Nickel	ND	0.20								
Selenium	ND	0.20								
Silver	ND	0.20								

Sample ID: **MSLCSLL-76972** SampType: **LCSLL** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **BatchQC** Batch ID: **76972** RunNo: **99336**
Prep Date: **8/21/2023** Analysis Date: **8/29/2023** SeqNo: **3624465** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.11	0.20	0.1000	0	112	70	130			J
Arsenic	0.10	0.20	0.1000	0	101	70	130			J
Lead	0.11	0.20	0.1000	0	111	70	130			J
Nickel	0.13	0.20	0.1000	0	134	70	130			JS
Selenium	0.081	0.20	0.1000	0	80.8	70	130			J
Silver	0.11	0.20	0.1000	0	112	70	130			J

Sample ID: **MSLCS-76972** SampType: **LCS** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **LCSS** Batch ID: **76972** RunNo: **99336**
Prep Date: **8/21/2023** Analysis Date: **8/29/2023** SeqNo: **3624466** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	5.2	0.20	5.000	0	104	80	120			
Arsenic	4.7	0.20	5.000	0	93.8	80	120			
Lead	5.5	0.20	5.000	0	110	80	120			
Nickel	5.4	0.20	5.000	0	108	80	120			
Selenium	4.2	0.20	5.000	0	84.3	80	120			
Silver	2.6	0.20	2.500	0	102	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB-77031** SampType: **MBLK** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **PBS** Batch ID: **77031** RunNo: **99336**
Prep Date: **8/23/2023** Analysis Date: **8/29/2023** SeqNo: **3624467** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.20								
Arsenic	ND	0.20								
Lead	ND	0.20								
Nickel	ND	0.20								
Selenium	ND	0.20								
Silver	ND	0.20								

Sample ID: **MSLCSLL-77031** SampType: **LCSLL** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **BatchQC** Batch ID: **77031** RunNo: **99336**
Prep Date: **8/23/2023** Analysis Date: **8/29/2023** SeqNo: **3624468** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.11	0.20	0.1000	0	114	70	130			J
Arsenic	0.11	0.20	0.1000	0	112	70	130			J
Lead	0.11	0.20	0.1000	0	115	70	130			J
Nickel	0.11	0.20	0.1000	0	114	70	130			J
Selenium	0.12	0.20	0.1000	0	115	70	130			J
Silver	0.10	0.20	0.1000	0	99.5	70	130			J

Sample ID: **MSLCS-77031** SampType: **LCS** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **LCSS** Batch ID: **77031** RunNo: **99336**
Prep Date: **8/23/2023** Analysis Date: **8/29/2023** SeqNo: **3624469** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	5.2	0.20	5.000	0	104	80	120			
Arsenic	4.6	0.20	5.000	0	91.6	80	120			
Lead	5.3	0.20	5.000	0	106	80	120			
Nickel	4.9	0.20	5.000	0	98.9	80	120			
Selenium	4.7	0.20	5.000	0	93.6	80	120			
Silver	2.4	0.20	2.500	0	94.2	80	120			

Sample ID: **MB-77148** SampType: **MBLK** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **PBS** Batch ID: **77148** RunNo: **99336**
Prep Date: **8/28/2023** Analysis Date: **8/29/2023** SeqNo: **3624483** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.20								
Lead	ND	0.20								
Selenium	ND	0.20								
Silver	ND	0.20								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MSLCSLL-77148**	SampType: **LCSLL**	TestCode: **EPA Method 6020A: Total Metals**
Client ID: **BatchQC**	Batch ID: **77148**	RunNo: **99336**
Prep Date: **8/28/2023**	Analysis Date: **8/29/2023**	SeqNo: **3624486** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.099	0.20	0.1000	0	99.3	70	130			J
Lead	0.12	0.20	0.1000	0	119	70	130			J
Selenium	0.086	0.20	0.1000	0	85.7	70	130			J
Silver	0.11	0.20	0.1000	0	105	70	130			J

Sample ID: **MSLCS-77148**	SampType: **LCS**	TestCode: **EPA Method 6020A: Total Metals**
Client ID: **LCSS**	Batch ID: **77148**	RunNo: **99336**
Prep Date: **8/28/2023**	Analysis Date: **8/29/2023**	SeqNo: **3624487** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	4.5	0.20	5.000	0	90.6	80	120			
Lead	5.3	0.20	5.000	0	106	80	120			
Selenium	4.1	0.20	5.000	0	81.4	80	120			
Silver	2.5	0.20	2.500	0	99.2	80	120			

Sample ID: **MSLCSLL-76972**	SampType: **LCSLL**	TestCode: **EPA Method 6020A: Total Metals**
Client ID: **BatchQC**	Batch ID: **76972**	RunNo: **99336**
Prep Date: **8/21/2023**	Analysis Date: **8/29/2023**	SeqNo: **3624502** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nickel	0.11	0.20	0.1000	0	112	70	130			J

Sample ID: **MSLCSLL-77032**	SampType: **LCSLL**	TestCode: **EPA Method 6020A: Total Metals**
Client ID: **BatchQC**	Batch ID: **77032**	RunNo: **99336**
Prep Date: **8/23/2023**	Analysis Date: **8/29/2023**	SeqNo: **3624504** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nickel	0.13	0.20	0.1000	0	128	70	130			J

Sample ID: **MB-77032**	SampType: **MBLK**	TestCode: **EPA Method 6020A: Total Metals**
Client ID: **PBS**	Batch ID: **77032**	RunNo: **99364**
Prep Date: **8/23/2023**	Analysis Date: **8/30/2023**	SeqNo: **3625965** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.20								
Selenium	ND	0.20								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MSLCS-77032** SampType: **LCS** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **LCSS** Batch ID: **77032** RunNo: **99364**
Prep Date: **8/23/2023** Analysis Date: **8/30/2023** SeqNo: **3625967** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	5.1	0.20	5.000	0	102	80	120			

Sample ID: **MSLCSLL-77032** SampType: **LCSLL** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **BatchQC** Batch ID: **77032** RunNo: **99364**
Prep Date: **8/23/2023** Analysis Date: **8/30/2023** SeqNo: **3625970** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.14	0.20	0.1000	0	137	70	130			JS
Selenium	0.059	0.20	0.1000	0	58.6	70	130			JS

Sample ID: **MSLCS-77032** SampType: **LCS** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **LCSS** Batch ID: **77032** RunNo: **99364**
Prep Date: **8/23/2023** Analysis Date: **8/30/2023** SeqNo: **3625971** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	4.4	0.20	5.000	0	88.3	80	120			

Sample ID: **MB-77148** SampType: **MBLK** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **PBS** Batch ID: **77148** RunNo: **99364**
Prep Date: **8/28/2023** Analysis Date: **8/30/2023** SeqNo: **3625978** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nickel	ND	0.20								

Sample ID: **MSLCSLL-77148** SampType: **LCSLL** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **BatchQC** Batch ID: **77148** RunNo: **99364**
Prep Date: **8/28/2023** Analysis Date: **8/30/2023** SeqNo: **3625979** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nickel	0.27	0.20	0.1000	0	271	70	130			S

Sample ID: **MSLCS-77148** SampType: **LCS** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **LCSS** Batch ID: **77148** RunNo: **99364**
Prep Date: **8/28/2023** Analysis Date: **8/30/2023** SeqNo: **3625980** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nickel	5.3	0.20	5.000	0	106	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MSLCSLL-77148** SampType: **LCSLL** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **BatchQC** Batch ID: **77148** RunNo: **99364**
Prep Date: **8/28/2023** Analysis Date: **8/30/2023** SeqNo: **3625990** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nickel	0.26	0.20	0.1000	0	260	70	130			S

Sample ID: **2308975-001AMSLL** SampType: **MS** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **SB-24(0.5-1)** Batch ID: **76972** RunNo: **99364**
Prep Date: **8/21/2023** Analysis Date: **8/30/2023** SeqNo: **3625999** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	6.8	0.50	4.975	1.663	104	70	130			
Lead	13	0.50	4.975	6.901	114	70	130			
Nickel	13	0.50	4.975	7.080	128	70	130			
Selenium	5.4	0.50	4.975	0.9319	89.5	70	130			
Silver	2.5	0.50	2.487	0	101	70	130			

Sample ID: **2308975-001AMSDL** SampType: **MSD** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **SB-24(0.5-1)** Batch ID: **76972** RunNo: **99364**
Prep Date: **8/21/2023** Analysis Date: **8/30/2023** SeqNo: **3626002** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	7.5	0.49	4.871	1.663	120	70	130	9.24	20	
Lead	14	0.49	4.871	6.901	145	70	130	10.4	20	S
Nickel	15	0.49	4.871	7.080	163	70	130	10.8	20	S
Selenium	5.1	0.49	4.871	0.9319	84.7	70	130	6.33	20	
Silver	2.5	0.49	2.435	0	103	70	130	0.301	20	

Sample ID: **2308975-015AMSLL** SampType: **MS** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **SB-19(0.5-1)** Batch ID: **77031** RunNo: **99364**
Prep Date: **8/23/2023** Analysis Date: **8/30/2023** SeqNo: **3626022** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	1.8	0.49	4.935	0	35.5	70	130			S
Arsenic	7.0	0.49	4.935	2.284	95.5	70	130			
Lead	23	0.49	4.935	14.37	167	70	130			S
Nickel	23	0.49	4.935	25.07	-48.7	70	130			S
Silver	2.5	0.49	2.467	0	100	70	130			

Sample ID: **2308975-015AMSDL** SampType: **MSD** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **SB-19(0.5-1)** Batch ID: **77031** RunNo: **99364**
Prep Date: **8/23/2023** Analysis Date: **8/30/2023** SeqNo: **3626023** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **2308975-015AMSDL** SampType: **MSD** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **SB-19(0.5-1)** Batch ID: **77031** RunNo: **99364**
Prep Date: **8/23/2023** Analysis Date: **8/30/2023** SeqNo: **3626023** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	1.9	0.50	4.998	0	37.6	70	130	7.04	20	S
Arsenic	8.3	0.50	4.998	2.284	120	70	130	17.0	20	
Lead	22	0.50	4.998	14.37	145	70	130	4.31	20	S
Nickel	25	0.50	4.998	25.07	-4.74	70	130	9.13	20	S
Silver	2.6	0.50	2.499	0	105	70	130	5.44	20	

Sample ID: **MB-77148** SampType: **MBLK** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **PBS** Batch ID: **77148** RunNo: **99399**
Prep Date: **8/28/2023** Analysis Date: **8/31/2023** SeqNo: **3627345** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.20								

Sample ID: **MSLCSLL-77148** SampType: **LCSLL** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **BatchQC** Batch ID: **77148** RunNo: **99399**
Prep Date: **8/28/2023** Analysis Date: **8/31/2023** SeqNo: **3627346** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.12	0.20	0.1000	0	118	70	130			J

Sample ID: **MSLCS-77148** SampType: **LCS** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **LCSS** Batch ID: **77148** RunNo: **99399**
Prep Date: **8/28/2023** Analysis Date: **8/31/2023** SeqNo: **3627353** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	5.5	0.20	5.000	0	109	80	120			

Sample ID: **2308975-015AMSLL** SampType: **MS** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **SB-19(0.5-1)** Batch ID: **77031** RunNo: **99399**
Prep Date: **8/23/2023** Analysis Date: **8/31/2023** SeqNo: **3627402** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	5.8	0.49	4.935	1.576	85.5	70	130			

Sample ID: **2308975-015AMSDL** SampType: **MSD** TestCode: **EPA Method 6020A: Total Metals**
Client ID: **SB-19(0.5-1)** Batch ID: **77031** RunNo: **99399**
Prep Date: **8/23/2023** Analysis Date: **8/31/2023** SeqNo: **3627403** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	5.3	0.50	4.998	1.576	73.6	70	130	9.71	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB-76950**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **76950**	RunNo: **99104**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613456** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	7.7		10.00		77.2	69	147			

Sample ID: **LCS-76950**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **76950**	RunNo: **99104**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613457** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	95.0	61.9	130			
Surr: DNOP	4.0		5.000		80.7	69	147			

Sample ID: **MB-76951**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **76951**	RunNo: **99104**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613458** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.7		10.00		87.4	69	147			

Sample ID: **LCS-76951**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **76951**	RunNo: **99104**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613459** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.6	61.9	130			
Surr: DNOP	3.9		5.000		78.5	69	147			

Sample ID: **MB-76983**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **76983**	RunNo: **99148**
Prep Date: **8/21/2023**	Analysis Date: **8/22/2023**	SeqNo: **3614304** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.3		10.00		83.2	69	147			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **LCS-76983**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **76983**	RunNo: **99148**
Prep Date: **8/21/2023**	Analysis Date: **8/22/2023**	SeqNo: **3614305** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.6	61.9	130			
Surr: DNOP	4.4		5.000		88.6	69	147			

Sample ID: **2308975-042AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **DUP-0815-5**	Batch ID: **76983**	RunNo: **99148**
Prep Date: **8/21/2023**	Analysis Date: **8/22/2023**	SeqNo: **3614310** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.0	44.88	0	105	54.2	135			
Surr: DNOP	4.1		4.488		91.4	69	147			

Sample ID: **2308975-042AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **DUP-0815-5**	Batch ID: **76983**	RunNo: **99148**
Prep Date: **8/21/2023**	Analysis Date: **8/22/2023**	SeqNo: **3614311** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.5	47.30	0	101	54.2	135	0.802	29.2	
Surr: DNOP	4.0		4.730		83.7	69	147	0	0	

Sample ID: **2308975-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SB-24(0.5-1)**	Batch ID: **76950**	RunNo: **99145**
Prep Date: **8/18/2023**	Analysis Date: **8/22/2023**	SeqNo: **3614712** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.3	46.43	22.14	54.7	54.2	135			
Surr: DNOP	4.8		4.643		103	69	147			

Sample ID: **2308975-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SB-24(0.5-1)**	Batch ID: **76950**	RunNo: **99145**
Prep Date: **8/18/2023**	Analysis Date: **8/22/2023**	SeqNo: **3614714** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	49.75	22.14	54.6	54.2	135	3.66	29.2	
Surr: DNOP	5.1		4.975		102	69	147	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB-76954**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **76954**	RunNo: **99211**
Prep Date: **8/18/2023**	Analysis Date: **8/23/2023**	SeqNo: **3617529** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.44		0.5000		87.3	54.5	177			

Sample ID: **LCS-76954**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **76954**	RunNo: **99211**
Prep Date: **8/18/2023**	Analysis Date: **8/23/2023**	SeqNo: **3617530** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.6	1.0	2.500	0	103	68.4	146			
Surr: DNOP	0.20		0.2500		80.9	54.5	177			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **GS99112**	RunNo: **99112**
Prep Date:	Analysis Date: **8/21/2023**	SeqNo: **3612968** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.4	70	130			
Surr: BFB	1900		1000		194	15	244			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **GS99112**	RunNo: **99112**
Prep Date:	Analysis Date: **8/21/2023**	SeqNo: **3612969** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		92.6	15	244			

Sample ID: **2308975-002ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SB-24(25-27)**	Batch ID: **GS99112**	RunNo: **99112**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3612983** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	30	6.5	32.26	0	93.7	70	130			
Surr: BFB	2800		1290		219	15	244			

Sample ID: **2308975-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SB-24(25-27)**	Batch ID: **GS99112**	RunNo: **99112**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3612984** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	30	6.5	32.26	0	93.6	70	130	0.128	20	
Surr: BFB	2800		1290		218	15	244	0	0	

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **GS99130**	RunNo: **99130**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3614634** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.7	70	130			
Surr: BFB	2000		1000		199	15	244			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **GS99130**	RunNo: **99130**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3614635** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **GS99130**	RunNo: **99130**							
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3614635**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		100	15	244			

Sample ID: **2308975-021AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **SB-01(0.5-1)**	Batch ID: **GS99130**	RunNo: **99130**							
Prep Date:	Analysis Date: **8/23/2023**	SeqNo: **3614637**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	280	52	260.8	60.51	85.5	70	130			
Surr: BFB	28000		10430		266	15	244			S

Sample ID: **2308975-021AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **SB-01(0.5-1)**	Batch ID: **GS99130**	RunNo: **99130**							
Prep Date:	Analysis Date: **8/23/2023**	SeqNo: **3614638**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	290	52	260.8	60.51	89.3	70	130	3.44	20	
Surr: BFB	28000		10430		264	15	244	0	0	S

Sample ID: **lcs-77000**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **77000**	RunNo: **99164**							
Prep Date: **8/22/2023**	Analysis Date: **8/23/2023**	SeqNo: **3616011**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	85.1	70	130			
Surr: BFB	2000		1000		195	15	244			

Sample ID: **mb-77000**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **77000**	RunNo: **99164**							
Prep Date: **8/22/2023**	Analysis Date: **8/23/2023**	SeqNo: **3616012**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	960		1000		95.5	15	244			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **GW99157**	RunNo: **99157**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3615187** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	44		20.00		221	15	270			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **GW99157**	RunNo: **99157**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3615188** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	21		20.00		104	15	270			

Sample ID: **2.5ug gro lcs 2**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **R99197**	RunNo: **99197**
Prep Date:	Analysis Date: **8/23/2023**	SeqNo: **3616840** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.43	0.050	0.5000	0	85.5	70	130			
Surr: BFB	42		20.00		210	15	270			

Sample ID: **mb 2**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **R99197**	RunNo: **99197**
Prep Date:	Analysis Date: **8/23/2023**	SeqNo: **3616841** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	20		20.00		101	15	270			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **R99117**	RunNo: **99117**
Prep Date:	Analysis Date: **8/21/2023**	SeqNo: **3612626** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	106	70	130			
Toluene	1.0	0.050	1.000	0	104	70	130			
Chlorobenzene	1.1	0.10	1.000	0	107	70	130			
1,1-Dichloroethene	0.94	0.050	1.000	0	94.5	42.1	158			
Trichloroethene (TCE)	1.0	0.050	1.000	0	103	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		92.2	73	145			
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		98.6	64.8	147			
Surr: Toluene-d8	0.48		0.5000		96.5	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.9	62.1	144			

Sample ID: **100ng lcs3**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **B99117**	RunNo: **99117**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3612627** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	107	70	130			
Toluene	1.1	0.050	1.000	0	108	70	130			
Chlorobenzene	1.1	0.10	1.000	0	113	70	130			
1,1-Dichloroethene	0.96	0.050	1.000	0	95.9	42.1	158			
Trichloroethene (TCE)	1.0	0.050	1.000	0	101	70	130			
Surr: Dibromofluoromethane	0.47		0.5000		93.6	73	145			
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		98.2	64.8	147			
Surr: Toluene-d8	0.49		0.5000		97.7	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.4	62.1	144			

Sample ID: **2308975-001ams**	SampType: **MS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **SB-24(0.5-1)**	Batch ID: **R99117**	RunNo: **99117**
Prep Date:	Analysis Date: **8/21/2023**	SeqNo: **3612629** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.4	0.032	1.271	0	113	60.8	141			
Toluene	1.3	0.064	1.271	0	105	15	261			
Chlorobenzene	1.4	0.13	1.271	0	108	60.6	133			
1,1-Dichloroethene	1.3	0.064	1.271	0	103	34.4	140			
Trichloroethene (TCE)	1.4	0.064	1.271	0	107	58.3	134			
Surr: Dibromofluoromethane	0.62		0.6353		98.0	73	145			
Surr: 1,2-Dichloroethane-d4	0.67		0.6353		106	64.8	147			
Surr: Toluene-d8	0.57		0.6353		90.5	70	130			
Surr: 4-Bromofluorobenzene	0.62		0.6353		97.8	62.1	144			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **2308975-001amsd** SampType: **MSD** TestCode: **EPA Method 8260B: Volatiles**
Client ID: **SB-24(0.5-1)** Batch ID: **R99117** RunNo: **99117**
Prep Date: Analysis Date: **8/21/2023** SeqNo: **3612630** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.4	0.032	1.271	0	112	60.8	141	0.928	20	
Toluene	1.3	0.064	1.271	0	103	15	261	2.13	20	
Chlorobenzene	1.4	0.13	1.271	0	109	60.6	133	0.332	20	
1,1-Dichloroethene	1.3	0.064	1.271	0	103	34.4	140	0.509	20	
Trichloroethene (TCE)	1.3	0.064	1.271	0	102	58.3	134	4.48	20	
Surr: Dibromofluoromethane	0.64		0.6353		101	73	145	0	0	
Surr: 1,2-Dichloroethane-d4	0.65		0.6353		103	64.8	147	0	0	
Surr: Toluene-d8	0.58		0.6353		92.0	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.60		0.6353		93.8	62.1	144	0	0	

Sample ID: **2308975-017ams** SampType: **MS** TestCode: **EPA Method 8260B: Volatiles**
Client ID: **SB-19(13-14)** Batch ID: **B99117** RunNo: **99117**
Prep Date: Analysis Date: **8/22/2023** SeqNo: **3612647** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.51	0.012	0.4843	0	105	60.8	141			
Toluene	0.48	0.024	0.4843	0	99.2	15	261			
Chlorobenzene	0.53	0.048	0.4843	0	110	60.6	133			
1,1-Dichloroethene	0.48	0.024	0.4843	0	99.3	34.4	140			
Trichloroethene (TCE)	0.49	0.024	0.4843	0	101	58.3	134			
Surr: Dibromofluoromethane	0.25		0.2422		102	73	145			
Surr: 1,2-Dichloroethane-d4	0.25		0.2422		105	64.8	147			
Surr: Toluene-d8	0.23		0.2422		96.7	70	130			
Surr: 4-Bromofluorobenzene	0.25		0.2422		103	62.1	144			

Sample ID: **2308975-017amsd** SampType: **MSD** TestCode: **EPA Method 8260B: Volatiles**
Client ID: **SB-19(13-14)** Batch ID: **B99117** RunNo: **99117**
Prep Date: Analysis Date: **8/22/2023** SeqNo: **3612648** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.48	0.012	0.4843	0	100	60.8	141	4.63	20	
Toluene	0.47	0.024	0.4843	0	96.6	15	261	2.65	20	
Chlorobenzene	0.50	0.048	0.4843	0	104	60.6	133	5.54	20	
1,1-Dichloroethene	0.46	0.024	0.4843	0	94.4	34.4	140	4.99	20	
Trichloroethene (TCE)	0.48	0.024	0.4843	0	99.9	58.3	134	1.56	20	
Surr: Dibromofluoromethane	0.24		0.2422		99.9	73	145	0	0	
Surr: 1,2-Dichloroethane-d4	0.26		0.2422		106	64.8	147	0	0	
Surr: Toluene-d8	0.23		0.2422		96.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.24		0.2422		97.9	62.1	144	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99117**	RunNo: **99117**
Prep Date:	Analysis Date: **8/21/2023**	SeqNo: **3612656** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.20								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.10								
Chloroethane	ND	0.10								
Chloroform	0.0098	0.050								J
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99117**	RunNo: **99117**
Prep Date:	Analysis Date: **8/21/2023**	SeqNo: **3612656** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.46		0.5000		92.1	73	145			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		94.9	64.8	147			
Surr: Toluene-d8	0.47		0.5000		94.7	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		101	62.1	144			

Sample ID: **mb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **B99117**	RunNo: **99117**
Prep Date: **3/28/2021**	Analysis Date: **8/22/2023**	SeqNo: **3612657** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **mb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **B99117**	RunNo: **99117**
Prep Date: **3/28/2021**	Analysis Date: **8/22/2023**	SeqNo: **3612657** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.20								
2-Butanone	ND	0.50								
Carbon disulfide	0.030	0.50								J
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.10								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **mb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **B99117**	RunNo: **99117**
Prep Date: **3/28/2021**	Analysis Date: **8/22/2023**	SeqNo: **3612657** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.48		0.5000		96.3	73	145			
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		92.2	64.8	147			
Surr: Toluene-d8	0.49		0.5000		98.2	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		101	62.1	144			

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **R99144**	RunNo: **99144**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3614015** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	107	70	130			
Toluene	1.0	0.050	1.000	0	105	70	130			
Chlorobenzene	1.1	0.10	1.000	0	112	70	130			
1,1-Dichloroethene	0.96	0.050	1.000	0	96.2	42.1	158			
Trichloroethene (TCE)	1.0	0.050	1.000	0	99.6	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		99.1	73	145			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **R99144**	RunNo: **99144**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3614015** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		103	64.8	147			
Surr: Toluene-d8	0.50		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		104	62.1	144			

Sample ID: **2308975-026ams**	SampType: **MS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **SB-06(17-18)**	Batch ID: **R99144**	RunNo: **99144**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3614019** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.9	0.038	1.502	0	124	60.8	141			
Toluene	1.7	0.075	1.502	0	112	15	261			
Chlorobenzene	1.8	0.15	1.502	0	123	60.6	133			
1,1-Dichloroethene	1.7	0.075	1.502	0	116	34.4	140			
Trichloroethene (TCE)	1.8	0.075	1.502	0	117	58.3	134			
Surr: Dibromofluoromethane	0.81		0.7508		107	73	145			
Surr: 1,2-Dichloroethane-d4	0.81		0.7508		108	64.8	147			
Surr: Toluene-d8	0.75		0.7508		99.3	70	130			
Surr: 4-Bromofluorobenzene	0.72		0.7508		96.4	62.1	144			

Sample ID: **2308975-026amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **SB-06(17-18)**	Batch ID: **R99144**	RunNo: **99144**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3614020** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.6	0.038	1.502	0	109	60.8	141	12.5	20	
Toluene	1.6	0.075	1.502	0	105	15	261	6.75	20	
Chlorobenzene	1.7	0.15	1.502	0	113	60.6	133	8.40	20	
1,1-Dichloroethene	1.5	0.075	1.502	0	103	34.4	140	11.5	20	
Trichloroethene (TCE)	1.5	0.075	1.502	0	102	58.3	134	13.8	20	
Surr: Dibromofluoromethane	0.76		0.7508		101	73	145	0	0	
Surr: 1,2-Dichloroethane-d4	0.78		0.7508		103	64.8	147	0	0	
Surr: Toluene-d8	0.74		0.7508		98.3	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.72		0.7508		96.4	62.1	144	0	0	

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99144**	RunNo: **99144**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3614039** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99144**	RunNo: **99144**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3614039** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.20								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.10								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **R99144**	RunNo: **99144**
Prep Date:	Analysis Date: **8/22/2023**	SeqNo: **3614039** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.50		0.5000		101	73	145			
Surr: 1,2-Dichloroethane-d4	0.45		0.5000		89.8	64.8	147			
Surr: Toluene-d8	0.51		0.5000		102	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		100	62.1	144			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **100NG LCS** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW** Batch ID: **R99109** RunNo: **99109**
Prep Date: Analysis Date: **8/21/2023** SeqNo: **3612406** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	112	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	105	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	106	70	130			
Surr: 1,2-Dichloroethane-d4	12		10.00		116	70	130			
Surr: 4-Bromofluorobenzene	12		10.00		119	70	130			
Surr: Dibromofluoromethane	12		10.00		118	70	130			
Surr: Toluene-d8	11		10.00		105	70	130			

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW** Batch ID: **R99109** RunNo: **99109**
Prep Date: Analysis Date: **8/21/2023** SeqNo: **3613041** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	1.8	4.0								J
2-Methylnaphthalene	1.9	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R99109**	RunNo: **99109**
Prep Date:	Analysis Date: **8/21/2023**	SeqNo: **3613041** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R99109**	RunNo: **99109**
Prep Date:	Analysis Date: **8/21/2023**	SeqNo: **3613041** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	12		10.00		118	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		112	70	130			
Surr: Dibromofluoromethane	12		10.00		121	70	130			
Surr: Toluene-d8	11		10.00		105	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **mb-76962**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **76962**	RunNo: **99183**
Prep Date: **8/21/2023**	Analysis Date: **8/23/2023**	SeqNo: **3615885** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.25								
Benz(a)anthracene	ND	0.25								
Benzo(a)pyrene	ND	0.25								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.25								
Benzo(k)fluoranthene	ND	0.25								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.30								
Bis(2-chloroethoxy)methane	ND	0.25								
Bis(2-chloroethyl)ether	ND	0.30								
Bis(2-chloroisopropyl)ether	ND	0.30								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.25								
Butyl benzyl phthalate	ND	0.25								
Carbazole	ND	0.25								
4-Chloro-3-methylphenol	ND	0.30								
4-Chloroaniline	ND	0.30								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.25								
4-Chlorophenyl phenyl ether	ND	0.25								
Chrysene	ND	0.25								
Di-n-butyl phthalate	ND	1.0								
Di-n-octyl phthalate	ND	0.30								
Dibenz(a,h)anthracene	ND	0.25								
Dibenzofuran	ND	0.25								
1,2-Dichlorobenzene	ND	0.25								
1,3-Dichlorobenzene	ND	0.25								
1,4-Dichlorobenzene	ND	0.25								
3,3´-Dichlorobenzidine	ND	0.30								
Diethyl phthalate	ND	3.0								
Dimethyl phthalate	ND	0.40								
2,4-Dichlorophenol	ND	0.30								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.30								
2,4-Dinitrophenol	ND	0.30								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **mb-76962**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **76962**	RunNo: **99183**
Prep Date: **8/21/2023**	Analysis Date: **8/23/2023**	SeqNo: **3615885** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.30								
2,6-Dinitrotoluene	ND	0.30								
Fluoranthene	ND	0.25								
Fluorene	ND	0.25								
Hexachlorobenzene	ND	0.25								
Hexachlorobutadiene	ND	0.25								
Hexachlorocyclopentadiene	ND	0.25								
Hexachloroethane	ND	0.25								
Indeno(1,2,3-cd)pyrene	ND	0.25								
Isophorone	ND	0.30								
1-Methylnaphthalene	ND	0.25								
2-Methylnaphthalene	ND	0.25								
2-Methylphenol	ND	0.30								
3+4-Methylphenol	ND	0.30								
N-Nitrosodi-n-propylamine	ND	0.30								
N-Nitrosodimethylamine	ND	0.30								
N-Nitrosodiphenylamine	ND	0.30								
Naphthalene	ND	0.25								
2-Nitroaniline	ND	0.30								
3-Nitroaniline	ND	0.30								
4-Nitroaniline	ND	0.30								
Nitrobenzene	ND	0.30								
2-Nitrophenol	ND	0.30								
4-Nitrophenol	ND	0.30								
Pentachlorophenol	ND	0.30								
Phenanthrene	ND	0.25								
Phenol	ND	0.30								
Pyrene	ND	0.25								
Pyridine	ND	1.0								
1,2,4-Trichlorobenzene	ND	0.25								
2,4,5-Trichlorophenol	ND	0.25								
2,4,6-Trichlorophenol	ND	0.25								
Surr: 2-Fluorophenol	2.0		3.330		60.5	15	123			
Surr: Phenol-d5	2.5		3.330		73.7	15	141			
Surr: 2,4,6-Tribromophenol	2.1		3.330		63.3	23	118			
Surr: Nitrobenzene-d5	0.90		1.670		53.6	15	125			
Surr: 2-Fluorobiphenyl	1.1		1.670		65.5	15	129			
Surr: 4-Terphenyl-d14	1.5		1.670		90.8	31.1	134			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **lcs-76962**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS**	Batch ID: **76962**	RunNo: **99183**
Prep Date: **8/21/2023**	Analysis Date: **8/23/2023**	SeqNo: **3615887** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.3	0.20	1.670	0	78.2	29.4	105			
4-Chloro-3-methylphenol	2.3	0.30	3.330	0	70.5	28.6	109			
2-Chlorophenol	2.4	0.25	3.330	0	71.5	20.7	115			
1,4-Dichlorobenzene	1.0	0.25	1.670	0	62.7	17.1	94.6			
2,4-Dinitrotoluene	1.1	0.30	1.670	0	65.5	28.8	88.3			
N-Nitrosodi-n-propylamine	1.3	0.30	1.670	0	77.8	28.5	107			
4-Nitrophenol	2.9	0.30	3.330	0	85.8	38.5	116			
Pentachlorophenol	2.1	0.30	3.330	0	64.3	33.6	98.8			
Phenol	2.4	0.30	3.330	0	73.2	23.2	116			
Pyrene	1.2	0.25	1.670	0	74.1	40.6	117			
1,2,4-Trichlorobenzene	0.95	0.25	1.670	0	56.6	17.9	100			
Surr: 2-Fluorophenol	2.4		3.330		73.2	15	123			
Surr: Phenol-d5	2.8		3.330		83.9	15	141			
Surr: 2,4,6-Tribromophenol	2.8		3.330		83.5	23	118			
Surr: Nitrobenzene-d5	1.1		1.670		66.8	15	125			
Surr: 2-Fluorobiphenyl	1.4		1.670		83.3	15	129			
Surr: 4-Terphenyl-d14	1.4		1.670		86.2	31.1	134			

Sample ID: **mb-77003**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **77003**	RunNo: **99219**
Prep Date: **8/22/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617934** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.25								
Benz(a)anthracene	ND	0.25								
Benzo(a)pyrene	ND	0.25								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.25								
Benzo(k)fluoranthene	ND	0.25								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.30								
Bis(2-chloroethoxy)methane	ND	0.25								
Bis(2-chloroethyl)ether	ND	0.30								
Bis(2-chloroisopropyl)ether	ND	0.30								
Bis(2-ethylhexyl)phthalate	ND	0.50								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **mb-77003**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **77003**	RunNo: **99219**
Prep Date: **8/22/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617934** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Bromophenyl phenyl ether	ND	0.25								
Butyl benzyl phthalate	ND	0.25								
Carbazole	ND	0.25								
4-Chloro-3-methylphenol	ND	0.30								
4-Chloroaniline	ND	0.30								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.25								
4-Chlorophenyl phenyl ether	ND	0.25								
Chrysene	ND	0.25								
Di-n-butyl phthalate	ND	1.0								
Di-n-octyl phthalate	ND	0.30								
Dibenz(a,h)anthracene	ND	0.25								
Dibenzofuran	ND	0.25								
1,2-Dichlorobenzene	ND	0.25								
1,3-Dichlorobenzene	ND	0.25								
1,4-Dichlorobenzene	ND	0.25								
3,3´-Dichlorobenzidine	ND	0.30								
Diethyl phthalate	ND	3.0								
Dimethyl phthalate	ND	0.40								
2,4-Dichlorophenol	ND	0.30								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.30								
2,4-Dinitrophenol	ND	0.30								
2,4-Dinitrotoluene	ND	0.30								
2,6-Dinitrotoluene	ND	0.30								
Fluoranthene	ND	0.25								
Fluorene	ND	0.25								
Hexachlorobenzene	ND	0.25								
Hexachlorobutadiene	ND	0.25								
Hexachlorocyclopentadiene	ND	0.25								
Hexachloroethane	ND	0.25								
Indeno(1,2,3-cd)pyrene	ND	0.25								
Isophorone	ND	0.30								
1-Methylnaphthalene	ND	0.25								
2-Methylnaphthalene	ND	0.25								
2-Methylphenol	ND	0.30								
3+4-Methylphenol	ND	0.30								
N-Nitrosodi-n-propylamine	ND	0.30								
N-Nitrosodimethylamine	ND	0.30								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **mb-77003** SampType: **MBLK** TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS** Batch ID: **77003** RunNo: **99219**
Prep Date: **8/22/2023** Analysis Date: **8/24/2023** SeqNo: **3617934** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Nitrosodiphenylamine	ND	0.30								
Naphthalene	ND	0.25								
2-Nitroaniline	ND	0.30								
3-Nitroaniline	ND	0.30								
4-Nitroaniline	ND	0.30								
Nitrobenzene	ND	0.30								
2-Nitrophenol	ND	0.30								
4-Nitrophenol	ND	0.30								
Pentachlorophenol	ND	0.30								
Phenanthrene	ND	0.25								
Phenol	ND	0.30								
Pyrene	ND	0.25								
Pyridine	ND	1.0								
1,2,4-Trichlorobenzene	ND	0.25								
2,4,5-Trichlorophenol	ND	0.25								
2,4,6-Trichlorophenol	ND	0.25								
Surr: 2-Fluorophenol	1.3		3.330		39.6	15	123			
Surr: Phenol-d5	1.5		3.330		45.3	15	141			
Surr: 2,4,6-Tribromophenol	1.7		3.330		50.9	23	118			
Surr: Nitrobenzene-d5	0.59		1.670		35.3	15	125			
Surr: 2-Fluorobiphenyl	0.70		1.670		42.1	15	129			
Surr: 4-Terphenyl-d14	0.93		1.670		55.8	31.1	134			

Sample ID: **lcs-77003** SampType: **LCS** TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS** Batch ID: **77003** RunNo: **99219**
Prep Date: **8/22/2023** Analysis Date: **8/24/2023** SeqNo: **3617935** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.84	0.20	1.670	0	50.2	29.4	105			
4-Chloro-3-methylphenol	1.4	0.30	3.330	0	41.3	28.6	109			
2-Chlorophenol	1.5	0.25	3.330	0	44.4	20.7	115			
1,4-Dichlorobenzene	0.64	0.25	1.670	0	38.2	17.1	94.6			
2,4-Dinitrotoluene	0.63	0.30	1.670	0	37.9	28.8	88.3			
N-Nitrosodi-n-propylamine	0.72	0.30	1.670	0	43.2	28.5	107			
4-Nitrophenol	1.3	0.30	3.330	0	39.5	38.5	116			
Pentachlorophenol	1.3	0.30	3.330	0	40.1	33.6	98.8			
Phenol	1.4	0.30	3.330	0	43.4	23.2	116			
Pyrene	0.75	0.25	1.670	0	44.9	40.6	117			
1,2,4-Trichlorobenzene	0.59	0.25	1.670	0	35.3	17.9	100			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **lcs-77003** SampType: **LCS** TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS** Batch ID: **77003** RunNo: **99219**
Prep Date: **8/22/2023** Analysis Date: **8/24/2023** SeqNo: **3617935** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	1.4		3.330		43.2	15	123			
Surr: Phenol-d5	1.7		3.330		50.5	15	141			
Surr: 2,4,6-Tribromophenol	1.6		3.330		48.3	23	118			
Surr: Nitrobenzene-d5	0.69		1.670		41.1	15	125			
Surr: 2-Fluorobiphenyl	0.88		1.670		52.8	15	129			
Surr: 4-Terphenyl-d14	0.83		1.670		49.5	31.1	134			

Sample ID: **mb-77079** SampType: **MBLK** TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS** Batch ID: **77079** RunNo: **99491**
Prep Date: **8/24/2023** Analysis Date: **9/6/2023** SeqNo: **3632297** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.25								
Benz(a)anthracene	ND	0.25								
Benzo(a)pyrene	ND	0.25								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.25								
Benzo(k)fluoranthene	ND	0.25								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.30								
Bis(2-chloroethoxy)methane	ND	0.25								
Bis(2-chloroethyl)ether	ND	0.30								
Bis(2-chloroisopropyl)ether	ND	0.30								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.25								
Butyl benzyl phthalate	ND	0.25								
Carbazole	ND	0.25								
4-Chloro-3-methylphenol	ND	0.30								
4-Chloroaniline	ND	0.30								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.25								
4-Chlorophenyl phenyl ether	ND	0.25								
Chrysene	ND	0.25								
Di-n-butyl phthalate	ND	1.0								
Di-n-octyl phthalate	ND	0.30								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb-77079**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **77079**	RunNo: **99491**
Prep Date: **8/24/2023**	Analysis Date: **9/6/2023**	SeqNo: **3632297** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dibenz(a,h)anthracene	ND	0.25								
Dibenzofuran	ND	0.25								
1,2-Dichlorobenzene	ND	0.25								
1,3-Dichlorobenzene	ND	0.25								
1,4-Dichlorobenzene	ND	0.25								
3,3´-Dichlorobenzidine	ND	0.30								
Diethyl phthalate	ND	3.0								
Dimethyl phthalate	ND	0.40								
2,4-Dichlorophenol	ND	0.30								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.30								
2,4-Dinitrophenol	ND	0.30								
2,4-Dinitrotoluene	ND	0.30								
2,6-Dinitrotoluene	ND	0.30								
Fluoranthene	ND	0.25								
Fluorene	ND	0.25								
Hexachlorobenzene	ND	0.25								
Hexachlorobutadiene	ND	0.25								
Hexachlorocyclopentadiene	ND	0.25								
Hexachloroethane	ND	0.25								
Indeno(1,2,3-cd)pyrene	ND	0.25								
Isophorone	ND	0.30								
1-Methylnaphthalene	ND	0.25								
2-Methylnaphthalene	ND	0.25								
2-Methylphenol	ND	0.30								
3+4-Methylphenol	ND	0.30								
N-Nitrosodi-n-propylamine	ND	0.30								
N-Nitrosodimethylamine	ND	0.30								
N-Nitrosodiphenylamine	ND	0.30								
Naphthalene	ND	0.25								
2-Nitroaniline	ND	0.30								
3-Nitroaniline	ND	0.30								
4-Nitroaniline	ND	0.30								
Nitrobenzene	ND	0.30								
2-Nitrophenol	ND	0.30								
4-Nitrophenol	ND	0.30								
Pentachlorophenol	ND	0.30								
Phenanthrene	ND	0.25								
Phenol	ND	0.30								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **mb-77079**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **77079**	RunNo: **99491**
Prep Date: **8/24/2023**	Analysis Date: **9/6/2023**	SeqNo: **3632297** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Pyrene	ND	0.25								
Pyridine	ND	1.0								
1,2,4-Trichlorobenzene	ND	0.25								
2,4,5-Trichlorophenol	ND	0.25								
2,4,6-Trichlorophenol	ND	0.25								
Surr: 2-Fluorophenol	2.8		3.330		83.8	15	123			
Surr: Phenol-d5	3.2		3.330		96.8	15	141			
Surr: 2,4,6-Tribromophenol	2.4		3.330		72.3	23	118			
Surr: Nitrobenzene-d5	1.2		1.670		70.9	15	125			
Surr: 2-Fluorobiphenyl	1.2		1.670		74.8	15	129			
Surr: 4-Terphenyl-d14	1.4		1.670		81.5	31.1	134			

Sample ID: **lcs-77079**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS**	Batch ID: **77079**	RunNo: **99491**
Prep Date: **8/24/2023**	Analysis Date: **9/6/2023**	SeqNo: **3632298** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.4	0.20	1.670	0	82.4	29.4	105			
4-Chloro-3-methylphenol	2.6	0.30	3.330	0	77.9	28.6	109			
2-Chlorophenol	2.5	0.25	3.330	0	74.2	20.7	115			
1,4-Dichlorobenzene	1.0	0.25	1.670	0	62.7	17.1	94.6			
2,4-Dinitrotoluene	1.1	0.30	1.670	0	67.1	28.8	88.3			
N-Nitrosodi-n-propylamine	1.3	0.30	1.670	0	76.8	28.5	107			
4-Nitrophenol	2.9	0.30	3.330	0	86.7	38.5	116			
Pentachlorophenol	2.6	0.30	3.330	0	77.4	33.6	98.8			
Phenol	2.6	0.30	3.330	0	77.3	23.2	116			
Pyrene	1.4	0.25	1.670	0	83.0	40.6	117			
1,2,4-Trichlorobenzene	1.1	0.25	1.670	0	64.5	17.9	100			
Surr: 2-Fluorophenol	2.4		3.330		71.2	15	123			
Surr: Phenol-d5	2.7		3.330		81.9	15	141			
Surr: 2,4,6-Tribromophenol	3.0		3.330		91.2	23	118			
Surr: Nitrobenzene-d5	1.2		1.670		69.5	15	125			
Surr: 2-Fluorobiphenyl	1.2		1.670		73.5	15	129			
Surr: 4-Terphenyl-d14	1.5		1.670		86.9	31.1	134			

Sample ID: **2308975-039ams**	SampType: **MS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **DUP-0815-2**	Batch ID: **77079**	RunNo: **99553**
Prep Date: **8/24/2023**	Analysis Date: **9/8/2023**	SeqNo: **3636584** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **2308975-039ams** SampType: **MS** TestCode: **EPA Method 8270C: Semivolatiles**

Client ID: **DUP-0815-2** Batch ID: **77079** RunNo: **99553**

Prep Date: **8/24/2023** Analysis Date: **9/8/2023** SeqNo: **3636584** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.89	0.20	1.658	0	53.8	15	108			
4-Chloro-3-methylphenol	1.8	0.30	3.307	0	55.2	19	114			
2-Chlorophenol	1.7	0.25	3.307	0	49.9	15	118			
1,4-Dichlorobenzene	0.51	0.25	1.658	0	30.9	15	98.7			
2,4-Dinitrotoluene	0.79	0.30	1.658	0	47.7	15.3	92.1			
N-Nitrosodi-n-propylamine	0.81	0.30	1.658	0	48.9	15	158			
4-Nitrophenol	2.2	0.30	3.307	0	67.1	23.8	124			
Pentachlorophenol	2.0	0.30	3.307	0	60.1	20	114			
Phenol	1.7	0.30	3.307	0	51.4	15	118			
Pyrene	1.1	0.25	1.658	0	66.6	24	128			
1,2,4-Trichlorobenzene	0.65	0.25	1.658	0	39.1	15	104			
Surr: 2-Fluorophenol	1.7		3.307		51.4	15	123			
Surr: Phenol-d5	1.9		3.307		56.7	15	141			
Surr: 2,4,6-Tribromophenol	2.2		3.307		67.8	23	118			
Surr: Nitrobenzene-d5	0.82		1.658		49.2	15	125			
Surr: 2-Fluorobiphenyl	0.82		1.658		49.7	15	129			
Surr: 4-Terphenyl-d14	1.2		1.658		70.0	31.1	134			

Sample ID: **2308975-039amsd** SampType: **MSD** TestCode: **EPA Method 8270C: Semivolatiles**

Client ID: **DUP-0815-2** Batch ID: **77079** RunNo: **99553**

Prep Date: **8/24/2023** Analysis Date: **9/8/2023** SeqNo: **3636585** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.90	0.20	1.635	0	55.2	15	108	1.21	20	
4-Chloro-3-methylphenol	1.8	0.29	3.260	0	54.9	19	114	1.91	20	
2-Chlorophenol	1.6	0.24	3.260	0	47.8	15	118	5.78	20	
1,4-Dichlorobenzene	0.52	0.24	1.635	0	32.0	15	98.7	1.87	20	
2,4-Dinitrotoluene	0.82	0.29	1.635	0	50.4	15.3	92.1	4.00	20	
N-Nitrosodi-n-propylamine	0.86	0.29	1.635	0	52.6	15	158	5.83	20	
4-Nitrophenol	2.4	0.29	3.260	0	73.0	23.8	124	7.03	20	
Pentachlorophenol	2.0	0.29	3.260	0	62.3	20	114	2.10	20	
Phenol	1.6	0.29	3.260	0	49.3	15	118	5.72	20	
Pyrene	1.2	0.24	1.635	0	70.8	24	128	4.70	20	
1,2,4-Trichlorobenzene	0.64	0.24	1.635	0	39.3	15	104	1.04	20	
Surr: 2-Fluorophenol	1.5		3.260		45.2	15	123	0	0	
Surr: Phenol-d5	1.8		3.260		55.8	15	141	0	0	
Surr: 2,4,6-Tribromophenol	2.1		3.260		64.9	23	118	0	0	
Surr: Nitrobenzene-d5	0.77		1.635		47.2	15	125	0	0	
Surr: 2-Fluorobiphenyl	0.82		1.635		50.2	15	129	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **2308975-039amsd**	SampType: **MSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **DUP-0815-2**	Batch ID: **77079**	RunNo: **99553**
Prep Date: **8/24/2023**	Analysis Date: **9/8/2023**	SeqNo: **3636585** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	1.2		1.635		73.1	31.1	134	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **mb-76988**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **76988**	RunNo: **99219**
Prep Date: **8/22/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617922** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	5.0								
Acenaphthylene	ND	5.0								
Aniline	ND	10								
Anthracene	ND	5.0								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	5.0								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	5.0								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	5.0								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	5.0								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	5.0								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	5.0								
4-Chloroaniline	ND	5.0								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	5.0								
4-Chlorophenyl phenyl ether	ND	5.0								
Chrysene	ND	5.0								
Di-n-butyl phthalate	ND	20								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	5.0								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	10								
2,4-Dinitrophenol	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **mb-76988**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **76988**	RunNo: **99219**
Prep Date: **8/22/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617922** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	5.0								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	5.0								
Hexachlorobenzene	ND	20								
Hexachlorobutadiene	ND	20								
Hexachlorocyclopentadiene	ND	20								
Hexachloroethane	ND	20								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	5.0								
1-Methylnaphthalene	ND	5.0								
2-Methylnaphthalene	ND	5.0								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	5.0								
N-Nitrosodimethylamine	ND	5.0								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	5.0								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	5.0								
Nitrobenzene	ND	5.0								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	5.0								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	40								
1,2,4-Trichlorobenzene	ND	5.0								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	130		200.0		66.3	15	84.1			
Surr: Phenol-d5	100		200.0		51.2	16.5	50.7			S
Surr: 2,4,6-Tribromophenol	120		200.0		58.2	15	133			
Surr: Nitrobenzene-d5	67		100.0		66.6	30.9	86.8			
Surr: 2-Fluorobiphenyl	59		100.0		58.8	24.3	77.2			
Surr: 4-Terphenyl-d14	80		100.0		79.8	52.3	118			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **lcs-76988**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **76988**	RunNo: **99219**
Prep Date: **8/22/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617923** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	64	5.0	100.0	0	64.3	24.5	94.9			
4-Chloro-3-methylphenol	150	5.0	200.0	0	74.4	31.8	101			
2-Chlorophenol	150	5.0	200.0	0	73.4	23.2	109			
1,4-Dichlorobenzene	48	5.0	100.0	0	48.3	15	83.7			
2,4-Dinitrotoluene	57	5.0	100.0	0	56.8	26.7	83.2			
N-Nitrosodi-n-propylamine	76	5.0	100.0	0	75.6	26	99.8			
4-Nitrophenol	84	10	200.0	0	41.9	15	74			
Pentachlorophenol	90	20	200.0	0	44.9	15	101			
Phenol	88	10	200.0	0	44.2	15.5	62.1			
Pyrene	84	10	100.0	0	84.1	50	111			
1,2,4-Trichlorobenzene	46	5.0	100.0	0	46.2	15	85.4			
Surr: 2-Fluorophenol	130		200.0		62.9	15	84.1			
Surr: Phenol-d5	100		200.0		50.1	16.5	50.7			
Surr: 2,4,6-Tribromophenol	130		200.0		62.7	15	133			
Surr: Nitrobenzene-d5	72		100.0		72.2	30.9	86.8			
Surr: 2-Fluorobiphenyl	63		100.0		62.5	24.3	77.2			
Surr: 4-Terphenyl-d14	95		100.0		95.4	52.3	118			

Sample ID: **lcsd-76988**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **76988**	RunNo: **99219**
Prep Date: **8/22/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617924** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	70	5.0	100.0	0	69.6	24.5	94.9	7.97	44.2	
4-Chloro-3-methylphenol	140	5.0	200.0	0	72.0	31.8	101	3.30	45.4	
2-Chlorophenol	150	5.0	200.0	0	77.2	23.2	109	5.06	68.7	
1,4-Dichlorobenzene	49	5.0	100.0	0	49.0	15	83.7	1.57	45.5	
2,4-Dinitrotoluene	59	5.0	100.0	0	58.9	26.7	83.2	3.74	33.9	
N-Nitrosodi-n-propylamine	76	5.0	100.0	0	76.0	26	99.8	0.516	52.2	
4-Nitrophenol	88	10	200.0	0	44.1	15	74	5.01	86.9	
Pentachlorophenol	92	20	200.0	0	46.0	15	101	2.59	44.3	
Phenol	88	10	200.0	0	44.1	15.5	62.1	0.0729	44.2	
Pyrene	79	10	100.0	0	79.2	50	111	5.95	27.1	
1,2,4-Trichlorobenzene	46	5.0	100.0	0	45.8	15	85.4	0.883	55.3	
Surr: 2-Fluorophenol	130		200.0		63.6	15	84.1	0	0	
Surr: Phenol-d5	99		200.0		49.5	16.5	50.7	0	0	
Surr: 2,4,6-Tribromophenol	120		200.0		60.2	15	133	0	0	
Surr: Nitrobenzene-d5	67		100.0		67.3	30.9	86.8	0	0	
Surr: 2-Fluorobiphenyl	64		100.0		64.2	24.3	77.2	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **lcsd-76988**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**							
Client ID: **LCSS02**	Batch ID: **76988**	RunNo: **99219**							
Prep Date: **8/22/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617924**	Units: **µg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	91		100.0		90.8	52.3	118	0	0	

Sample ID: **mb-77331**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**							
Client ID: **PBW**	Batch ID: **77331**	RunNo: **99645**							
Prep Date: **9/6/2023**	Analysis Date: **9/12/2023**	SeqNo: **3640164**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	150		200.0		75.6	15	84.1			
Surr: Phenol-d5	120		200.0		58.7	16.5	50.7			S
Surr: 2,4,6-Tribromophenol	140		200.0		71.6	15	133			
Surr: Nitrobenzene-d5	72		100.0		72.1	30.9	86.8			
Surr: 2-Fluorobiphenyl	61		100.0		61.3	24.3	77.2			
Surr: 4-Terphenyl-d14	96		100.0		96.4	52.3	118			

Sample ID: **lcs-77331**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**							
Client ID: **LCSW**	Batch ID: **77331**	RunNo: **99645**							
Prep Date: **9/6/2023**	Analysis Date: **9/12/2023**	SeqNo: **3640165**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	130		200.0		66.1	15	84.1			
Surr: Phenol-d5	100		200.0		50.5	16.5	50.7			
Surr: 2,4,6-Tribromophenol	140		200.0		71.1	15	133			
Surr: Nitrobenzene-d5	73		100.0		73.0	30.9	86.8			
Surr: 2-Fluorobiphenyl	63		100.0		63.2	24.3	77.2			
Surr: 4-Terphenyl-d14	91		100.0		90.9	52.3	118			

Sample ID: **lcsd-77331**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**							
Client ID: **LCSS02**	Batch ID: **77331**	RunNo: **99645**							
Prep Date: **9/6/2023**	Analysis Date: **9/12/2023**	SeqNo: **3640166**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	130		200.0		64.8	15	84.1	0	0	
Surr: Phenol-d5	95		200.0		47.6	16.5	50.7	0	0	
Surr: 2,4,6-Tribromophenol	150		200.0		76.1	15	133	0	0	
Surr: Nitrobenzene-d5	71		100.0		71.2	30.9	86.8	0	0	
Surr: 2-Fluorobiphenyl	61		100.0		60.6	24.3	77.2	0	0	
Surr: 4-Terphenyl-d14	91		100.0		90.9	52.3	118	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB-77142**	SampType: **MBLK**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **PBS**	Batch ID: **77142**	RunNo: **99321**
Prep Date: **8/28/2023**	Analysis Date: **8/29/2023**	SeqNo: **3623674** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.066								

Sample ID: **LCSLL-77142**	SampType: **LCSLL**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **BatchQC**	Batch ID: **77142**	RunNo: **99321**
Prep Date: **8/28/2023**	Analysis Date: **8/29/2023**	SeqNo: **3623675** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.015	0.066	0.01332	0	116	70	130			J

Sample ID: **LCS-77142**	SampType: **LCS**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **LCSS**	Batch ID: **77142**	RunNo: **99321**
Prep Date: **8/28/2023**	Analysis Date: **8/29/2023**	SeqNo: **3623676** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.32	0.066	0.3333	0	95.9	80	120			

Sample ID: **MB-77143**	SampType: **MBLK**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **PBS**	Batch ID: **77143**	RunNo: **99321**
Prep Date: **8/28/2023**	Analysis Date: **8/29/2023**	SeqNo: **3623677** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.066								

Sample ID: **LCSLL-77143**	SampType: **LCSLL**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **BatchQC**	Batch ID: **77143**	RunNo: **99321**
Prep Date: **8/28/2023**	Analysis Date: **8/29/2023**	SeqNo: **3623678** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.015	0.066	0.01332	0	115	70	130			J

Sample ID: **LCS-77143**	SampType: **LCS**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **LCSS**	Batch ID: **77143**	RunNo: **99321**
Prep Date: **8/28/2023**	Analysis Date: **8/29/2023**	SeqNo: **3623679** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.31	0.066	0.3333	0	93.7	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB-77144**	SampType: **MBLK**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **PBS**	Batch ID: **77144**	RunNo: **99321**
Prep Date: **8/28/2023**	Analysis Date: **8/29/2023**	SeqNo: **3623680** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.066								

Sample ID: **LCSLL-77144**	SampType: **LCSLL**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **BatchQC**	Batch ID: **77144**	RunNo: **99321**
Prep Date: **8/28/2023**	Analysis Date: **8/29/2023**	SeqNo: **3623681** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.015	0.066	0.01332	0	115	70	130			J

Sample ID: **LCS-77144**	SampType: **LCS**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **LCSS**	Batch ID: **77144**	RunNo: **99321**
Prep Date: **8/28/2023**	Analysis Date: **8/29/2023**	SeqNo: **3623682** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.33	0.066	0.3333	0	97.7	80	120			

Sample ID: **2308975-020AMS**	SampType: **MS**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **SB-18(18-19)**	Batch ID: **77142**	RunNo: **99321**
Prep Date: **8/28/2023**	Analysis Date: **8/29/2023**	SeqNo: **3623686** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.37	0.074	0.3744	0	99.0	80	120			

Sample ID: **2308975-020AMSD**	SampType: **MSD**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **SB-18(18-19)**	Batch ID: **77142**	RunNo: **99321**
Prep Date: **8/28/2023**	Analysis Date: **8/29/2023**	SeqNo: **3623687** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.36	0.074	0.3721	0	98.1	80	120	1.56	20	

Sample ID: **2308975-021AMS**	SampType: **MS**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **SB-01(0.5-1)**	Batch ID: **77143**	RunNo: **99321**
Prep Date: **8/28/2023**	Analysis Date: **8/29/2023**	SeqNo: **3623689** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.34	0.073	0.3687	0	92.8	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon

Project: AOC 26 27

Sample ID: **2308975-021AMSD**	SampType: **MSD**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **SB-01(0.5-1)**	Batch ID: **77143**	RunNo: **99321**
Prep Date: **8/28/2023**	Analysis Date: **8/29/2023**	SeqNo: **3623690** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.34	0.072	0.3660	0	91.9	80	120	1.73	20	

Sample ID: **2308975-042AMS**	SampType: **MS**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **DUP-0815-5**	Batch ID: **77144**	RunNo: **99321**
Prep Date: **8/28/2023**	Analysis Date: **8/29/2023**	SeqNo: **3623692** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.37	0.073	0.3710	0	101	80	120			

Sample ID: **2308975-042AMSD**	SampType: **MSD**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **DUP-0815-5**	Batch ID: **77144**	RunNo: **99321**
Prep Date: **8/28/2023**	Analysis Date: **8/29/2023**	SeqNo: **3623693** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.36	0.074	0.3744	0	95.7	80	120	4.08	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB-76972** SampType: **MBLK** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS** Batch ID: **76972** RunNo: **99150**
Prep Date: **8/21/2023** Analysis Date: **8/22/2023** SeqNo: **3614458** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.10								
Beryllium	ND	0.15								
Cadmium	ND	0.25								
Chromium	ND	0.30								
Cobalt	ND	0.30								
Manganese	ND	0.25								
Vanadium	ND	2.5								
Zinc	ND	2.5								

Sample ID: **LCSLL-76972** SampType: **LCSLL** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **BatchQC** Batch ID: **76972** RunNo: **99150**
Prep Date: **8/21/2023** Analysis Date: **8/22/2023** SeqNo: **3614459** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.11	0.10	0.1000	0	113	50	150			
Beryllium	0.10	0.15	0.1000	0	105	50	150			J
Cadmium	0.11	0.25	0.1000	0	110	50	150			J
Chromium	0.34	0.30	0.3000	0	112	50	150			
Cobalt	0.34	0.30	0.3000	0	113	50	150			
Manganese	0.14	0.25	0.1000	0	138	50	150			J
Vanadium	0.54	2.5	0.5000	0	109	50	150			J

Sample ID: **LCS-76972** SampType: **LCS** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS** Batch ID: **76972** RunNo: **99150**
Prep Date: **8/21/2023** Analysis Date: **8/22/2023** SeqNo: **3614460** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	25	0.10	25.00	0	100	80	120			
Beryllium	26	0.15	25.00	0	104	80	120			
Cadmium	25	0.25	25.00	0	101	80	120			
Chromium	25	0.30	25.00	0	102	80	120			
Cobalt	25	0.30	25.00	0	98.7	80	120			
Manganese	26	0.25	25.00	0	103	80	120			
Vanadium	26	2.5	25.00	0	102	80	120			
Zinc	25	2.5	25.00	0	98.3	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **2308975-002AMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **SB-24(25-27)**	Batch ID: **76972**	RunNo: **99150**
Prep Date: **8/21/2023**	Analysis Date: **8/22/2023**	SeqNo: **3614494** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	230	0.20	24.51	208.6	75.5	75	125			
Beryllium	28	0.29	24.51	1.538	106	75	125			
Cadmium	24	0.49	24.51	0	97.8	75	125			
Chromium	39	0.59	24.51	10.42	117	75	125			
Cobalt	34	0.59	24.51	7.360	107	75	125			
Manganese	340	0.49	24.51	198.2	562	75	125			S
Vanadium	66	4.9	24.51	30.30	147	75	125			S
Zinc	65	4.9	24.51	30.11	141	75	125			S

Sample ID: **2308975-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **SB-24(25-27)**	Batch ID: **76972**	RunNo: **99150**
Prep Date: **8/21/2023**	Analysis Date: **8/22/2023**	SeqNo: **3614495** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	210	0.19	24.06	208.6	25.7	75	125	5.58	20	S
Beryllium	27	0.29	24.06	1.538	107	75	125	0.567	20	
Cadmium	24	0.48	24.06	0	98.3	75	125	1.38	20	
Chromium	40	0.58	24.06	10.42	124	75	125	2.81	20	
Cobalt	34	0.58	24.06	7.360	110	75	125	0.352	20	
Manganese	400	0.48	24.06	198.2	850	75	125	18.1	20	S
Vanadium	63	4.8	24.06	30.30	136	75	125	5.17	20	S
Zinc	67	4.8	24.06	30.11	152	75	125	3.08	20	S

Sample ID: **MB-76972**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **76972**	RunNo: **99150**
Prep Date: **8/21/2023**	Analysis Date: **8/22/2023**	SeqNo: **3614539** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	10								

Sample ID: **LCS-76972**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **76972**	RunNo: **99150**
Prep Date: **8/21/2023**	Analysis Date: **8/22/2023**	SeqNo: **3614541** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	28	10	25.00	0	112	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB-77032**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **77032**	RunNo: **99231**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3618793** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.10								
Beryllium	ND	0.15								
Cadmium	ND	0.25								
Chromium	ND	0.30								
Cobalt	ND	0.30								
Iron	ND	10								
Manganese	ND	0.25								
Vanadium	ND	2.5								
Zinc	ND	2.5								

Sample ID: **LCSLL-77032**	SampType: **LCSLL**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **BatchQC**	Batch ID: **77032**	RunNo: **99231**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3618794** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.11	0.10	0.1000	0	114	50	150			
Beryllium	0.10	0.15	0.1000	0	103	50	150			J
Cadmium	0.11	0.25	0.1000	0	105	50	150			J
Chromium	0.30	0.30	0.3000	0	102	50	150			
Cobalt	0.32	0.30	0.3000	0	107	50	150			
Iron	1.9	10	1.000	0	194	50	150			JS
Manganese	0.13	0.25	0.1000	0	134	50	150			J
Vanadium	0.48	2.5	0.5000	0	96.9	50	150			J
Zinc	2.1	2.5	0.5000	0	420	50	150			JS

Sample ID: **LCS-77032**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **77032**	RunNo: **99231**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3618795** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	24	0.10	25.00	0	94.8	80	120			
Beryllium	24	0.15	25.00	0	97.8	80	120			
Cadmium	23	0.25	25.00	0	93.9	80	120			
Chromium	24	0.30	25.00	0	96.7	80	120			
Cobalt	23	0.30	25.00	0	93.8	80	120			
Iron	25	10	25.00	0	101	80	120			
Manganese	24	0.25	25.00	0	97.7	80	120			
Vanadium	24	2.5	25.00	0	97.5	80	120			
Zinc	26	2.5	25.00	0	104	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **2308975-035AMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **SB-15(0.5-1)**	Batch ID: **77032**	RunNo: **99231**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3618839** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	23	0.30	24.67	0.8283	91.1	75	125			
Cadmium	22	0.49	24.67	0	90.0	75	125			
Chromium	37	0.59	24.67	25.01	48.8	75	125			S
Cobalt	27	0.59	24.67	5.023	87.8	75	125			
Vanadium	50	4.9	24.67	22.49	111	75	125			
Zinc	78	4.9	24.67	72.85	22.2	75	125			S

Sample ID: **2308975-035AMSD**	SampType: **MSD**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **SB-15(0.5-1)**	Batch ID: **77032**	RunNo: **99231**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3618840** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	23	0.31	25.59	0.8283	88.5	75	125	0.705	20	
Cadmium	22	0.51	25.59	0	85.8	75	125	1.11	20	
Chromium	37	0.61	25.59	25.01	45.4	75	125	1.16	20	S
Cobalt	26	0.61	25.59	5.023	83.8	75	125	0.823	20	
Vanadium	45	5.1	25.59	22.49	89.8	75	125	9.10	20	
Zinc	93	5.1	25.59	72.85	79.2	75	125	17.3	20	

Sample ID: **MB-77031**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **77031**	RunNo: **99276**
Prep Date: **8/23/2023**	Analysis Date: **8/28/2023**	SeqNo: **3621152** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.10								
Beryllium	ND	0.15								
Cadmium	ND	0.25								
Chromium	ND	0.30								
Cobalt	ND	0.30								
Iron	ND	10								
Manganese	ND	0.25								
Vanadium	ND	2.5								
Zinc	ND	2.5								

Sample ID: **LCSLL-77031**	SampType: **LCSLL**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **BatchQC**	Batch ID: **77031**	RunNo: **99276**
Prep Date: **8/23/2023**	Analysis Date: **8/28/2023**	SeqNo: **3621153** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.11	0.10	0.1000	0	113	50	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **LCSLL-77031** SampType: **LCSLL** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **BatchQC** Batch ID: **77031** RunNo: **99276**
Prep Date: **8/23/2023** Analysis Date: **8/28/2023** SeqNo: **3621153** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.10	0.15	0.1000	0	100	50	150			J
Cadmium	0.11	0.25	0.1000	0	110	50	150			J
Chromium	0.34	0.30	0.3000	0	114	50	150			
Cobalt	0.27	0.30	0.3000	0	91.0	50	150			J
Iron	2.1	10	1.000	0	211	50	150			JS
Manganese	0.14	0.25	0.1000	0	136	50	150			J
Vanadium	0.49	2.5	0.5000	0	98.8	50	150			J
Zinc	0.94	2.5	0.5000	0	187	50	150			JS

Sample ID: **LCS-77031** SampType: **LCS** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS** Batch ID: **77031** RunNo: **99276**
Prep Date: **8/23/2023** Analysis Date: **8/28/2023** SeqNo: **3621154** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	24	0.10	25.00	0	96.7	80	120			
Beryllium	26	0.15	25.00	0	103	80	120			
Cadmium	25	0.25	25.00	0	99.1	80	120			
Chromium	25	0.30	25.00	0	98.7	80	120			
Cobalt	24	0.30	25.00	0	95.4	80	120			
Iron	25	10	25.00	0	102	80	120			
Manganese	25	0.25	25.00	0	99.7	80	120			
Vanadium	25	2.5	25.00	0	99.3	80	120			
Zinc	26	2.5	25.00	0	103	80	120			

Sample ID: **2308975-035AMS** SampType: **MS** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **SB-15(0.5-1)** Batch ID: **77032** RunNo: **99276**
Prep Date: **8/23/2023** Analysis Date: **8/28/2023** SeqNo: **3621158** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	430	0.49	24.67	698.7	-1070	75	125			S
Manganese	870	1.2	24.67	544.1	1310	75	125			S

Sample ID: **2308975-035AMSD** SampType: **MSD** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **SB-15(0.5-1)** Batch ID: **77032** RunNo: **99276**
Prep Date: **8/23/2023** Analysis Date: **8/28/2023** SeqNo: **3621159** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	1000	0.51	25.59	698.7	1350	75	125	82.6	20	RS
Manganese	560	1.3	25.59	544.1	71.3	75	125	42.7	20	RS

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **2308975-016AMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **SB-19(10-11)**	Batch ID: **77031**	RunNo: **99276**
Prep Date: **8/23/2023**	Analysis Date: **8/28/2023**	SeqNo: **3621710** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	24	0.31	25.44	0.8308	89.6	75	125			
Cadmium	22	0.51	25.44	0	86.5	75	125			
Chromium	32	0.61	25.44	7.268	96.8	75	125			
Cobalt	25	0.61	25.44	3.957	82.5	75	125			
Vanadium	40	5.1	25.44	12.98	105	75	125			
Zinc	39	5.1	25.44	12.66	103	75	125			

Sample ID: **2308975-016AMSD**	SampType: **MSD**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **SB-19(10-11)**	Batch ID: **77031**	RunNo: **99276**
Prep Date: **8/23/2023**	Analysis Date: **8/28/2023**	SeqNo: **3621711** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	22	0.30	24.62	0.8308	87.7	75	125	5.23	20	
Cadmium	21	0.49	24.62	0	83.7	75	125	6.58	20	
Chromium	30	0.59	24.62	7.268	94.0	75	125	4.78	20	
Cobalt	24	0.59	24.62	3.957	79.9	75	125	5.42	20	
Vanadium	38	4.9	24.62	12.98	104	75	125	2.90	20	
Zinc	36	4.9	24.62	12.66	94.8	75	125	7.89	20	

Sample ID: **2308975-016AMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **SB-19(10-11)**	Batch ID: **77031**	RunNo: **99276**
Prep Date: **8/23/2023**	Analysis Date: **8/28/2023**	SeqNo: **3621716** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	770	1.3	25.44	667.6	402	75	125			S

Sample ID: **2308975-016AMSD**	SampType: **MSD**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **SB-19(10-11)**	Batch ID: **77031**	RunNo: **99276**
Prep Date: **8/23/2023**	Analysis Date: **8/28/2023**	SeqNo: **3621717** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	830	1.2	24.62	667.6	679	75	125	8.10	20	S

Sample ID: **MB-77148**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **77148**	RunNo: **99350**
Prep Date: **8/28/2023**	Analysis Date: **8/30/2023**	SeqNo: **3625586** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.10								
Beryllium	ND	0.15								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **MB-77148**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **77148**	RunNo: **99350**
Prep Date: **8/28/2023**	Analysis Date: **8/30/2023**	SeqNo: **3625586** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	ND	0.25								
Chromium	ND	0.30								
Cobalt	ND	0.30								
Iron	ND	10								
Manganese	ND	0.25								
Vanadium	ND	2.5								
Zinc	ND	2.5								

Sample ID: **LCSLL-77148**	SampType: **LCSLL**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **BatchQC**	Batch ID: **77148**	RunNo: **99350**
Prep Date: **8/28/2023**	Analysis Date: **8/30/2023**	SeqNo: **3625587** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.096	0.10	0.1000	0	95.9	50	150			J
Beryllium	0.098	0.15	0.1000	0	98.5	50	150			J
Cadmium	0.12	0.25	0.1000	0	119	50	150			J
Chromium	0.34	0.30	0.3000	0	112	50	150			
Cobalt	0.31	0.30	0.3000	0	104	50	150			
Manganese	0.12	0.25	0.1000	0	120	50	150			J
Vanadium	0.52	2.5	0.5000	0	104	50	150			J

Sample ID: **LCS-77148**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **77148**	RunNo: **99350**
Prep Date: **8/28/2023**	Analysis Date: **8/30/2023**	SeqNo: **3625588** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	25	0.10	25.00	0	98.6	80	120			
Beryllium	26	0.15	25.00	0	104	80	120			
Cadmium	24	0.25	25.00	0	97.7	80	120			
Chromium	25	0.30	25.00	0	100	80	120			
Cobalt	24	0.30	25.00	0	96.5	80	120			
Iron	27	10	25.00	0	106	80	120			
Manganese	25	0.25	25.00	0	99.7	80	120			
Vanadium	25	2.5	25.00	0	101	80	120			
Zinc	25	2.5	25.00	0	100	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308975**

15-Sep-23

Client: Marathon
Project: AOC 26 27

Sample ID: **2308975-040AMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **DUP-0815-3**	Batch ID: **77148**	RunNo: **99350**
Prep Date: **8/28/2023**	Analysis Date: **8/30/2023**	SeqNo: **3625628** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	24	0.31	25.49	0.6639	93.5	75	125			
Cadmium	22	0.51	25.49	0	88.1	75	125			
Chromium	31	0.61	25.49	6.424	96.2	75	125			
Vanadium	40	5.1	25.49	13.17	106	75	125			
Zinc	44	5.1	25.49	19.35	94.9	75	125			

Sample ID: **2308975-040AMSD**	SampType: **MSD**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **DUP-0815-3**	Batch ID: **77148**	RunNo: **99350**
Prep Date: **8/28/2023**	Analysis Date: **8/30/2023**	SeqNo: **3625629** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	23	0.31	25.47	0.6639	89.5	75	125	4.32	20	
Cadmium	22	0.51	25.47	0	84.4	75	125	4.38	20	
Chromium	29	0.61	25.47	6.424	86.7	75	125	8.24	20	
Vanadium	37	5.1	25.47	13.17	95.0	75	125	7.27	20	
Zinc	37	5.1	25.47	19.35	69.3	75	125	16.2	20	S

Sample ID: **2308975-040AMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **DUP-0815-3**	Batch ID: **77148**	RunNo: **99350**
Prep Date: **8/28/2023**	Analysis Date: **8/30/2023**	SeqNo: **3625632** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cobalt	30	1.5	25.49	8.542	82.3	75	125			

Sample ID: **2308975-040AMSD**	SampType: **MSD**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **DUP-0815-3**	Batch ID: **77148**	RunNo: **99350**
Prep Date: **8/28/2023**	Analysis Date: **8/30/2023**	SeqNo: **3625633** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cobalt	28	1.5	25.47	8.542	76.9	75	125	4.84	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Marathon | Work Order Number: 2308975 | RcptNo: 1

Received By: Tracy Casarrubias 8/17/2023 7:40:00 AM

Completed By: Tracy Casarrubias 8/17/2023 9:22:40 AM

Reviewed By: JN 8/18/23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 1
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	(<2 or >12 unless noted) Adjusted? NO SCM 8/18/23
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: ~~SCM 8/17/23~~ SCM 08/18/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks: POURED ~250mLs FROM SAMPLE 043E TO MAKE SAMPLE 043C SCM 08/18/23

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.8	Good	Yes	Yogi		
2	5.6	Good	Yes	Yogi		
3	4.6	Good	Yes	Yogi		

Comments: On 8/17/23 samples arrived to the laboratory and many labels had become wet and the ink had run off and were not legible. The sample arrived on 8/16/23 and remote the IDs on the label. Based on the rewritten labels we processed the samples. JN 8/18/23

Received by OCD: 2/29/2024 3:49:46 PM

Released to Imaging: 2/7/2025 1:59:07 PM

Chain-of-Custody Record

Client: Mar[illegible]n Petroleum Company

Mailing Address: 92 Giant Crossing Rd.
Jamestown, NM 87347

Phone #: 808-640-1823

email or Fax#: econkling@trihydro.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☐ Rush

Project Name: AOC 26/27

Project #: 00697-097-0020

Project Manager: Emily Conkling

Sampler:

On Ice: ☑ Yes ☐ No

# of Coolers: 3

Cooler Temp(including CF): See Checklist

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2308975	8260/VOCs	8270/SVOCs	8011/1,2-dichloroethane	8270SIM / 1,4-dioxane	8015B / TPH-DRO, TPH-GRO, TPH-MRO	6010/6020 /Skinner List Metals	6010/6020 /Total Iron	6010/6020 /Total Manganese	300.0 / Total Chloride
8/15	0820	S	SB-24 (0.5-1)	4		001	X	X	X	X	X		X	X	X
	0850		SB-24 (25-27)			002									
	0840		SB-24 (19.5-20.5)			003									
	0915		SB-23 (0.5-1)			004									
	0920		SB-23 (4-5)			005									
	0935		SB-22 (0.5-1)			006									
	0940		SB-22 (16-17)			007									
	0945		SB-22 (20-24)			008									
	0950		SB-22 (23-24)			009									
	10:10		SB-21 (5-6)			010									
	10:15		SB-21 (8.5-9.5)			011									
	10:20		SB-20 (0.5-1)			012									

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
8.16.23	14:00	Emily Conkling		courier	8/16/23	7:40
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☐ Rush

Project Name: AOC 26/27

Project #: 00697-097-0020

Project Manager: Emily Conkling

Sampler:

On Ice: ☒ Yes ☐ No

# of Coolers: 3

Cooler Temp(Including CF): See Checklist

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Analysis Request

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8.15	1030	S	SB-20 (10-11)	4		013	X	X	X	X	X	X	X	X	X
	1040		SB-20 (20-21)			014									
	1050		SB-19 (0.5-1)			015									
	1055		SB-19 (10-11)			016									
	1100		SB-19 (13-14)			017									
	1115		SB-18 (0.5-1)			018									
	1120		SB-18 (10-11)			019									
	1130		SB-18 (18-19)			020									
	1350		SB-01 (0.5-1)			021									
	1400		SB-01 (15-16)			022									
	1410		SB-01 (18.5-19.5)			023									
	1325		SB-06 (11.5-12.5)			024									

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8-16-23	14:00	Emily Conkling		courier		7:40
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					8/17/23	

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Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ **EDD (Type)**

Turn-Around Time:
☐ Standard ☐ **Rush**

Project Name:

Project #:

Project Manager:
Emily Conkling

Sampler:

On Ice: ☑ Yes ☐ No

# of Coolers: 3

Cooler Temp(including CF): See Checklist

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Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2308975	8260/VOCs	8270/SVOCs	8011/ 1,2-dichloroethane	8270SIM / 1,4-dioxane	8015B / TPH-DRO, TPH-GRO, TPH-MRO	6010/6020 /Skinner List Metals	6010/6020 /Total Iron	6010/6020 /Total Manganese	300.0 / Total Chloride
8.15	1330	S	SB-06 (10-15)	4		025	X	X	X	X	X	X	X	X	X
	1340		SB-06 (17-18)			026									
	1550		SB-07 (5-10)			027									
	1552		SB-07 (11-12)			028									
	1555		SB-07 (17-18)			029									
	1415		SB-08 (0.5-1)			030									
	1420		SB-08 (5-10)			031									
	1423		SB-08 (13-14)			032									
	1435		SB-12 (0.5-1)			033									
	1445		SB-12 (5-10)			034									
	1530		SB-15 (0.5-1)			035									
	1545		SB-15 (18-19)			036									

Date:	Time:	Relinquished by:	Received by:	Via: courier	Date	Time
8.16.23	14:00	Emily Conkling			8/17/23	7:40
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

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☐ Az Compliance
☐ NELAC ☐ Other

☐ **EDD (Type)**

Turn-Around Time:
☐ Standard ☐ **Rush**

Project Name: AOC 26/27

Project #: 00697-097-0020

Project Manager: Emily Conkling

Sampler:

On Ice: ☒ Yes ☐ No

# of Coolers: 3

Cooler Temp(Including CF): See Checklist

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Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2308975
8.15	1630	~~SW~~	~~EB-0815~~ MEOH BLANK tme 8/17/23	2		037
	—	S	Dup-0815-1	4		038
	—		Dup-0815-2			039
	—		Dup-0815-3			040
	—		Dup-0815-4			041
	—		Dup-0815-5			042
		W	EB-0815 tme 8/16/23			043

Analysis Request

8260/VOCs	8270/SVOCs	8011/1,2-dichloroethane	8270SIM / 1,4-dioxane	8015B / TPH-DRO, TPH-GRO, TPH-MRO	6010/6020 /Skinner List Metals	6010/6020 /Total Iron	6010/6020 /Total Manganese	300.0 / Total Chloride
X	X	X	X	X	X	X	X	X
↓	↓	↓	↓	↓	↓	↓	↓	↓

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8.16.23	14:00	Emily Conkling		courier		
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					8/17/23	7:40

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

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Website: www.hallenvironmental.com

QUOTATION

Quote#: **2840**
Date: **5/9/2023**

Company: Trihydro Corporation
Contact: Emily Conkling
Address: 1252 Commerce Dr.
Laramie, Wy 82072
Phone:
Fax:

Project: Soil and EQP blank testing
TAT: 12 working days
QC Level: LEVEL II
Project Manager: Andy Freeman
Sales Rep: Andy Freeman
Quote Expires: 11/5/2023

Item Description	Test	Matrix	Remarks	Qty	Unit Price	Total
EPA Method 8260B: Volatiles	SW8260B	Soil	+ I,4 Dioxane	106	65.00	6,890.00
EPA Method 8270C: Semivolatiles	SW8270C	Soil	Full list SVOC	106	125.00	13,250.00
EPA Method 8011/504.1 Modified:	E504.1	Soil	EDB low level	106	50.00	5,300.00
EPA Method 8015M/D: Diesel Ran	SW8015	Soil	DRO/MRO	106	35.00	3,710.00
EPA Method 8015D: Gasoline Rang	SW8015	Soil	GRO	106	35.00	3,710.00
EPA Method 6020A: Total Metals	E200.8	Soil	Sb, As, Co, Pb, Ni, Se, Ag	106	60.00	6,360.00
EPA Method 7471B: Mercury	SW7471	Soil	Mercury	106	30.00	3,180.00
EPA Method 300.0: Anions	E300	Soil	Chloride	106	25.00	2,650.00
EPA Method 6010B: Soil Metals	SW6010B	Soil	Ba, Be, Cd, Co, Cr, Fe, Mn, V, Zn	106	70.00	7,420.00
EPA Method 8260B: VOLATILES	SW8260B	Aqueous	+ 1,4 Dioxane	10	65.00	650.00
EPA Method 8270C: Semivolatiles	SW8270C	Aqueous	Full list SVOC	10	130.00	1,300.00
EPA Method 8015M/D: Diesel Ran	SW8015	Aqueous	DRO/MRO	10	55.00	550.00
EPA Method 8015D: Gasoline Rang	SW8015	Aqueous	GRO	10	45.00	450.00
EPA 200.8: Metals	E200.8	Aqueous	Sb, As, Pb, Ni, Se, Ag	10	60.00	600.00
EPA Method 200.7: Metals	E200.7	Aqueous	Ba, Be, Cd, Co, Cr, Fe, Mn, V, Zn	10	70.00	700.00
EPA Method 245.1: Mercury	E245.1	Aqueous	Mercury	10	30.00	300.00
EPA Method 300.0: Anions	E300	Aqueous	Chloride	10	25.00	250.00
EPA Method 8011/504.1: EDB	E504.1	Aqueous	EDB	10	50.00	500.00

Miscellaneous Charge Summary

Item	Unit	Qty	Total
1 Sample Disposal and Bottle Charge	6.00	1	6.00

Sub Total: $57,770.00
Misc: $6.00
Surcharge: 0%
TOTAL: $57,776.00

Sincerely,

Andy Freeman
Laboratory Manager
Phone: 505-345-3975
Email: andy@hallenvironmental.com

Terms and Conditions:

Hall Environmental Analysis Laboratory (HEAL) will provide all sampling containers, coolers, chains of custody and labels. A standard data deliverables package and QC package will be provided with this report, including lab spikes and lab spike duplicates. NM State tax has not been included in this quotation. A $6 charge will be applied to all workorders/invoices for sample disposal/bottle charge. Thank you, for the opportunity to bid on this project. Please feel free to call with any questions (505) 345-3975. Invoices can be paid via Visa, Master Card, American Express, Company Check or Cash. If invoices are paid with a credit card a 2.5% charge will be applied.

Received by OCD: 2/29/2024 3:49:46 PM
Released to Imaging: 2/7/2025 1:59:07 PM

Appendix C – Data Validation Reports

Tier II Data Validation Report Summary

Client: Marathon Oil	Laboratory: Hall Environmental Analysis Laboratory
Project Name: AOC 26 & 27 August 2023 Soil Investigation	Sample Matrix: Oil, Water
Project Number: 00697-097-0020 Task: 2A00	Sample Start Date: 08/16/2023
Date Validated: 10/30/2023	Sample End Date: 08/16/2023
Parameters Included: ▪ Volatile Organic Compounds (VOC) by Environmental Protection Agency (EPA) Test Methods for Evaluating Solid Waste (SW-846) Method 8260B ▪ Semivolatile Organic Compounds (SVOC) by SW-846 Method 8270C ▪ Total Petroleum Hydrocarbons (TPH) Gasoline Range Organics (GRO) by SW-846 Method 8015D ▪ TPH Diesel Range Organics (DRO) and Motor Oil Range Organics (MRO) by SW-846 Method 8015D ▪ Total Metals by SW-846 Method 6010B	
Laboratory Project ID: 2308A31	
Data Validator: Charles Ballek, Senior Chemist	
Reviewer: Kyle Power, Environmental Chemist	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services Group on the analytical data report packages generated by Hall Environmental Analysis Laboratory of Albuquerque, New Mexico, with additional data from Pace Analytical National in Mount Juliet, Tennessee, evaluating samples from the Marathon Oil site, located in Gallup, New Mexico.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated relative percent difference (RPD) values from:

- Matrix spike (MS) and matrix spike duplicate (MSD) pairs
- Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) pairs

Laboratory accuracy was established by reviewing the demonstrated percent recoveries (%R) of the following items to verify that data are not biased.

- MS/MSD samples
- LCS/LCSD samples
- Organic system monitoring compounds (surrogates)

Method compliance was established by reviewing sample integrity, holding times, detection limits, surrogate recoveries, laboratory blanks, initial and continuing calibrations (where applicable), and the LCS/LCSD percent recoveries against method-specific requirements.

Completeness was evaluated by determining the overall ratio of the number of samples and analyses planned versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody (CoC), laboratory analytical methods, and other laboratory and field documents associated with this analytical data set.

Tier II Data Validation Report Summary

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
MKTF-39	2308A31-001
OW-61	2308A31-002

Tier II Data Validation Report Summary

The laboratory data were reviewed to evaluate compliance with the methods and the quality of the reported data. Assessment of CoC completeness is included in Item 3 of the Data Validation Checklist. A check mark (✓) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (⊗) indicates validation criteria for which the data have been qualified by the data validator. An empty circle (○) indicates that the specified criterion does not apply to the reviewed data. Details are noted in the tables below.

Validation Criteria

- ✓ Data Completeness
- ✓ CoC Documentation (Item 3)
- ⊗ Holding Times and Preservation (Items 6 and 7)
- ○ Initial and Continuing Calibrations (Items 9 and 10)
- ✓ Laboratory Blanks (Items 11 and 12)
- ✓ MS/MSD (Items 13 and 14)
- ✓ LCS/LCSD (Items 15 and 16)
- ✓ System Monitoring Compounds (i.e., Surrogates) (Item 17)
- ○ Trip, Field, and Equipment Blanks (Items 18 and 19)
- ○ Field Duplicates (Items 20 and 21)
- ○ Laboratory Duplicates (Item 22)

Guidance References

Chemical data validation was conducted in accordance with the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines for the analyses listed below, or by the appropriate method if not covered in the National Functional Guidelines.

- Data for organic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Organic Superfund Methods Data Review, document number EPA-540-R-20-005, November 2020.
- Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Inorganic Superfund Methods Data Review, document number EPA-540-R-20-006, November 2020.
- Trihydro Data Validation Variance Documentation, March 2023.

Tier II Data Validation Report Summary

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Item 2 of the Validation Criteria Checklist.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data that are not qualified meet the site data quality objectives. If values are assigned qualifiers other than an R (rejected, data not usable), the data may be used for site evaluation; however, consideration should be given to the reasons for qualification when interpreting sample concentrations. Data points that are assigned an R qualifier should not be used for site evaluation purposes.

If applicable, text was identified in **bold font** in the Validation Criteria Checklist to indicate that further action and/or qualification of the data were required. Data may have been qualified with J data flags by the laboratory if the result was greater than or equal to the method detection limit (MDL) but less than the reporting limit (RL). These laboratory-applied J flags were preserved, if present, and included in the Data Qualification Summary table at the end of this report. If applicable, data validation qualifiers were added for the items noted with crossed circles in the Validation Criteria section above. Please see the Data Qualification Summary table at the end of this report for a complete list of samples and analytes qualified.

If data would be qualified with more than one flag, one qualifier was assigned based on the severity; however, all reasons for qualification were retained. Data that would be qualified with both J+ and J- flags were evaluated based on validation criteria and assigned the appropriate flag. The hierarchy of qualifiers from the most to least severe is as follows:

- R > JB/U > NJ > J+/J- > J/UJ

Data qualifiers used during this validation are included in the following table.

Qualifier	Definition
J	Estimated concentration
R	Rejected, data not usable

Data Completeness

The analyses were performed as requested on the CoC records. The associated samples were received by the laboratory and analyzed properly unless otherwise noted in the Criteria Checklist below. The complete data package consisted of 162 data points. A total of 133 data points were rejected. The data completeness measure for this data package is calculated to be 17.90%.

VALIDATION CRITERIA CHECKLIST	
1. Was the report free of non-conformances identified by the laboratory?	Yes
Comments: The laboratory did not report non-conformances related to the analytical data for this sample set	
2. Were the data free of data qualification flags and/or notes used by the laboratory? If no, define.	No
Comments: The laboratory used the following data qualification flags with this data set. D – Sample diluted due to matrix. S – % Recovery outside of standard limits. If undiluted results may be estimated. J – The identification of the analyte is acceptable; the reported value is an estimate. J3 – The associated batch QC was outside the established quality control range for precision.	
3. Were sample CoC forms and custody procedures complete?	Yes
Comments: The CoC records from field to laboratory were complete, and custody was maintained as evidenced by field and laboratory personnel signatures, dates, and times of receipt. Custody seals were not present because the samples were transferred to a laboratory field courier service for transport from the field to the laboratory, and custody was maintained at all times.	
4. Were detection limits in accordance with the quality assurance project plan (QAPP), permit, or method, or indicated as acceptable?	Yes
Comments: The reporting limits for the analyses were reviewed and appeared to be acceptable. Dilutions were applied for the analyses of individual samples due to matrix interference and to maintain instrument responses within defined calibration limits.	
5. Were the reported analytical methods and constituents in compliance with the QAPP, permit, or CoC?	No
Comments: The reported analytical methods were in compliance with the CoC, and the laboratory reported the requested constituents in accordance with the CoC, with the following exceptions. The CoC included a request for "8260/BTEX" for benzene, toluene, ethylbenzene, and xylenes. The Method 8260B analyses did not include xylenes. The CoC also indicated a request for "8270/MTBE" to include methyl tert-butyl ether (MTBE). Since MTBE is a volatile organic compound, the results for this analyte were reported as part of the Method 8260B analyses.	
6. Were samples received in good condition within method-specified requirements?	No
Comments: Samples were received at Hall Environmental on ice, in good condition, and with the cooler temperatures within the recommended temperature range of 4°C ± 2°C at 5.1°C as noted on the CoC and on the Sample Log-in Check List. The laboratory noted that sample containers designated for analyses of SVOCs by Method 8270C and DRO and MRO by Method 8015D were received with air bubbles. Validation action was not required based on this observation. The samples transferred to Pace Analytical for analyses of metals were received at a temperature of 1.9°C. The cooler temperature below 2.0°C was judged as acceptable since the laboratory did not report the sample containers as broken or frozen.	
7. Were samples extracted/digested and analyzed within method-specified or technical holding times?	No
Comments: The samples were extracted/digested and analyzed within defined holding times, with the following exceptions. Method 8270C: **The submitted samples were extracted for the analyses of SVOCs approximately 20 days after the expiration of the defined 14 day holding time. The detected target analytes were assigned J qualifiers and non-detect results were assigned R qualifiers and rejected based on the holding time exceedances.**	

VALIDATION CRITERIA CHECKLIST

8. Were reported units appropriate for the sample matrix/matrices and analytical method(s)? Specify if wet or dry units were used for soil. — Yes

Comments: The results were reported in concentration units of micrograms per liter (µg/L) for the total metals for sample MKTF-39, percent by weight (wt%) for GRO, DRO, and MRO analyses, and milligrams per kilogram (mg/kg) for the remaining analytical results. These were acceptable units for the sample matrices and the analyses requested.

9. Did the laboratory provide any specific initial and/or continuing calibration results? — No

Comments: Initial and continuing calibration data were not included as part of this data set.

10. If initial and/or continuing calibration results were provided, were the results within acceptable limits? — N/A

Comments: Initial and continuing calibration data were not included as part of this data set.

11. Was the total number of laboratory blank samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? — Yes

Comments: The number of laboratory blank samples prepared was equal to at least 5% of the total number of samples.

12. Were target analytes reported as not detected in the laboratory blanks? — Yes

Comments: Target analytes were reported as not detected in the laboratory blanks.

13. Was the total number of MS samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? — Yes

Comments: The total number of matrix spike samples prepared was equal to at least 5% of the total number of samples, although MS samples were not prepared/reported for all analyses and/or batches. The matrix spike sample source for each analytical batch in this sample set has been indicated below.

Method	Analytes	Batch	MS Sample Source
8260B	VOCs	77010	Not Prepared
8270C	SVOCs	77604	Not Prepared
8015D	GRO	77010	Not Prepared
8015D	DRO/MRO	77002	Not Prepared
6010B	Metals	R100586 (WG2119176)	Not Associated
6010B	Metals	R100586 (WG2122632)	Not Associated

Not Associated – The MS sample source was not associated with this project.
Not Prepared – Matrix spikes were not prepared/reported for this batch.

14. For MS/MSDs prepared from project samples, were percent recoveries and RPDs within data validation or laboratory quality control (QC) limits? — N/A

Comments: Recoveries and RPDs for MS/MSDs prepared from non-project samples were considered, but data were not qualified based on these results since matrix similarity to project samples could not be guaranteed.

15. Was the total number of LCSs analyzed equal to at least 5% of the total number of samples or analyzed as required by the method? — Yes

Comments: The total number of LCS samples analyzed was equal to at least 5% of the total number of samples.

16. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within data validation or laboratory QC limits? — Yes

Comments: The LCS and LCSD percent recoveries and LCS/LCSD RPDs were within data validation and laboratory QC limits.

VALIDATION CRITERIA CHECKLIST	
17. Were surrogate recoveries within laboratory QC limits?	No
Comments: Surrogate recoveries were within QC limits, with the following exceptions. Surrogate recoveries for the samples for Methods 8015D (DRO/MRO analyses) and 8270C were at 0%. The SVOC and DRO/MRO results for the submitted samples were not qualified based on the surrogate non-conformances in the Method 8270C and Method 8015D analyses since the applied dilutions of 10 and 20 times resulted in surrogate concentrations below routinely calibrated levels and those results were deemed unreliable and possibly inaccurate. Qualification of sample data was not required based on surrogate non-conformances in QC samples as the environmental samples were evaluated based on their specific surrogate recoveries.	
18. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit?	No
Comments: The number of trip, field, and equipment blanks collected was not equal to at least 10% of the number of samples. Trip, field, and equipment blanks were not collected as part of this sample set.	
19. Were target analytes reported as not detected in the trip blank, field blank, and/or equipment blank samples?	N/A
Comments: Trip, field, and equipment blanks were not submitted as part of this sample set.	
20. Was the number of field duplicates collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit?	No
Comments: The number of field duplicates collected was not equal to at least 10% of the number of samples. Field duplicates were not collected as part of this sample set.	
21. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)?	N/A
Comments: Field duplicates were not submitted as part of this sample set.	
22. For laboratory duplicates prepared from project samples, were RPDs within data validation or laboratory QC limits?	N/A
Comments: Laboratory duplicate samples were not prepared for the analyses in this sample set.	
23. Were the following data relationships realistic? • Target analytes were reported by more than one method (e.g., 8260/8270, EPH/8270)?	N/A
Comments: Target analytes were not reported by more than one method.	
• Both total and dissolved metals analyses were performed, and the total metals results were greater than or equal to the dissolved metals results?	N/A
Comments: Dissolved metals analyses were not performed for this data set.	

DATA QUALIFICATION SUMMARY

Abbreviation	Reason
HT-EX	Sample was extracted outside of the method holding time.
MDLRL	Flagged by the laboratory: The result was greater than the MDL but less than the RL.

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Unit	Validation Qualifier	Flag Reason
1,2,4-Trichlorobenzene	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
1,2,4-Trichlorobenzene	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
1,2-Dichlorobenzene	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
1,2-Dichlorobenzene	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
1,3-Dichlorobenzene	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
1,3-Dichlorobenzene	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
1,4-Dichlorobenzene	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
1,4-Dichlorobenzene	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
1-Methylnaphthalene	8270C	MKTF-39	2308a31-001b	1900	510	mg/kg	J	HT-EX
1-Methylnaphthalene	8270C	OW-61	2308a31-002b	3700	630	mg/kg	J	HT-EX
2,4,5-Trichlorophenol	8270C	MKTF-39	2308a31-001b	ND	510	mg/kg	R	HT-EX
2,4,5-Trichlorophenol	8270C	OW-61	2308a31-002b	ND	630	mg/kg	R	HT-EX
2,4,6-Trichlorophenol	8270C	MKTF-39	2308a31-001b	ND	510	mg/kg	R	HT-EX
2,4,6-Trichlorophenol	8270C	OW-61	2308a31-002b	ND	630	mg/kg	R	HT-EX
2,4-Dichlorophenol	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
2,4-Dichlorophenol	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
2,4-Dimethylphenol	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
2,4-Dimethylphenol	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
2,4-Dinitrophenol	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
2,4-Dinitrophenol	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
2,4-Dinitrotoluene	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Unit	Validation Qualifier	Flag Reason
2,4-Dinitrotoluene	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
2,6-Dinitrotoluene	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
2,6-Dinitrotoluene	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
2-Chloronaphthalene	8270C	MKTF-39	2308a31-001b	ND	510	mg/kg	R	HT-EX
2-Chloronaphthalene	8270C	OW-61	2308a31-002b	ND	630	mg/kg	R	HT-EX
2-Chlorophenol	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
2-Chlorophenol	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
2-Methylnaphthalene	8270C	MKTF-39	2308a31-001b	2700	510	mg/kg	J	HT-EX
2-Methylnaphthalene	8270C	OW-61	2308a31-002b	6000	630	mg/kg	J	HT-EX
2-Methylphenol	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
2-Methylphenol	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
2-Nitroaniline	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
2-Nitroaniline	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
2-Nitrophenol	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
2-Nitrophenol	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
3,3-Dichlorobenzidine	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
3,3-Dichlorobenzidine	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
3,4-Methylphenol	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
3,4-Methylphenol	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
3-Nitroaniline	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
3-Nitroaniline	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
4,6-Dinitro-2-methylphenol	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
4,6-Dinitro-2-methylphenol	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
4-Bromophenyl-phenylether	8270C	MKTF-39	2308a31-001b	ND	510	mg/kg	R	HT-EX
4-Bromophenyl-phenylether	8270C	OW-61	2308a31-002b	ND	630	mg/kg	R	HT-EX
4-Chloro-3-Methylphenol	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
4-Chloro-3-Methylphenol	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
4-Chloroaniline	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Unit	Validation Qualifier	Flag Reason
4-Chloroaniline	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
4-Chlorophenyl-phenylether	8270C	MKTF-39	2308a31-001b	ND	510	mg/kg	R	HT-EX
4-Chlorophenyl-phenylether	8270C	OW-61	2308a31-002b	ND	630	mg/kg	R	HT-EX
4-Nitroaniline	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
4-Nitroaniline	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
4-Nitrophenol	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
4-Nitrophenol	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Acenaphthene	8270C	MKTF-39	2308a31-001b	ND	510	mg/kg	R	HT-EX
Acenaphthene	8270C	OW-61	2308a31-002b	ND	630	mg/kg	R	HT-EX
Acenaphthylene	8270C	MKTF-39	2308a31-001b	ND	510	mg/kg	R	HT-EX
Acenaphthylene	8270C	OW-61	2308a31-002b	ND	630	mg/kg	R	HT-EX
Aniline	8270C	MKTF-39	2308a31-001b	ND	2000	mg/kg	R	HT-EX
Aniline	8270C	OW-61	2308a31-002b	ND	2500	mg/kg	R	HT-EX
Anthracene	8270C	MKTF-39	2308a31-001b	ND	510	mg/kg	R	HT-EX
Anthracene	8270C	OW-61	2308a31-002b	ND	630	mg/kg	R	HT-EX
Arsenic, Total	6010B	OW-61	2308A31-002C	1.6	2	mg/kg	J	MDLRL
Benzo(a)anthracene	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Benzo(a)anthracene	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Benzo(a)pyrene	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Benzo(a)pyrene	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Benzo(b)fluoranthene	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Benzo(b)fluoranthene	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Benzo(g,h,i)perylene	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Benzo(g,h,i)perylene	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Benzo(k)fluoranthene	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Benzo(k)fluoranthene	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Benzoic Acid	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Benzoic Acid	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Unit	Validation Qualifier	Flag Reason
Benzyl Alcohol	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Benzyl Alcohol	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Bis(2-chloroethoxy)methane	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Bis(2-chloroethoxy)methane	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Bis(2-chloroethyl)ether	8270C	MKTF-39	2308a31-001b	ND	2000	mg/kg	R	HT-EX
Bis(2-chloroethyl)ether	8270C	OW-61	2308a31-002b	ND	2500	mg/kg	R	HT-EX
Bis(2-chloroisopropyl)ether	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Bis(2-chloroisopropyl)ether	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Bis(2-ethylhexyl)phthalate	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Bis(2-ethylhexyl)phthalate	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Butylbenzylphthalate	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Butylbenzylphthalate	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Carbazole	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Carbazole	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Chrysene	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Chrysene	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Dibenzo(a,h)anthracene	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Dibenzo(a,h)anthracene	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Dibenzofuran	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Dibenzofuran	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Diethylphthalate	8270C	MKTF-39	2308a31-001b	ND	510	mg/kg	R	HT-EX
Diethylphthalate	8270C	OW-61	2308a31-002b	ND	630	mg/kg	R	HT-EX
Dimethylphthalate	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Dimethylphthalate	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Di-n-butylphthalate	8270C	MKTF-39	2308a31-001b	ND	510	mg/kg	R	HT-EX
Di-n-butylphthalate	8270C	OW-61	2308a31-002b	ND	630	mg/kg	R	HT-EX
Di-n-octylphthalate	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Di-n-octylphthalate	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Unit	Validation Qualifier	Flag Reason
Fluoranthene	8270C	MKTF-39	2308a31-001b	ND	510	mg/kg	R	HT-EX
Fluoranthene	8270C	OW-61	2308a31-002b	ND	630	mg/kg	R	HT-EX
Fluorene	8270C	MKTF-39	2308a31-001b	ND	510	mg/kg	R	HT-EX
Fluorene	8270C	OW-61	2308a31-002b	ND	630	mg/kg	R	HT-EX
Hexachlorobenzene	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Hexachlorobenzene	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Hexachlorobutadiene	8270C	MKTF-39	2308a31-001b	ND	510	mg/kg	R	HT-EX
Hexachlorobutadiene	8270C	OW-61	2308a31-002b	ND	630	mg/kg	R	HT-EX
Hexachlorocyclopentadiene	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Hexachlorocyclopentadiene	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Hexachloroethane	8270C	MKTF-39	2308a31-001b	ND	2000	mg/kg	R	HT-EX
Hexachloroethane	8270C	OW-61	2308a31-002b	ND	2500	mg/kg	R	HT-EX
Indeno(1,2,3-cd)pyrene	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Indeno(1,2,3-cd)pyrene	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Isophorone	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Isophorone	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Naphthalene	8270C	MKTF-39	2308a31-001b	740	1000	mg/kg	J	HT-EX, MDLRL
Naphthalene	8270C	OW-61	2308a31-002b	2300	1300	mg/kg	J	HT-EX
Nitrobenzene	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Nitrobenzene	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
N-Nitrosodimethylamine	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
N-Nitrosodimethylamine	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
N-Nitrosodi-n-propylamine	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
N-Nitrosodi-n-propylamine	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
N-Nitrosodiphenylamine	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
N-Nitrosodiphenylamine	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Pentachlorophenol	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Pentachlorophenol	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Unit	Validation Qualifier	Flag Reason
Phenanthrene	8270C	MKTF-39	2308a31-001b	600	1000	mg/kg	J	HT-EX, MDLRL
Phenanthrene	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Phenol	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Phenol	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Pyrene	8270C	MKTF-39	2308a31-001b	ND	1000	mg/kg	R	HT-EX
Pyrene	8270C	OW-61	2308a31-002b	ND	1300	mg/kg	R	HT-EX
Pyridine	8270C	MKTF-39	2308a31-001b	ND	2000	mg/kg	R	HT-EX
Pyridine	8270C	OW-61	2308a31-002b	ND	2500	mg/kg	R	HT-EX
TPH GRO	8015	MKTF-39	2308a31-001a	2.6	5	%	J	MDLRL

Tier II Data Validation Report Summary

Client: Marathon Oil	Laboratory: Hall Environmental Analysis Laboratory
Project Name: AOC 26 & 27 August 2023 Soil Investigation	Sample Matrix: Soil, QA Water
Project Number: 00697-097-0020 Task: 2A00	Sample Start Date: 08/15/2023
Date Validated: 10/30/2023	Sample End Date: 08/16/2023
Parameters Included: ▪ Volatile Organic Compounds (VOC) by Environmental Protection Agency (EPA) Test Methods for Evaluating Solid Waste (SW-846) Method 8260B ▪ 1,2-Dibromoethane (EDB) by SW-846 Method 8011 ▪ Semivolatile Organic Compounds (SVOC) by SW-846 Method 8270C ▪ Total Petroleum Hydrocarbons (TPH) Gasoline Range Organics (GRO) by SW-846 Method 8015D ▪ TPH Diesel Range Organics (DRO) and Motor Oil Range Organics (MRO) by SW-846 Method 8015D Modified ▪ Total Metals by EPA Method 200.7 and Method 200.8 and SW-846 Method 6010B and Method 6020A ▪ Total Mercury by EPA Method 245.1 and SW-846 Method 7471B ▪ Chloride by EPA Method 300.0	
Laboratory Project ID: 2308A58	
Data Validator: Daran O'Hollearn, Lead Project Scientist	
Reviewer: Kyle Power, Environmental Chemist	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services Group on the analytical data report packages generated by Hall Environmental Analysis Laboratory of Albuquerque, New Mexico, evaluating samples from the Marathon Oil site, located in Gallup, New Mexico.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated relative percent difference (RPD) values from:

- Field duplicate pairs
- Matrix spike (MS) and matrix spike duplicate (MSD) pairs
- Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) pairs

Laboratory accuracy was established by reviewing the demonstrated percent recoveries (%R) of the following items to verify that data are not biased.

- MS/MSD samples
- LCS/LCSD samples
- Organic system monitoring compounds (surrogates)

Tier II Data Validation Report Summary

Field accuracy was established by collecting and analyzing the following samples to monitor for possible ambient or cross contamination during sampling and transportation.

- Equipment blanks
- Trip blanks

Method compliance was established by reviewing sample integrity, holding times, detection limits, surrogate recoveries, laboratory blanks, initial and continuing calibrations (where applicable), and the LCS/LCSD percent recoveries against method-specific requirements.

Completeness was evaluated by determining the overall ratio of the number of samples and analyses planned versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody (CoC), laboratory analytical methods, and other laboratory and field documents associated with this analytical data set.

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
SB-14(0.5-1)	2308A58-001
SB-14(25-28)	2308A58-002
SB-14(27-28)	2308A58-003
SB-16(0.5-1)	2308A58-004
SB-16(10-15)	2308A58-005
SB-16(14-15)	2308A58-006
SB-14(24-25)	2308A58-007
SB-17(14-15)	2308A58-008
SB-17(15-20)	2308A58-009
SB-17(22.5-23.5)	2308A58-010
SB-05(0.5-1)	2308A58-011
SB-05(20-25)	2308A58-012
SB-05(24-25)	2308A58-013
SB-02(0.5-1)	2308A58-014
SB-02(15-20)	2308A58-015
SB-02(19.7-20.7)	2308A58-016
SB-02(33.5-34.5)	2308A58-017
SB-03(0.5-1)	2308A58-018
SB-03(15-20)	2308A58-019
SB-03(18-19)	2308A58-020
SB-03(29-30)	2308A58-021
SB-04(15-20)	2308A58-022
SB-04(19.5-20.5)	2308A58-023

Tier II Data Validation Report Summary

Client Sample ID	Laboratory Sample Number
SB-04(24-25)	2308A58-024
SB-09 (0.5-1)	2308A58-025
SB-09(15-20)	2308A58-026
SB-09(10-15)	2308A58-027
SB-10(0.5-1)	2308A58-028
SB-10(15-20)	2308A58-029
SB-10(23.5-24.5)	2308A58-030
SB-11(0.5-1)	2308A58-031
SB-11(1-5)	2308A58-032
SB-11(17.5-18.5)	2308A58-033
SB-11(19-20)	2308A58-034
SB-13(0.5-1)	2308A58-035
SB-13(10-15)	2308A58-036
SB-13(14-15)	2308A58-037
SB-13(24-25)	2308A58-038
DUP-0816-1	2308A58-039
DUP-0816-2	2308A58-040
DUP-0816-3	2308A58-041
DUP-0816-4	2308A58-042
DUP-0816-5	2308A58-043
EB-0816	2308A58-044
SB-15(10-15)	2308A58-045
MEOH Blank	2308A58-046
MEOH Blank	2308A58-047
MEOH Blank	2308A58-048
MEOH Blank	2308A58-049

Tier II Data Validation Report Summary

The laboratory data were reviewed to evaluate compliance with the methods and the quality of the reported data. Assessment of CoC completeness is included in Item 3 of the Data Validation Checklist. A check mark (✓) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (⊗) indicates validation criteria for which the data have been qualified by the data validator. An empty circle (○) indicates that the specified criterion does not apply to the reviewed data. Details are noted in the tables below.

Validation Criteria

- ✓ Data Completeness
- ✓ CoC Documentation (Item 3)
- ✓ Holding Times and Preservation (Items 6 and 7)
- ○ Initial and Continuing Calibrations (Items 9 and 10)
- ⊗ Laboratory Blanks (Items 11 and 12)
- ⊗ MS/MSD (Items 13 and 14)
- ⊗ LCS/LCSD (Items 15 and 16)
- ⊗ System Monitoring Compounds (i.e., Surrogates) (Item 17)
- ⊗ Trip and Equipment Blanks (Items 18 and 19)
- ⊗ Field Duplicates (Items 20 and 21)
- ○ Laboratory Duplicates (Item 22)

Guidance References

Chemical data validation was conducted in accordance with the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines for the analyses listed below, or by the appropriate method if not covered in the National Functional Guidelines.

- Data for organic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Organic Superfund Methods Data Review, document number EPA-540-R-20-005, November 2020.
- Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Inorganic Superfund Methods Data Review, document number EPA-540-R-20-006, November 2020.
- Review of field duplicates was conducted according to the USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020.
- Trihydro Data Validation Variance Documentation, March 2023.

Tier II Data Validation Report Summary

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Item 2 of the Validation Criteria Checklist.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data that are not qualified meet the site data quality objectives. If values are assigned qualifiers other than an R (rejected, data not usable), the data may be used for site evaluation; however, consideration should be given to the reasons for qualification when interpreting sample concentrations. Data points that are assigned an R qualifier should not be used for site evaluation purposes.

If applicable, text was identified in **bold font** in the Validation Criteria Checklist to indicate that further action and/or qualification of the data were required. Data may have been qualified with J data flags by the laboratory if the result was greater than or equal to the method detection limit (MDL) but less than the reporting limit (RL). These laboratory-applied J flags were preserved, if present, and included in the Data Qualification Summary table at the end of this report. If applicable, data validation qualifiers were added for the items noted with crossed circles in the Validation Criteria section above. Please see the Data Qualification Summary table at the end of this report for a complete list of samples and analytes qualified.

If data would be qualified with more than one flag, one qualifier was assigned based on the severity; however, all reasons for qualification were retained. Data that would be qualified with both J+ and J- flags were evaluated based on validation criteria and assigned the appropriate flag. The hierarchy of qualifiers from the most to least severe is as follows:

- R > JB/U > NJ > J+/J- > J/UJ

Data qualifiers used during this validation are included in the following table.

Qualifier	Definition
J	Estimated concentration
J+	The result is an estimated concentration, but may be biased high
J-	The result is an estimated concentration, but may be biased low
UJ	Estimated reporting limit
U	Evaluated to be undetected at the reporting limit
JB	Estimated concentration due to blank contamination
R	Rejected, data not usable

Data Completeness

The analyses were performed as requested on the CoC records. The associated samples were received by the laboratory and analyzed properly unless otherwise noted in the Criteria Checklist below. The complete data package consisted of 6,952 data points. The data completeness calculation does not include any submitted blank sample results. One data point was rejected. The data completeness measure for this data package is calculated to be 99.99% and is acceptable.

VALIDATION CRITERIA CHECKLIST	
1. Was the report free of non-conformances identified by the laboratory?	Yes
Comments: The laboratory did not report non-conformances related to the analytical data for this sample set.	
2. Were the data free of data qualification flags and/or notes used by the laboratory? If no, define.	No
Comments: The laboratory used the following data qualification flags with this data set. D – Sample diluted due to matrix. J – Analyte detected below quantitation limits. R – RPD outside of standard limits. S – % Recovery outside of standard limits. If undiluted results may be estimated.	
3. Were sample CoC forms and custody procedures complete?	Yes
Comments: The CoC records from field to laboratory were complete, and custody was maintained as evidenced by field and laboratory personnel signatures, dates, and times of receipt. The laboratory noted that the shipping containers were sealed, and custody seals were present and intact on the shipping containers.	
4. Were detection limits in accordance with the quality assurance project plan (QAPP), permit, or method, or indicated as acceptable?	Yes
Comments: The reporting limits for the analyses were reviewed and appeared to be acceptable. Dilutions were applied for the analyses of individual samples due to matrix interference and to maintain instrument responses within defined calibration limits.	
5. Were the reported analytical methods and constituents in compliance with the QAPP, permit, or CoC?	No
Comments: The reported analytical methods were in compliance with the CoC, and the laboratory reported the requested constituents in accordance with the CoC, with the following exception. The CoC requested 1,4-dioxane using Method 8270 SIM; however, the laboratory analyzed the samples using Method 8260B. This substituted analytical method met appropriate sensitivity, accuracy, and precision goals and therefore, was an acceptable replacement. The analyte 1,2-dichloroethane was inadvertently requested by Method 8011. The laboratory logged in and performed the appropriate analyses for EDB by Method 8011.	
6. Were samples received in good condition within method-specified requirements?	Yes
Comments: Samples were received on ice, in good condition, and with the cooler temperatures within the recommended temperature range of 4°C ± 2°C at 2.6°C, 5.3°C, 5.7°C, and 5.9°C as noted on the Sample Log-in Check List.	
7. Were samples extracted/digested and analyzed within method-specified or technical holding times?	Yes
Comments: The samples were extracted/digested and analyzed within method-specific holding times.	
8. Were reported units appropriate for the sample matrix/matrices and analytical method(s)? Specify if wet or dry units were used for soil.	Yes
Comments: The results were reported in concentration units of micrograms per liter (µg/L), milligrams per liter (mg/L), micrograms per kilogram (µg/kg), and milligrams per kilogram (mg/kg) which were acceptable for the sample matrix and the analyses requested. The analytical results for the soil samples were reported on a wet weight, as received, basis for this sample set.	
9. Did the laboratory provide any specific initial and/or continuing calibration results?	No
Comments: Initial and continuing calibration data were not included as part of this data set.	

VALIDATION CRITERIA CHECKLIST

10. If initial and/or continuing calibration results were provided, were the results within acceptable limits? N/A

Comments: Initial and continuing calibration data were not included as part of this data set.

11. Was the total number of laboratory blank samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The number of laboratory blank samples prepared was equal to at least 5% of the total number of samples.

12. Were target analytes reported as not detected in the laboratory blanks? No

Comments: Target analytes were reported as not detected in the laboratory blanks, with the following exceptions.

Method	Analyte	Batch	Concentration
200.7	Iron	A99201	0.0095 mg/L
8260B	**Chloroform**	**R99180**	**0.014 mg/kg**
8260B	**Chloroform**	**R99223**	**0.012 mg/kg**
8260B	**Chloroform**	**R99320**	**0.0085 mg/kg**
8260B	**2-Methylnaphthalene**	**R99167**	**1.4 µg/L**

Detections of chloroform and-2-methylnaphthalene in the associated samples that were equal to the blank results and/or less than the applicable reporting limits were assigned U qualifiers. Non-detections of the identified analytes in the associated samples did not require qualification.

13. Was the total number of MS samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of matrix spike samples prepared was equal to at least 5% of the total number of samples, although MS samples were not prepared/reported for all analyses and/or batches. The matrix spike sample source for each analytical batch in this sample set has been indicated below.

Method	Analytes	Batch	MS Sample Source
200.7	Total Metals	A99201	Not Prepared
200.7	Total Metals	B99256	Not Prepared
200.8	Total Metals	76998	Not Prepared
200.8	Total Metals	76999	Not Prepared
200.8	Total Metals	77030	Not Prepared
200.8	Total Metals	77101	Not Prepared
245.1	Total Mercury	76963	Not Prepared
300.0	Chloride	76974	Not Prepared
300.0	Chloride	76980	Not Prepared
300.0	Chloride	77012	Not Prepared
300.0	Chloride	R99082	Not Prepared
504.1	EDB	76925	Not Prepared
504.1	EDB	76952	SB-03(18-19)
504.1	EDB	77038	DUP-0816-2
504.1	EDB	77041	Not Prepared
6010B	Metals	76998	SB-14(25-28)
6010B	Metals	76999	SB-03(29-30)
6010B	Metals	77030	SB-11(0.5-1)

VALIDATION CRITERIA CHECKLIST

Method	Analytes	Batch	MS Sample Source
6020A	Metals	77030	SB-10(23.5-24.5)
6020A	Metals	76999	Not Prepared
6020A	Metals	76998	SB-14(0.5-1)
7471B	Mercury	77022	SB-03(18-19)
7471B	Mercury	77023	DUP-0816-2
7471B	Mercury	77024	DUP-0816-4
8015D	TPH DRO and MRO	76954	Not Prepared
8015D	TPH DRO and MRO	77049	SB-14(0.5-1)
8015D	TPH DRO and MRO	77051	SB-03(29-30)
8015D	TPH DRO and MRO	77108	DUP-0816-2
8015D	TPH GRO	GS99204	SB-14(25-28)
8015D	TPH GRO	GS99270	SB-03(29-30)
8015D	TPH GRO	GS99322	DUP-0816-2
8015D	TPH GRO	GW99157	Not Prepared
8260B	VOCs	B99180	Not Prepared
8260B	VOCs	R99144	Not Prepared
8260B	VOCs	R99167	Not Prepared
8260B	VOCs	R99180	SB-14(27-28)
8260B	VOCs	R99223	SB-17(14-15)
8260B	VOCs	R99297	Not Prepared
8260B	VOCs	R99320	DUP-0816-1
8260B	VOCs	R99330	Not Prepared
8270C	SVOCs	76988	SB-14(25-28)
8270C	SVOCs	77079	Not Prepared
8270C	SVOCs	77104	SB-02(33.5-34.5)
8270C	SVOCs	77165	Not Prepared

Not Prepared – Matrix spikes were not prepared/reported for this batch.

VALIDATION CRITERIA CHECKLIST

14. For MS/MSDs prepared from project samples, were percent recoveries and RPDs within data validation or laboratory quality control (QC) limits? No

Comments: The percent recoveries and RPDs for MS/MSDs prepared from project samples were within data validation and laboratory QC limits or were not applicable because the unspiked amount was more than four times the spike added, with the following exceptions.

Method	Analyte	Batch	MS Recovery	MSD Recovery	MS/MSD QC Limits	MS/MSD RPD	RPD QC Limits
8011	**EDB**	**76952**	**Acceptable**	**Acceptable**	**65-135%**	**20.0%**	**20%**
6020A	**Antimony**	**76998**	**41.5%**	**39.5%**	**75-125%**	**Acceptable**	**20%**
6020A	**Antimony**	**77030**	**14.6%**	**16.9%**	**75-125%**	**Acceptable**	**20%**
6020A	**Lead**	**77030**	**Acceptable**	**69.7%**	**75-125%**	**Acceptable**	**20%**
6020A	**Selenium**	**77030**	**59.1%**	**Acceptable**	**75-125%**	**Acceptable**	**20%**
8015D	**GRO**	**GS99204**	**136%**	**138%**	**70-130%**	**Acceptable**	**20%**
Method	Analyte	Batch	MS Recovery	MSD Recovery	MS/MSD QC Limits	MS/MSD RPD	RPD QC Limits
6010B	**Barium**	**76999**	**267%**	**207%**	**75-125%**	**Acceptable**	**20%**
6010B	**Vanadium**	**76998**	**161%**	**Acceptable**	**75-125%**	**Acceptable**	**20%**

EDB was not detected in the associated samples, and these results were qualified as UJ due to evidence of poor precision.

Analytes with MS and/or MSD percent recoveries that were less than lower laboratory QC limits were qualified as J- if detected and UJ if not detected in the associated samples due to evidence of potential low bias. For antimony in batch 77030 with MS and MSD percent recoveries less than 30%, non-detected results for the parent sample, SB-10(23.5-24.5), were qualified R to indicate rejected (not usable) data based on evidence of extreme low bias.

For GRO, barium, and vanadium with MS and/or MSD recoveries greater than the laboratory and data validation QC limits were detected in associated samples, and the results were qualified as J+ due to potential high bias. Non-detections of these analytes in the associated samples did not require qualification.

15. Was the total number of LCSs analyzed equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of LCS samples analyzed was equal to at least 5% of the total number of samples.

VALIDATION CRITERIA CHECKLIST

16. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within data validation or laboratory QC limits? No

Comments: The LCS and LCSD percent recoveries and LCS/LCSD RPDs were within data validation and laboratory QC limits, with the following exceptions.

Method	Analyte	Batch	LCS Recovery	LCSD Recovery	LCS/LCSD QC Limits
200.7	Barium	B99256	148%	-----	70-130%
8011	**EDB**	**76925**	**61.5%**	**-----**	**70-130%**
8011	**EDB**	**76952**	**63.6%**	**63.5%**	**70-130%**
6010B	**Iron**	**76999**	**180%**	**-----**	**70-130%**
6010B	**Iron**	**76998**	**193%**	**-----**	**70-130%**
6010B	**Zinc**	**76998**	**187%**	**-----**	**70-130%**
6010B	**Iron**	**77030**	**255%**	**-----**	**70-130%**
6010B	**Zinc**	**77030**	**249%**	**-----**	**70-130%**

EDB was not detected in the associated samples, and these results were assigned UJ qualifiers due to evidence of potential low bias.

Iron and zinc were detected in the associated samples, and these results were qualified as J+ due to evidence of potential high bias. Non-detections of barium in the associated sample EB-0816 and zinc in the associated sample SB-02(15-20) did not require qualification.

VALIDATION CRITERIA CHECKLIST

17. Were surrogate recoveries within laboratory QC limits? No

Comments: Surrogate recoveries were within QC limits, with the following exceptions.

The Method 8015D surrogate BFB was recovered in samples SB-16(10-15), SB-02(15-20), SB-03(18-19), SB-13(10-15), SB-13(14-15), and SB-15(10-15) greater than the acceptance limits of 15-244% at 536%, 480%, 257%, 276%, 270%, and 871%, respectively. The target analyte GRO associated with this surrogate that were detected in samples SB-16(10-15), SB-02(15-20), SB-03(18-19), SB-13(10-15), SB-13(14-15), and SB-15(10-15) were assigned J+ qualifiers due to evidence of potential high bias.

Method	Surrogate	Sample	Surrogate Recovery	QC Limits
8260B	**4-Bromofluorobenzene**	**SB-02(19.7-20.7)**	**149%**	**62.1-144%**
8260B	**Toluene-d_8**	**SB-15(10-15)**	**140%**	**70-130%**
8260B	**4-Bromofluorobenzene**	**SB-15(10-15)**	**184%**	**62.1-144%**

Since Method 8260B surrogate associations were not available from the laboratory, qualification was assigned to all the target analytes when one or more surrogates were outside the acceptance range. **The target analytes in the samples SB-02(19.7-20.7) and SB-15(10-15) with surrogate recoveries that were greater than the upper laboratory QC limits were qualified as J+ if detected in samples SB-02(19.7-20.7) and SB-15(10-15) due to potential high bias.** Qualification was not required for non-detected analytes in sample SB-02(19.7-20.7) and SB-15(10-15).

Since Method 8270C surrogate associations were not available from the laboratory, qualification was assigned to all the target analytes in a given fraction (acid or base/neutral) when two or more surrogates from the same fraction (acid or base/neutral) were outside the acceptance range. This condition did not exist for the sample EB-0816, and qualification of sample data was not required.

The SVOC results for multiple samples were not qualified based on the surrogate non-conformances in the Method 8270C analyses since the applied dilutions of 10 times resulted in surrogate concentrations below routinely calibrated levels and those results were deemed unreliable and possibly inaccurate.

The DRO and MRO results for multiple samples were not qualified based on the surrogate non-conformance in the Method 8015D analysis since the applied dilutions of 10 times resulted in a surrogate concentrations below routinely calibrated levels, and the results were deemed unreliable and possibly inaccurate.

Qualification of sample data was not required based on surrogate non-conformances in QC samples as the environmental samples were evaluated based on their specific surrogate recoveries.

18. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit? Yes

Comments: The number of trip, field, and equipment blanks collected was equal to at least 10% of the number of samples and are listed in the table below.

Blank Sample ID	Blank Type	Laboratory ID
EB-0816	Equipment Blank	2308A58-044
MEOH Blank	Trip Blank	2308A58-046
MEOH Blank	Trip Blank	2308A58-047
MEOH Blank	Trip Blank	2308A58-048
MEOH Blank	Trip Blank	2308A58-049

VALIDATION CRITERIA CHECKLIST

19. Were target analytes reported as not detected in the trip blank, field blank, and/or equipment blank samples? No

Comments: Target analytes were not detected in the trip blank, field blank, and equipment blank samples, with the following exceptions.

Blank Sample ID	Method	Analyte	Concentration (µg/L)
EB-0816	**8260B**	**1,2,4-Trimethylbenzene**	**0.16**
EB-0816	**8260B**	**1-Methylnaphthalene**	**1.3**
EB-0816	8260B	2-Methylnaphthalene	1.4

Detections of 1,2,4-trimethylbenzene and 1-methylnaphthalene in the associated samples that were less than the soil equivalents of 0.008 mg/kg and 0.065 mg/kg, respectively, of the blank results and/or less than the applicable reporting limits were assigned U qualifiers. Detections of 1,2,4-trimethylbenzene and 1-methylnaphthalene in the associated samples that were greater than the reporting limits but less than 10 times the soil equivalent blank results were assigned JB qualifiers. Non-detections of the identified analytes in the associated samples and detections that were above the reporting limit and greater than ten times the soil equivalent blank concentration did not require qualification.

The 2-methylnaphthalene result for the equipment blank sample in batch R99167 was previously qualified as U (evaluated to be undetected at the reported concentration). Therefore, additional qualification due to the equipment blank contamination was not required.

20. Was the number of field duplicates collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit? Yes

Comments: The number of field duplicates collected was equal to at least 10% of the number of samples.

- Sample DUP-0816-1 was collected as a field duplicate of sample SB-16 (10-15).
- Sample DUP-0816-2 was collected as a field duplicate of sample SB-17 (15-20).
- Sample DUP-0816-3 was collected as a field duplicate of sample SB-02 (33.5-34.5).
- Sample DUP-0816-4 was collected as a field duplicate of sample SB-13 (24-25).
- Sample DUP-0816-5 was collected as a field duplicate of sample SB-10 (15-20).

VALIDATION CRITERIA CHECKLIST	
21. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)?	No

Comments: As indicated in the Field Duplicate Summary Tables at the end of this report, field duplicate RPD values were within data validation QC limits of 0-50% for soil samples, with the following exceptions.

Duplicate pair SB-16 (10-15) / DUP-0816-1: **The RPD values for manganese and DRO exceeded the data validation limit of 50% at 61.5% and 118%, respectively. These analyte results for samples SB-16 (10-15) and DUP-0816-1 were assigned J qualifiers due to evidence of poor precision.**

An RPD value could not be calculated for GRO for the field duplicate pairs SB-16 (10-15) and DUP-0816-1 because the analyte was detected in the parent sample and was undetected in the duplicate sample. As the detection in the parent was greater than five times the reporting limits, GRO was qualified as J and UJ for the parent and duplicate samples, respectively.

Duplicate pair SB-17 (15-20) / DUP-0816-2: **The RPD value for barium exceeded the data validation limit of 50% at 151.5%. The barium results for samples SB-17 (15-20) and DUP-0816-2 were qualified as J due to evidence of poor precision.**

Duplicate pair SB-02 (33.5-34.5) / DUP-0816-3: **The RPD values for multiple analytes exceeded the data validation limit of 50%. These analyte results were qualified as J for samples SB-02 (33.5-34.5) and DUP-0816-3 due to evidence of poor precision.**

Duplicate pair SB-13 (24-25) / DUP-0816-4: **The RPD value for barium exceeded the data validation limit of 50% at 63.4%. The analyte results were qualified as J for samples SB-13 (24-25) and DUP-0816-4 due to evidence of poor precision.**

Duplicate pair SB-10 (15-20) / DUP-0816-5: **The RPD value for manganese exceeded the data validation limit of 50% at 94.2%, which was evidence of poor precision. The manganese results for samples SB-10 (15-20) and DUP-0816-5 were assigned J qualifiers.**

RPD values exceeding 100% would routinely result in qualification of data in associated samples in addition to the parent and duplicate. However, since multiple field duplicate samples were collected for this data set, assignment of associations was considered arbitrary and inappropriate. Therefore, qualification of results was limited to the parent and duplicate samples in this case.

22. For laboratory duplicates prepared from project samples, were RPDs within data validation or laboratory QC limits?	N/A

Comments: Laboratory duplicate samples were not prepared for this sample set.

23. Were the following data relationships realistic?

• Target analytes were reported by more than one method (e.g., 8260/8270, EPH/8270)?	Yes

Comments: The target analyte EDB was reported by both Method 8011/ Method 504.1 and Method 8260B. Also, target analytes 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1-methylnaphthalene, 2-methylnaphthalene, hexachlorobutadiene, and naphthalene were reported by both Method 8260B and Method 8270C. The EPA has not provided guidance or requirements for the evaluation, validation, and qualification of the comparability of analyte results obtained by more than one method. Therefore, qualification of results was not performed based on these data.

• Both total and dissolved metals analyses were performed, and the total metals results were greater than or equal to the dissolved metals results?	N/A

Comments: Dissolved metals analyses were not performed for this data set.

FIELD DUPLICATE SUMMARY

Client Sample ID: SB-16 (10-15) Field Duplicate Sample ID: DUP-0816-1				
Analyte	**Method**	**Laboratory Result (mg/kg)**	**Duplicate Result (mg/kg)**	**Relative Percent Difference (RPD)**
Arsenic	E200.8	1.1	1.9	53.3% +/-RL
Lead	E200.8	11	13	16.7%
Nickel	E200.8	10	9.7	3.0%
Selenium	E200.8	2.2	1.2	58.8% +/-RL
Barium	SW6010B	410	260	44.8%
Beryllium	SW6010B	1.2	1.1	8.7% +/-RL
Chromium	SW6010B	9.7	9.4	3.1%
Cobalt	SW6010B	4.3	4.3	0.0%
Manganese	**SW6010B**	**180**	**340**	**61.5%**
Vanadium	SW6010B	15	21	33.3% +/-RL
Zinc	SW6010B	14	14	0.0% +/-RL
Iron	SW6010B	15,000	15,000	0.0%
Diesel Range Organics (DRO)	**SW8015**	**97**	**25**	**118.0%**
Gasoline Range Organics (GRO)	**SW8015**	**92**	**ND (6.7)**	**DL**
1-Methylnaphthalene	SW8260B	0.26	0.022	168.8% +/-RL
2-Methylnaphthalene	SW8260B	0.17	ND (0.27)	DL
Benzene	SW8260B	ND (0.036)	0.029	DL
Chloroform	SW8260B	ND (0.073)	0.013	DL
Isopropylbenzene	SW8260B	0.15	ND (0.067)	DL
n-Butylbenzene	SW8260B	0.12	ND (0.20)	DL
n-Propylbenzene	SW8260B	0.34	0.015	183.1% +/-RL
sec-Butylbenzene	SW8260B	0.19	ND (0.067)	DL

Field duplicate RPD control limits are not to exceed 50% for soil as established by USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020.

DL – Indicates that the analyte was detected in one of the duplicate samples and was undetected in the other sample, and therefore an RPD could not be calculated. Data were not qualified since the detection was within five times the reporting limit. Non-detected results are indicated above with the applicable reporting limit as ND (RL). **GRO was detected in the parent sample, but not in the duplicate sample. As the detected result was greater than five times the reporting limit, GRO was qualified as J and UJ for the parent and duplicate samples, respectively.**

+/-RL – Indicates that the detections in one or both of the samples were within five times the reporting limit. The differences between the results were within data validation limits.

The RPD values for manganese and DRO exceeded the data validation limit of 50% at 61.5% and 118%, respectively, which was evidence of poor precision. These analyte results were qualified as J for samples SB-16 (10-15) and DUP-0816-1.

RPD values exceeding 100% would routinely result in qualification of data in associated samples in addition to the parent and duplicate. However, since multiple field duplicate samples were collected for this data set, assignment of associations was considered arbitrary and inappropriate. Therefore, qualification of results was limited to the parent and duplicate samples in this case.

Client Sample ID: SB-17 (15-20) Field Duplicate Sample ID: DUP-0816-2				
Analyte	**Method**	**Laboratory Result (mg/kg)**	**Duplicate Result (mg/kg)**	**Relative Percent Difference (RPD)**
Arsenic	E200.8	1.1	0.90	20.0% +/-RL
Lead	E200.8	11	8.9	21.1%
Nickel	E200.8	8.8	9.0	2.2%
Selenium	E200.8	1.8	1.4	25% +/-RL
Barium	**SW6010B**	**870**	**120**	**151.5%**
Beryllium	SW6010B	1.0	1.0	0.0% +/-RL
Chromium	SW6010B	7.1	8.1	13.2%
Cobalt	SW6010B	3.8	4.2	10.0%
Manganese	SW6010B	300	320	6.5%
Vanadium	SW6010B	13	14	7.4% +/-RL
Zinc	SW6010B	14	14	0.0% +/-RL
Iron	SW6010B	12,000	13,000	8.0%
1-Methylnaphthalene	8260B	0.036	ND (0.25)	DL

Field duplicate RPD control limits are not to exceed 50% for soil as established by USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020.

DL – Indicates that the analyte was detected in one of the duplicate samples and was undetected in the other sample, and therefore an RPD could not be calculated. Data were not qualified since the detection was within five times the reporting limit. Non-detected results are indicated above with the applicable reporting limit as ND (RL).

+/-RL – Indicates that the detections in one or both of the samples were within five times the reporting limit. The differences between the results were within data validation limits.

The RPD value for barium exceeded the data validation limit of 50% at 151.5%, which was evidence of poor precision. The barium results were qualified as J for samples SB-17 (15-20) and DUP-0816-2.

RPD values exceeding 100% would routinely result in qualification of data in associated samples in addition to the parent and duplicate. However, since multiple field duplicate samples were collected for this data set, assignment of associations was considered arbitrary and inappropriate. Therefore, qualification of results was limited to the parent and duplicate samples in this case.

Client Sample ID: SB-02 (33.5-34.5) Field Duplicate Sample ID: DUP-0816-3				
Analyte	**Method**	**Laboratory Result (mg/kg)**	**Duplicate Result (mg/kg)**	**Relative Percent Difference (RPD)**
Lead	E200.8	5.1	8.2	46.6%
Nickel	E200.8	13	12	8.0%
Arsenic	E200.8	0.43	0.69	46.4% +/-RL
Selenium	E200.8	2.0	3.0	40.0% +/-RL
Analyte	**Method**	**Laboratory Result (mg/kg)**	**Duplicate Result (mg/kg)**	**Relative Percent Difference (RPD)**
Barium	**SW6010B**	**100**	**210**	**71.0%**
Beryllium	SW6010B	1.1	1.0	9.5% +/-RL
Chromium	SW6010B	11	12	8.7%
Cobalt	SW6010B	3.9	3.5	10.8%
Vanadium	SW6010B	16	33	69.4% +/-RL
Zinc	SW6010B	12	14	15.4% +/-RL
Manganese	**SW6010B**	**210**	**810**	**117.6%**
Iron	**SW6010B**	**8,800**	**19,000**	**73.4%**
Gasoline Range Organics (GRO)	SW8015	8.2	ND (7.6)	DL
1,1,2-Trichloroethane	SW8260B	0.030	ND (0.076)	DL
1,2,4-Trimethylbenzene	SW8260B	0.014	ND (0.076)	DL
1-Methylnaphthalene	SW8260B	0.20	ND (0.30)	DL
2-Hexanone	SW8260B	0.12	ND (0.76)	DL
2-Methylnaphthalene	SW8260B	0.20	ND (0.30)	DL
Bromodichloromethane	SW8260B	0.023	ND (0.076)	DL
Chloroform	SW8260B	0.031	ND (0.076)	DL
Isopropylbenzene	SW8260B	0.019	ND (0.076)	DL
n-Butylbenzene	SW8260B	0.033	ND (0.23)	DL
n-Propylbenzene	SW8260B	0.047	ND (0.076)	DL
Naphthalene	SW8260B	0.070	ND (0.15)	DL
Xylenes (Total)	SW8260B	0.024	ND (0.15)	DL

Field duplicate RPD control limits are not to exceed 50% for soil as established by USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020.
DL – Indicates that the analyte was detected in one of the duplicate samples and was undetected in the other sample, and therefore an RPD could not be calculated. Data were not qualified since the detection was within five times the reporting limit. Non-detected results are indicated above with the applicable reporting limit as ND (RL).
+/-RL – Indicates that the detections in one or both of the samples were within five times the reporting limit. The differences between the results were within data validation limits.
The RPD values for multiple analytes exceeded the data validation limit of 50%, which was evidence of poor precision. These analyte results were qualified as J for samples SB-02 (33.5-34.5) and DUP-0816-3.
RPD values exceeding 100% would routinely result in qualification of data in associated samples in addition to the parent and duplicate. However, since multiple field duplicate samples were collected for this data set, assignment of associations was considered arbitrary and inappropriate. Therefore, qualification of results was limited to the parent and duplicate samples in this case.

Client Sample ID: SB-13 (24-25) Field Duplicate Sample ID: DUP-0816-4				
Analyte	**Method**	**Laboratory Result (mg/kg)**	**Duplicate Result (mg/kg)**	**Relative Percent Difference (RPD)**
Lead	E200.8	9.2	10	8.3%
Nickel	E200.8	10	12	18.2%
Arsenic	E200.8	0.93	0.96	3.2% +/-RL
Selenium	E200.8	1.4	3.0	72.7% +/-RL
Barium	**SW6010B**	**140**	**270**	**63.4%**
Beryllium	SW6010B	1.0	1.2	18.2% +/-RL
Chromium	SW6010B	8.7	11	23.4%
Cobalt	SW6010B	4.4	5.1	14.7%
Manganese	SW6010B	260	370	34.9%
Vanadium	SW6010B	13	17	26.7% +/-RL
Zinc	SW6010B	14	19	30.3% +/-RL
Iron	SW6010B	12,000	16,000	28.6%
1,2,4-Trimethylbenzene	SW8260B	0.0093	ND (0.045)	DL
1-Methylnaphthalene	SW8260B	0.11	ND (0.18)	DL
2-Methylnaphthalene	SW8260B	0.19	ND (0.18)	DL
Benzene	SW8260B	0.018	ND (0.023)	DL

Field duplicate RPD control limits are not to exceed 50% for soil as established by USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020.

DL – Indicates that the analyte was detected in one of the duplicate samples and was undetected in the other sample, and therefore an RPD could not be calculated. Data were not qualified since the detection was within five times the reporting limit. Non-detected results are indicated above with the applicable reporting limit as ND (RL).

+/-RL – Indicates that the detections in one or both of the samples were within five times the reporting limit. The differences between the results were within data validation limits.

The RPD value for barium exceeded the data validation limit of 50% at 63.4%, which was evidence of poor precision. The analyte results were qualified as J for samples SB-13 (24-25) and DUP-0816-4.

Client Sample ID: SB-10 (15-20) Field Duplicate Sample ID: DUP-0816-5				
Analyte	**Method**	**Laboratory Result (mg/kg)**	**Duplicate Result (mg/kg)**	**Relative Percent Difference (RPD)**
Lead	E200.8	10	11	9.5%
Nickel	E200.8	11	11	0.0%
Arsenic	E200.8	1.2	1.1	8.7% +/-RL
Selenium	E200.8	1.9	2.9	41.7%
Chloride	E300	160	130	20.7% +/-RL
Barium	SW6010B	220	230	4.4%
Beryllium	SW6010B	1.2	1.1	8.7% +/-RL
Chromium	SW6010B	12	10	18.2%
Cobalt	SW6010B	4.9	4.8	2.1%
Vanadium	SW6010B	15	15	0.0% +/-RL
Zinc	SW6010B	16	16	0.0% +/-RL
Manganese	**SW6010B**	**320**	**890**	**94.2%**
Iron	SW6010B	16,000	14,000	13.3%
Gasoline Range Organics (GRO)	SW8015	ND (5.0)	5.1	DL
1,2,4-Trimethylbenzene	SW8260B	0.0077	0.028	113.8% +/-RL
1-Methylnaphthalene	SW8260B	ND (0.20)	0.048	DL
4-Isopropyltoluene	SW8260B	ND (0.05)	0.014	DL
Benzene	SW8260B	0.033	0.10	100.8% +/-RL
Chloroform	SW8260B	0.011	0.010	9.5% +/-RL
Ethylbenzene	SW8260B	0.021	0.058	93.7% +/-RL
Isopropylbenzene	SW8260B	ND (0.05)	0.018	DL
n-Butylbenzene	SW8260B	ND (0.15)	0.022	DL
n-Propylbenzene	SW8260B	0.015	0.040	90.9% +/-RL
sec-Butylbenzene	SW8260B	ND (0.05)	0.024	DL
Toluene	SW8260B	ND (0.05)	0.011	DL
Xylenes (Total)	SW8260B	0.020	0.034	51.6% +/-RL

Field duplicate RPD control limits are not to exceed 50% for soil as established by USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020.

DL – Indicates that the analyte was detected in one of the duplicate samples and was undetected in the other sample, and therefore an RPD could not be calculated. Data were not qualified since the detection was within five times the reporting limit. Non-detected results are indicated above with the applicable reporting limit as ND (RL).

+/-RL – Indicates that the detections in one or both of the samples were within five times the reporting limit. The differences between the results were within data validation limits.

The RPD value for manganese exceeded the data validation limit of 50% at 94.2%, which was evidence of poor precision. The manganese results were qualified as J for samples SB-10 (15-20) and DUP-0816-5.

DATA QUALIFICATION SUMMARY

Abbreviation	Reason
EBD	Equipment blank detection
ERPD-FD	High field duplicate RPD.
ERPD-MS	The MS/MSD RPD exceeded the upper acceptable limit indicating poor precision.
HR-LCS	The LCS and/or LCSD percent recovery was greater than the upper acceptable limit indicating a possible high bias.
HR-MS	The MS and/or MSD percent recovery was greater than the upper acceptable limit indicating possible matrix interference.
HR-SUR	The surrogate percent recovery was greater than the upper acceptable limit indicating a possible high bias.
LR-LCS	The LCS and/or LCSD percent recovery was less than the lower acceptable limit indicating a possible low bias.
LR-MS	The MS and/or MSD percent recovery was less than the lower acceptable limit indicating possible matrix interference.
MBD	Method blank detection
MDLRL	Flagged by the laboratory: The result was greater than the MDL but less than the RL.

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
1,1,2,2-Tetrachloroethane	8260B	SB-05(20-25)	2308A58-012a	0.019	0.048	mg/kg	J	MDLRL
1,1,2,2-Tetrachloroethane	8260B	SB-04(15-20)	2308A58-022a	0.082	0.10	mg/kg	J	MDLRL
1,1,2-Trichloroethane	8260B	SB-05(20-25)	2308A58-012a	0.013	0.048	mg/kg	J	MDLRL
1,1,2-Trichloroethane	8260B	SB-02(33.5-34.5)	2308A58-017a	0.030	0.069	mg/kg	J	MDLRL
1,1,2-Trichloroethane	8260B	SB-04(19.5-20.5)	2308A58-023a	0.022	0.054	mg/kg	J	MDLRL
1,2,4-Trimethylbenzene	8260B	SB-14(0.5-1)	2308A58-001a	0.048	0.074	mg/kg	U	EBD, MDLRL
1,2,4-Trimethylbenzene	8260B	SB-14(25-28)	2308A58-002a	0.27	0.62	mg/kg	J	MDLRL
1,2,4-Trimethylbenzene	8260B	SB-05(0.5-1)	2308A58-011a	0.035	0.071	mg/kg	U	EBD, MDLRL
1,2,4-Trimethylbenzene	8260B	SB-02(0.5-1)	2308A58-014a	0.093	0.13	mg/kg	J	MDLRL
1,2,4-Trimethylbenzene	8260B	SB-02(19.7-20.7)	2308A58-016a	4.1	0.45	mg/kg	J+	HR-SUR
1,2,4-Trimethylbenzene	8260B	SB-02(33.5-34.5)	2308A58-017a	0.014	0.069	mg/kg	U	EBD, MDLRL
1,2,4-Trimethylbenzene	8260B	SB-03(0.5-1)	2308A58-018a	0.023	0.030	mg/kg	U	EBD, MDLRL

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
1,2,4-Trimethylbenzene	8260B	SB-04(15-20)	2308A58-022a	0.095	0.10	mg/kg	J	MDLRL
1,2,4-Trimethylbenzene	8260B	SB-04(19.5-20.5)	2308A58-023a	0.016	0.054	mg/kg	U	EBD, MDLRL
1,2,4-Trimethylbenzene	8260B	SB-09 (0.5-1)	2308A58-025a	0.0086	0.059	mg/kg	U	EBD, MDLRL
1,2,4-Trimethylbenzene	8260B	SB-10(0.5-1)	2308A58-028a	0.013	0.071	mg/kg	U	EBD, MDLRL
1,2,4-Trimethylbenzene	8260B	SB-10(15-20)	2308A58-029a	0.0077	0.05	mg/kg	U	EBD, MDLRL
1,2,4-Trimethylbenzene	8260B	SB-10(23.5-24.5)	2308A58-030a	0.079	0.064	mg/kg	JB	EBD
1,2,4-Trimethylbenzene	8260B	SB-11(0.5-1)	2308A58-031a	0.045	0.071	mg/kg	U	EBD, MDLRL
1,2,4-Trimethylbenzene	8260B	SB-13(24-25)	2308A58-038a	0.0093	0.053	mg/kg	U	EBD, MDLRL
1,2,4-Trimethylbenzene	8260B	DUP-0816-5	2308A58-043a	0.028	0.05	mg/kg	U	EBD, MDLRL
1,2,4-Trimethylbenzene	8260B	EB-0816	2308A58-044a	0.16	1.0	µg/L	U	EBD, MDLRL
1,2,4-Trimethylbenzene	8260B	SB-15(10-15)	2308A58-045a	0.012	0.057	mg/kg	U	EBD, HR-SUR, MDLRL
1,2-Dibromoethane	504.1	SB-14(0.5-1)	2308A58-001A	ND	0.090	µg/kg	UJ	LR-LCS
1,2-Dibromoethane	504.1	SB-14(25-28)	2308A58-002A	ND	0.088	µg/kg	UJ	LR-LCS
1,2-Dibromoethane	504.1	SB-14(27-28)	2308A58-003A	ND	0.090	µg/kg	UJ	LR-LCS
1,2-Dibromoethane	504.1	SB-16(0.5-1)	2308A58-004A	ND	0.096	µg/kg	UJ	LR-LCS
1,2-Dibromoethane	504.1	SB-16(10-15)	2308A58-005A	ND	0.097	µg/kg	UJ	LR-LCS
1,2-Dibromoethane	504.1	SB-16(14-15)	2308A58-006A	ND	0.091	µg/kg	UJ	LR-LCS
1,2-Dibromoethane	504.1	SB-14(24-25)	2308A58-007A	ND	0.093	µg/kg	UJ	LR-LCS
1,2-Dibromoethane	504.1	SB-17(14-15)	2308A58-008A	ND	0.088	µg/kg	UJ	LR-LCS
1,2-Dibromoethane	504.1	SB-17(15-20)	2308A58-009A	ND	0.095	µg/kg	UJ	LR-LCS
1,2-Dibromoethane	504.1	SB-17(22.5-23.5)	2308A58-010A	ND	0.096	µg/kg	UJ	LR-LCS
1,2-Dibromoethane	504.1	SB-05(0.5-1)	2308A58-011A	ND	0.089	µg/kg	UJ	LR-LCS
1,2-Dibromoethane	504.1	SB-05(20-25)	2308A58-012A	ND	0.089	µg/kg	UJ	LR-LCS
1,2-Dibromoethane	504.1	SB-05(24-25)	2308A58-013A	ND	0.090	µg/kg	UJ	LR-LCS
1,2-Dibromoethane	504.1	SB-02(0.5-1)	2308A58-014A	ND	0.098	µg/kg	UJ	LR-LCS
1,2-Dibromoethane	504.1	SB-02(15-20)	2308A58-015A	ND	0.098	µg/kg	UJ	LR-LCS
1,2-Dibromoethane	504.1	SB-02(19.7-20.7)	2308A58-016A	ND	0.099	µg/kg	UJ	LR-LCS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
1,2-Dibromoethane	8260B	SB-02(19.7-20.7)	2308A58-016a	0.090	0.45	mg/kg	J+	HR-SUR
1,2-Dibromoethane	504.1	SB-02(33.5-34.5)	2308A58-017A	ND	0.093	µg/kg	UJ	LR-LCS
1,2-Dibromoethane	504.1	SB-03(0.5-1)	2308A58-018A	ND	0.093	µg/kg	UJ	LR-LCS
1,2-Dibromoethane	504.1	SB-03(15-20)	2308A58-019A	ND	0.099	µg/kg	UJ	LR-LCS
1,2-Dibromoethane	504.1	SB-03(18-19)	2308A58-020A	ND	0.094	µg/kg	UJ	ERPD-MS, LR-LCS
1,2-Dibromoethane	504.1	SB-03(29-30)	2308A58-021A	ND	0.090	µg/kg	UJ	ERPD-MS, LR-LCS
1,2-Dibromoethane	8260B	SB-03(29-30)	2308A58-021a	0.12	0.58	mg/kg	J	MDLRL
1,2-Dibromoethane	504.1	SB-04(15-20)	2308A58-022A	ND	0.096	µg/kg	UJ	ERPD-MS, LR-LCS
1,2-Dibromoethane	504.1	SB-04(19.5-20.5)	2308A58-023A	ND	0.097	µg/kg	UJ	ERPD-MS, LR-LCS
1,2-Dibromoethane	504.1	SB-04(24-25)	2308A58-024A	ND	0.089	µg/kg	UJ	ERPD-MS, LR-LCS
1,2-Dibromoethane	504.1	SB-09 (0.5-1)	2308A58-025A	ND	0.091	µg/kg	UJ	ERPD-MS, LR-LCS
1,2-Dibromoethane	504.1	SB-09(15-20)	2308A58-026A	ND	0.089	µg/kg	UJ	ERPD-MS, LR-LCS
1,2-Dibromoethane	504.1	SB-09(10-15)	2308A58-027A	ND	0.097	µg/kg	UJ	ERPD-MS, LR-LCS
1,2-Dibromoethane	504.1	SB-10(0.5-1)	2308A58-028A	ND	0.088	µg/kg	UJ	ERPD-MS, LR-LCS
1,2-Dibromoethane	504.1	SB-10(15-20)	2308A58-029A	ND	0.091	µg/kg	UJ	ERPD-MS, LR-MS
1,2-Dibromoethane	504.1	SB-10(23.5-24.5)	2308A58-030A	ND	0.094	µg/kg	UJ	ERPD-MS, LR-LCS
1,2-Dibromoethane	504.1	SB-11(0.5-1)	2308A58-031A	ND	0.093	µg/kg	UJ	ERPD-MS, LR-LCS
1,2-Dibromoethane	504.1	SB-11(1-5)	2308A58-032A	ND	0.089	µg/kg	UJ	ERPD-MS, LR-LCS
1,2-Dibromoethane	504.1	SB-11(17.5-18.5)	2308A58-033A	ND	0.088	µg/kg	UJ	ERPD-MS, LR-LCS
1,2-Dibromoethane	504.1	SB-11(19-20)	2308A58-034A	ND	0.090	µg/kg	UJ	ERPD-MS, LR-LCS
1,2-Dibromoethane	504.1	SB-13(0.5-1)	2308A58-035A	ND	0.091	µg/kg	UJ	ERPD-MS, LR-LCS
1,2-Dibromoethane	504.1	SB-13(10-15)	2308A58-036A	ND	0.099	µg/kg	UJ	ERPD-MS, LR-LCS
1,2-Dibromoethane	504.1	SB-13(14-15)	2308A58-037A	ND	0.099	µg/kg	UJ	ERPD-MS, LR-LCS
1,2-Dibromoethane	504.1	SB-13(24-25)	2308A58-038A	ND	0.099	µg/kg	UJ	ERPD-MS, LR-LCS
1,2-Dibromoethane	504.1	DUP-0816-1	2308A58-039A	ND	0.094	µg/kg	UJ	ERPD-MS, LR-LCS
1,3,5-Trimethylbenzene	8260B	SB-02(0.5-1)	2308A58-014a	0.036	0.13	mg/kg	J	MDLRL
1,3,5-Trimethylbenzene	8260B	SB-02(19.7-20.7)	2308A58-016a	1.7	0.45	mg/kg	J+	HR-SUR

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
1,3,5-Trimethylbenzene	8260B	SB-03(0.5-1)	2308A58-018a	0.0071	0.030	mg/kg	J	MDLRL
1,3,5-Trimethylbenzene	8260B	SB-03(18-19)	2308A58-020a	0.12	0.28	mg/kg	J	MDLRL
1,3,5-Trimethylbenzene	8260B	SB-15(10-15)	2308A58-045a	0.014	0.057	mg/kg	J+	HR-SUR, MDLRL
1-Methylnaphthalene	8260B	SB-14(0.5-1)	2308A58-001a	0.032	0.29	mg/kg	U	MBD, MDLRL
1-Methylnaphthalene	8260B	SB-16(0.5-1)	2308A58-004a	0.15	0.31	mg/kg	U	MBD, MDLRL
1-Methylnaphthalene	8260B	SB-16(10-15)	2308A58-005a	0.26	0.29	mg/kg	U	MBD, MDLRL
1-Methylnaphthalene	8260B	SB-16(14-15)	2308A58-006a	0.032	0.22	mg/kg	U	MBD, MDLRL
1-Methylnaphthalene	8260B	SB-17(15-20)	2308A58-009a	0.036	0.21	mg/kg	U	MBD, MDLRL
1-Methylnaphthalene	8260B	SB-05(0.5-1)	2308A58-011a	0.037	0.28	mg/kg	U	MBD, MDLRL
1-Methylnaphthalene	8260B	SB-02(0.5-1)	2308A58-014a	0.13	0.50	mg/kg	U	MBD, MDLRL
1-Methylnaphthalene	8260B	SB-02(15-20)	2308A58-015a	1.7	2.8	mg/kg	U	MBD, MDLRL
1-Methylnaphthalene	8260B	SB-02(19.7-20.7)	2308A58-016a	3.4	1.8	mg/kg	J+	HR-SUR
1-Methylnaphthalene	8270C	SB-02(19.7-20.7)	2308A58-016a	1.9	2.5	mg/kg	J	MDLRL
1-Methylnaphthalene	8260B	SB-02(33.5-34.5)	2308A58-017a	0.2	0.28	mg/kg	U	MBD, MDLRL
1-Methylnaphthalene	8260B	SB-03(0.5-1)	2308A58-018a	0.037	0.12	mg/kg	U	MBD, MDLRL
1-Methylnaphthalene	8260B	SB-03(18-19)	2308A58-020a	0.99	1.1	mg/kg	U	MBD, MDLRL
1-Methylnaphthalene	8270C	SB-03(18-19)	2308A58-020a	0.28	0.25	mg/kg	JB	MBD
1-Methylnaphthalene	8260B	SB-04(15-20)	2308A58-022a	0.31	0.41	mg/kg	U	MBD, MDLRL
1-Methylnaphthalene	8260B	SB-04(19.5-20.5)	2308A58-023a	0.037	0.22	mg/kg	U	MBD, MDLRL
1-Methylnaphthalene	8260B	SB-11(0.5-1)	2308A58-031a	0.067	0.28	mg/kg	U	MBD, MDLRL
1-Methylnaphthalene	8270C	SB-11(17.5-18.5)	2308A58-033a	2.3	2.4	mg/kg	U	MBD, MDLRL
1-Methylnaphthalene	8260B	SB-13(0.5-1)	2308A58-035a	0.043	0.24	mg/kg	U	MBD, MDLRL
1-Methylnaphthalene	8260B	SB-13(24-25)	2308A58-038a	0.11	0.21	mg/kg	U	MBD, MDLRL
1-Methylnaphthalene	8260B	DUP-0816-1	2308A58-039a	0.022	0.27	mg/kg	U	MBD, MDLRL
1-Methylnaphthalene	8260B	DUP-0816-5	2308A58-043a	0.048	0.20	mg/kg	U	MBD, MDLRL
1-Methylnaphthalene	8260B	EB-0816	2308A58-044a	1.3	4.0	µg/L	U	MBD, MDLRL
1-Methylnaphthalene	8260B	SB-15(10-15)	2308A58-045a	1.3	0.23	mg/kg	J+	HR-SUR

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
1-Methylnaphthalene	8270C	SB-15(10-15)	2308A58-045a	0.50	0.24	mg/kg	JB	MBD
2-Hexanone	8260B	SB-05(20-25)	2308A58-012a	0.043	0.48	mg/kg	J	MDLRL
2-Hexanone	8260B	SB-05(24-25)	2308A58-013a	0.35	1.0	mg/kg	J	MDLRL
2-Hexanone	8260B	SB-02(0.5-1)	2308A58-014a	0.58	1.3	mg/kg	J	MDLRL
2-Hexanone	8260B	SB-02(33.5-34.5)	2308A58-017a	0.12	0.69	mg/kg	J	MDLRL
2-Hexanone	8260B	SB-03(0.5-1)	2308A58-018a	0.027	0.3	mg/kg	J	MDLRL
2-Hexanone	8260B	SB-03(15-20)	2308A58-019a	4.0	6.0	mg/kg	J	MDLRL
2-Hexanone	8260B	SB-03(18-19)	2308A58-020a	0.45	2.8	mg/kg	J	MDLRL
2-Hexanone	8260B	SB-04(15-20)	2308A58-022a	0.35	1.0	mg/kg	J	MDLRL
2-Hexanone	8260B	SB-04(19.5-20.5)	2308A58-023a	0.11	0.54	mg/kg	J	MDLRL
2-Methylnaphthalene	8260B	SB-16(0.5-1)	2308A58-004a	0.31	0.31	mg/kg	J	MDLRL
2-Methylnaphthalene	8260B	SB-16(10-15)	2308A58-005a	0.17	0.29	mg/kg	J	MDLRL
2-Methylnaphthalene	8260B	SB-02(0.5-1)	2308A58-014a	0.20	0.50	mg/kg	J	MDLRL
2-Methylnaphthalene	8260B	SB-02(19.7-20.7)	2308A58-016a	5.8	1.8	mg/kg	J+	HR-SUR
2-Methylnaphthalene	8260B	SB-02(33.5-34.5)	2308A58-017a	0.20	0.28	mg/kg	J	MDLRL
2-Methylnaphthalene	8260B	SB-03(0.5-1)	2308A58-018a	0.049	0.12	mg/kg	J	MDLRL
2-Methylnaphthalene	8260B	SB-04(15-20)	2308A58-022a	0.18	0.41	mg/kg	J	MDLRL
2-Methylnaphthalene	8260B	SB-11(0.5-1)	2308A58-031a	0.12	0.28	mg/kg	J	MDLRL
2-Methylnaphthalene	8260B	SB-13(24-25)	2308A58-038a	0.19	0.21	mg/kg	J	MDLRL
2-Methylnaphthalene	8260B	EB-0816	2308A58-044a	1.4	4.0	µg/L	U	MBD, MDLRL
2-Methylnaphthalene	8260B	SB-15(10-15)	2308A58-045a	2.0	0.23	mg/kg	J+	HR-SUR
4-Methyl-2-Pentanone	8260B	SB-02(0.5-1)	2308A58-014a	0.24	1.3	mg/kg	J	MDLRL
4-Methyl-2-Pentanone	8260B	SB-03(15-20)	2308A58-019a	5.8	6.0	mg/kg	J	MDLRL
4-Methyl-2-Pentanone	8260B	SB-03(18-19)	2308A58-020a	1.4	2.8	mg/kg	J	MDLRL
4-Methyl-2-Pentanone	8260B	SB-04(15-20)	2308A58-022a	0.37	1.0	mg/kg	J	MDLRL
4-Methyl-2-Pentanone	8260B	SB-15(10-15)	2308A58-045a	0.22	0.57	mg/kg	J+	HR-SUR, MDLRL
Antimony, Total	6020A	SB-14(0.5-1)	2308A58-001A	ND	0.52	mg/kg	UJ	LR-MS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Antimony, Total	6020A	SB-14(25-28)	2308A58-002A	ND	0.52	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-14(27-28)	2308A58-003A	ND	0.48	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-16(0.5-1)	2308A58-004A	ND	0.49	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-16(10-15)	2308A58-005A	ND	0.52	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-16(14-15)	2308A58-006A	ND	0.49	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-14(24-25)	2308A58-007A	ND	0.51	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-17(14-15)	2308A58-008A	ND	0.49	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-17(15-20)	2308A58-009A	ND	0.51	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-17(22.5-23.5)	2308A58-010A	ND	0.50	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-05(0.5-1)	2308A58-011A	ND	0.48	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-05(20-25)	2308A58-012A	ND	0.52	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-05(24-25)	2308A58-013A	ND	0.49	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-02(0.5-1)	2308A58-014A	ND	0.51	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-02(15-20)	2308A58-015A	ND	0.49	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-02(19.7-20.7)	2308A58-016A	ND	0.48	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-02(33.5-34.5)	2308A58-017A	ND	0.50	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-03(0.5-1)	2308A58-018A	ND	0.51	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-03(15-20)	2308A58-019A	ND	0.49	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-03(18-19)	2308A58-020A	ND	0.49	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-09 (0.5-1)	2308A58-025A	0.33	0.48	mg/kg	J	MDLRL
Antimony, Total	6020A	SB-10(23.5-24.5)	2308A58-030A	ND	0.49	mg/kg	R	LR-MS
Antimony, Total	6020A	SB-11(0.5-1)	2308A58-031A	ND	0.97	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-11(1-5)	2308A58-032A	ND	1.0	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-11(17.5-18.5)	2308A58-033A	ND	0.51	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-11(19-20)	2308A58-034A	ND	0.50	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-13(0.5-1)	2308A58-035A	ND	1.0	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-13(10-15)	2308A58-036A	ND	1.0	mg/kg	UJ	LR-MS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Antimony, Total	6020A	SB-13(14-15)	2308A58-037A	ND	0.96	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-13(24-25)	2308A58-038A	ND	1.0	mg/kg	UJ	LR-MS
Antimony, Total	6020A	DUP-0816-1	2308A58-039A	ND	0.97	mg/kg	UJ	LR-MS
Antimony, Total	6020A	DUP-0816-2	2308A58-040A	ND	1.0	mg/kg	UJ	LR-MS
Antimony, Total	6020A	DUP-0816-3	2308A58-041A	ND	0.98	mg/kg	UJ	LR-MS
Antimony, Total	6020A	DUP-0816-4	2308A58-042A	ND	0.49	mg/kg	UJ	LR-MS
Antimony, Total	6020A	DUP-0816-5	2308A58-043A	ND	0.52	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-15(10-15)	2308A58-045A	ND	1.1	mg/kg	UJ	LR-MS
Arsenic, Total	6020A	SB-02(33.5-34.5)	2308A58-017A	0.43	0.5	mg/kg	J	MDLRL
Arsenic, Total	6020A	SB-11(17.5-18.5)	2308A58-033A	0.94	1.0	mg/kg	J	MDLRL
Arsenic, Total	6020A	SB-13(24-25)	2308A58-038A	0.93	1.0	mg/kg	J	MDLRL
Arsenic, Total	6020A	DUP-0816-2	2308A58-040A	0.90	1.0	mg/kg	J	MDLRL
Arsenic, Total	6020A	DUP-0816-3	2308A58-041A	0.69	0.98	mg/kg	J	MDLRL
Barium, Total	6010B	SB-17(15-20)	2308A58-009A	870	0.51	mg/kg	J	ERPD-FD
Barium, Total	6010B	SB-02(33.5-34.5)	2308A58-017A	100	0.20	mg/kg	J	ERPD-FD
Barium, Total	6010B	SB-03(29-30)	2308A58-021A	340	0.19	mg/kg	J+	HR-MS
Barium, Total	6010B	SB-04(15-20)	2308A58-022A	160	0.19	mg/kg	J+	HR-MS
Barium, Total	6010B	SB-04(19.5-20.5)	2308A58-023A	250	0.20	mg/kg	J+	HR-MS
Barium, Total	6010B	SB-04(24-25)	2308A58-024A	150	0.19	mg/kg	J+	HR-MS
Barium, Total	6010B	SB-09 (0.5-1)	2308A58-025A	170	0.19	mg/kg	J+	HR-MS
Barium, Total	6010B	SB-09(15-20)	2308A58-026A	460	0.21	mg/kg	J+	HR-MS
Barium, Total	6010B	SB-09(10-15)	2308A58-027A	730	0.51	mg/kg	J+	HR-MS
Barium, Total	6010B	SB-10(0.5-1)	2308A58-028A	380	0.19	mg/kg	J+	HR-MS
Barium, Total	6010B	SB-10(15-20)	2308A58-029A	220	0.20	mg/kg	J+	HR-MS
Barium, Total	6010B	SB-13(24-25)	2308A58-038A	140	0.20	mg/kg	J	ERPD-FD
Barium, Total	6010B	DUP-0816-2	2308A58-040A	120	0.20	mg/kg	J	ERPD-FD
Barium, Total	6010B	DUP-0816-3	2308A58-041A	210	0.20	mg/kg	J	ERPD-FD

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Barium, Total	6010B	DUP-0816-4	2308A58-042A	270	0.20	mg/kg	J	ERPD-FD
Benzene	8260B	SB-02(15-20)	2308A58-015a	0.17	0.28	mg/kg	J	MDLRL
Benzene	8260B	SB-02(19.7-20.7)	2308A58-016a	0.13	0.22	mg/kg	J+	HR-SUR, MDLRL
Benzene	8260B	SB-11(17.5-18.5)	2308A58-033a	0.055	0.14	mg/kg	J	MDLRL
Benzene	8260B	SB-11(19-20)	2308A58-034a	0.047	0.13	mg/kg	J	MDLRL
Benzene	8260B	SB-13(24-25)	2308A58-038a	0.018	0.027	mg/kg	J	MDLRL
Benzene	8260B	DUP-0816-1	2308A58-039a	0.029	0.033	mg/kg	J	MDLRL
Beryllium, Total	6010B	SB-13(0.5-1)	2308A58-035A	0.70	0.76	mg/kg	J	MDLRL
Bromodichloromethane	8260B	SB-05(24-25)	2308A58-013a	0.028	0.10	mg/kg	J	MDLRL
Bromodichloromethane	8260B	SB-02(0.5-1)	2308A58-014a	0.10	0.13	mg/kg	J	MDLRL
Bromodichloromethane	8260B	SB-02(33.5-34.5)	2308A58-017a	0.023	0.069	mg/kg	J	MDLRL
Bromodichloromethane	8260B	SB-03(15-20)	2308A58-019a	0.17	0.60	mg/kg	J	MDLRL
Bromodichloromethane	8260B	SB-03(18-19)	2308A58-020a	0.069	0.28	mg/kg	J	MDLRL
Bromodichloromethane	8260B	SB-04(15-20)	2308A58-022a	0.03	0.10	mg/kg	J	MDLRL
Bromodichloromethane	8260B	SB-04(19.5-20.5)	2308A58-023a	0.016	0.054	mg/kg	J	MDLRL
Chlorobenzene	8260B	SB-02(15-20)	2308A58-015a	0.46	1.4	mg/kg	J	MDLRL
Chlorobenzene	8260B	SB-02(19.7-20.7)	2308A58-016a	0.26	0.89	mg/kg	J+	HR-SUR, MDLRL
Chlorobenzene	8260B	SB-03(29-30)	2308A58-021a	0.27	1.2	mg/kg	J	MDLRL
Chloroform	8260B	SB-14(27-28)	2308A58-003a	0.089	0.32	mg/kg	U	MBD, MDLRL
Chloroform	8260B	SB-16(14-15)	2308A58-006a	0.016	0.054	mg/kg	J	MDLRL
Chloroform	8260B	SB-14(24-25)	2308A58-007a	0.075	0.29	mg/kg	J	MDLRL
Chloroform	8260B	SB-17(14-15)	2308A58-008a	0.021	0.067	mg/kg	U	MBD, MDLRL
Chloroform	8260B	SB-05(24-25)	2308A58-013a	0.062	0.10	mg/kg	J	MDLRL
Chloroform	8260B	SB-02(33.5-34.5)	2308A58-017a	0.031	0.069	mg/kg	J	MDLRL
Chloroform	8260B	SB-03(15-20)	2308A58-019a	0.16	0.60	mg/kg	U	MBD, MDLRL
Chloroform	8260B	SB-03(18-19)	2308A58-020a	0.089	0.28	mg/kg	U	MBD, MDLRL
Chloroform	8260B	SB-04(15-20)	2308A58-022a	0.029	0.10	mg/kg	U	MBD, MDLRL

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Chloroform	8260B	SB-04(19.5-20.5)	2308A58-023a	0.019	0.054	mg/kg	U	MBD, MDLRL
Chloroform	8260B	SB-09 (0.5-1)	2308A58-025a	0.013	0.059	mg/kg	U	MBD, MDLRL
Chloroform	8260B	SB-09(10-15)	2308A58-027a	0.017	0.064	mg/kg	U	MBD, MDLRL
Chloroform	8260B	SB-10(0.5-1)	2308A58-028a	0.020	0.071	mg/kg	U	MBD, MDLRL
Chloroform	8260B	SB-10(15-20)	2308A58-029a	0.011	0.050	mg/kg	U	MBD, MDLRL
Chloroform	8260B	SB-10(23.5-24.5)	2308A58-030a	0.015	0.064	mg/kg	U	MBD, MDLRL
Chloroform	8260B	SB-11(0.5-1)	2308A58-031a	0.016	0.071	mg/kg	U	MBD, MDLRL
Chloroform	8260B	SB-11(19-20)	2308A58-034a	0.051	0.26	mg/kg	U	MBD, MDLRL
Chloroform	8260B	SB-13(0.5-1)	2308A58-035a	0.013	0.061	mg/kg	U	MBD, MDLRL
Chloroform	8260B	DUP-0816-1	2308A58-039a	0.013	0.067	mg/kg	U	MBD, MDLRL
Chloroform	8260B	DUP-0816-5	2308A58-043a	0.010	0.050	mg/kg	U	MBD, MDLRL
Ethylbenzene	8260B	SB-14(25-28)	2308A58-002a	0.16	0.62	mg/kg	J	MDLRL
Ethylbenzene	8260B	SB-02(19.7-20.7)	2308A58-016a	1.8	0.45	mg/kg	J+	HR-SUR
Ethylbenzene	8260B	SB-03(0.5-1)	2308A58-018a	0.013	0.030	mg/kg	J	MDLRL
Ethylbenzene	8260B	SB-04(19.5-20.5)	2308A58-023a	0.051	0.054	mg/kg	J	MDLRL
Ethylbenzene	8260B	SB-10(15-20)	2308A58-029a	0.021	0.050	mg/kg	J	MDLRL
Ethylbenzene	8260B	SB-10(23.5-24.5)	2308A58-030a	0.062	0.064	mg/kg	J	MDLRL
Ethylbenzene	8260B	SB-11(0.5-1)	2308A58-031a	0.017	0.071	mg/kg	J	MDLRL
Ethylbenzene	8260B	SB-11(17.5-18.5)	2308A58-033a	0.21	0.28	mg/kg	J	MDLRL
Ethylbenzene	8260B	SB-11(19-20)	2308A58-034a	0.21	0.26	mg/kg	J	MDLRL
Ethylbenzene	8260B	SB-15(10-15)	2308A58-045a	0.29	0.057	mg/kg	J+	HR-SUR
Fluorene	8270C	SB-03(29-30)	2308A58-021A	0.21	0.25	mg/kg	J	MDLRL
Iron, Total	6010B	SB-14(0.5-1)	2308A58-001A	8,200	520	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-14(25-28)	2308A58-002A	9,200	520	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-14(27-28)	2308A58-003A	14,000	970	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-16(0.5-1)	2308A58-004A	12,000	490	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-16(10-15)	2308A58-005A	15,000	1,000	mg/kg	J+	HR-LCS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Iron, Total	6010B	SB-16(14-15)	2308A58-006A	14,000	980	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-14(24-25)	2308A58-007A	12,000	510	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-17(14-15)	2308A58-008A	9,700	490	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-17(15-20)	2308A58-009A	12,000	510	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-17(22.5-23.5)	2308A58-010A	11,000	500	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-05(0.5-1)	2308A58-011A	11,000	480	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-05(20-25)	2308A58-012A	13,000	1,000	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-05(24-25)	2308A58-013A	12,000	490	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-02(0.5-1)	2308A58-014A	13,000	1000	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-02(15-20)	2308A58-015A	13,000	980	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-02(19.7-20.7)	2308A58-016A	8,600	480	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-02(33.5-34.5)	2308A58-017A	8,800	500	mg/kg	J+	ERPD-FD, HR-LCS
Iron, Total	6010B	SB-03(0.5-1)	2308A58-018A	15,000	1,000	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-03(15-20)	2308A58-019A	9,900	490	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-03(18-19)	2308A58-020A	12,000	490	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-03(29-30)	2308A58-021A	11,000	960	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-04(15-20)	2308A58-022A	11,000	480	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-04(19.5-20.5)	2308A58-023A	14,000	1,000	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-04(24-25)	2308A58-024A	14,000	970	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-09 (0.5-1)	2308A58-025A	7,000	480	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-09(15-20)	2308A58-026A	6,600	520	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-09(10-15)	2308A58-027A	8,800	510	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-10(0.5-1)	2308A58-028A	12,000	960	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-10(15-20)	2308A58-029A	16,000	1,000	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-10(23.5-24.5)	2308A58-030A	13,000	970	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-11(0.5-1)	2308A58-031A	10,000	480	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-11(1-5)	2308A58-032A	8,300	520	mg/kg	J+	HR-LCS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Iron, Total	6010B	SB-11(17.5-18.5)	2308A58-033A	13,000	1,000	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-11(19-20)	2308A58-034A	12,000	500	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-13(0.5-1)	2308A58-035A	9,000	510	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-13(10-15)	2308A58-036A	7,500	500	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-13(14-15)	2308A58-037A	9,300	480	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-13(24-25)	2308A58-038A	12,000	500	mg/kg	J+	HR-LCS
Iron, Total	6010B	DUP-0816-1	2308A58-039A	15,000	970	mg/kg	J+	HR-LCS
Iron, Total	6010B	DUP-0816-2	2308A58-040A	13,000	1,000	mg/kg	J+	HR-LCS
Iron, Total	6010B	DUP-0816-3	2308A58-041A	19,000	980	mg/kg	J+	ERPD-FD, HR-LCS
Iron, Total	6010B	DUP-0816-4	2308A58-042A	16,000	980	mg/kg	J+	HR-LCS
Iron, Total	6010B	DUP-0816-5	2308A58-043A	14,000	1,000	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-15(10-15)	2308A58-045A	10,000	530	mg/kg	J+	HR-LCS
Isopropylbenzene	8260B	SB-16(14-15)	2308A58-006a	0.044	0.054	mg/kg	J	MDLRL
Isopropylbenzene	8260B	SB-02(0.5-1)	2308A58-014a	0.081	0.13	mg/kg	J	MDLRL
Isopropylbenzene	8260B	SB-02(19.7-20.7)	2308A58-016a	0.66	0.45	mg/kg	J+	HR-SUR
Isopropylbenzene	8260B	SB-02(33.5-34.5)	2308A58-017a	0.019	0.069	mg/kg	J	MDLRL
Isopropylbenzene	8260B	SB-03(15-20)	2308A58-019a	0.24	0.60	mg/kg	J	MDLRL
Isopropylbenzene	8260B	SB-03(18-19)	2308A58-020a	0.084	0.28	mg/kg	J	MDLRL
Isopropylbenzene	8260B	SB-04(15-20)	2308A58-022a	0.032	0.10	mg/kg	J	MDLRL
Isopropylbenzene	8260B	SB-04(19.5-20.5)	2308A58-023a	0.011	0.054	mg/kg	J	MDLRL
Isopropylbenzene	8260B	SB-11(19-20)	2308A58-034a	0.24	0.26	mg/kg	J	MDLRL
Isopropylbenzene	8260B	DUP-0816-5	2308A58-043a	0.018	0.05	mg/kg	J	MDLRL
Isopropylbenzene	8260B	SB-15(10-15)	2308A58-045a	0.69	0.057	mg/kg	J+	HR-SUR
Lead, Total	6020A	SB-10(23.5-24.5)	2308A58-030A	11	0.49	mg/kg	J-	LR-MS
Lead, Total	6020A	SB-11(0.5-1)	2308A58-031A	8.8	0.97	mg/kg	J-	LR-MS
Lead, Total	6020A	SB-11(1-5)	2308A58-032A	5.6	1.0	mg/kg	J-	LR-MS
Lead, Total	6020A	SB-11(17.5-18.5)	2308A58-033A	10	1.0	mg/kg	J-	LR-MS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Lead, Total	6020A	SB-11(19-20)	2308A58-034A	9.1	0.5	mg/kg	J-	LR-MS
Lead, Total	6020A	SB-13(0.5-1)	2308A58-035A	10	1.0	mg/kg	J-	LR-MS
Lead, Total	6020A	SB-13(10-15)	2308A58-036A	6.8	1.0	mg/kg	J-	LR-MS
Lead, Total	6020A	SB-13(14-15)	2308A58-037A	6.9	0.96	mg/kg	J-	LR-MS
Lead, Total	6020A	SB-13(24-25)	2308A58-038A	9.2	1.0	mg/kg	J-	LR-MS
Lead, Total	6020A	DUP-0816-1	2308A58-039A	13	0.97	mg/kg	J-	LR-MS
Lead, Total	6020A	DUP-0816-2	2308A58-040A	8.9	1.0	mg/kg	J-	LR-MS
Lead, Total	6020A	DUP-0816-3	2308A58-041A	8.2	0.98	mg/kg	J-	LR-MS
Lead, Total	6020A	DUP-0816-4	2308A58-042A	10	0.49	mg/kg	J-	LR-MS
Lead, Total	6020A	DUP-0816-5	2308A58-043A	11	0.52	mg/kg	J-	LR-MS
Lead, Total	6020A	SB-15(10-15)	2308A58-045A	8.2	1.1	mg/kg	J-	LR-MS
Manganese, Total	6010B	SB-16(10-15)	2308A58-005A	180	0.52	mg/kg	J	ERPD-FD
Manganese, Total	6010B	SB-02(33.5-34.5)	2308A58-017A	210	0.50	mg/kg	J	ERPD-FD
Manganese, Total	6010B	SB-10(15-20)	2308A58-029A	320	0.51	mg/kg	J	ERPD-FD
Manganese, Total	6010B	DUP-0816-1	2308A58-039A	340	0.49	mg/kg	J	ERPD-FD
Manganese, Total	6010B	DUP-0816-3	2308A58-041A	810	1.2	mg/kg	J	ERPD-FD
Manganese, Total	6010B	DUP-0816-5	2308A58-043A	890	1.3	mg/kg	J	ERPD-FD
Naphthalene	8260B	SB-14(0.5-1)	2308A58-001a	0.056	0.15	mg/kg	J	MDLRL
Naphthalene	8260B	SB-05(0.5-1)	2308A58-011a	0.042	0.14	mg/kg	J	MDLRL
Naphthalene	8260B	SB-02(0.5-1)	2308A58-014a	0.092	0.25	mg/kg	J	MDLRL
Naphthalene	8260B	SB-02(15-20)	2308A58-015a	1.1	1.4	mg/kg	J	MDLRL
Naphthalene	8260B	SB-02(19.7-20.7)	2308A58-016a	1.5	0.89	mg/kg	J+	HR-SUR
Naphthalene	8260B	SB-02(33.5-34.5)	2308A58-017a	0.07	0.14	mg/kg	J	MDLRL
Naphthalene	8260B	SB-03(0.5-1)	2308A58-018a	0.021	0.061	mg/kg	J	MDLRL
Naphthalene	8260B	SB-03(18-19)	2308A58-020a	0.56	0.56	mg/kg	J	MDLRL
Naphthalene	8260B	SB-04(15-20)	2308A58-022a	0.14	0.21	mg/kg	J	MDLRL
Naphthalene	8260B	SB-11(0.5-1)	2308A58-031a	0.048	0.14	mg/kg	J	MDLRL

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Naphthalene	8260B	SB-15(10-15)	2308A58-045a	0.36	0.11	mg/kg	J+	HR-SUR
n-Butylbenzene	8260B	SB-16(0.5-1)	2308A58-004a	0.18	0.24	mg/kg	J	MDLRL
n-Butylbenzene	8260B	SB-16(10-15)	2308A58-005a	0.12	0.22	mg/kg	J	MDLRL
n-Butylbenzene	8260B	SB-16(14-15)	2308A58-006a	0.017	0.16	mg/kg	J	MDLRL
n-Butylbenzene	8260B	SB-02(0.5-1)	2308A58-014a	0.038	0.38	mg/kg	J	MDLRL
n-Butylbenzene	8260B	SB-02(15-20)	2308A58-015a	1.8	2.1	mg/kg	J	MDLRL
n-Butylbenzene	8260B	SB-02(19.7-20.7)	2308A58-016a	1.8	1.3	mg/kg	J+	HR-SUR
n-Butylbenzene	8260B	SB-02(33.5-34.5)	2308A58-017a	0.033	0.21	mg/kg	J	MDLRL
n-Butylbenzene	8260B	SB-03(15-20)	2308A58-019a	0.46	1.8	mg/kg	J	MDLRL
n-Butylbenzene	8260B	SB-03(18-19)	2308A58-020a	0.12	0.85	mg/kg	J	MDLRL
n-Butylbenzene	8260B	SB-04(15-20)	2308A58-022a	0.034	0.31	mg/kg	J	MDLRL
n-Butylbenzene	8260B	SB-11(17.5-18.5)	2308A58-033a	0.18	0.85	mg/kg	J	MDLRL
n-Butylbenzene	8260B	SB-11(19-20)	2308A58-034a	0.13	0.77	mg/kg	J	MDLRL
n-Butylbenzene	8260B	DUP-0816-5	2308A58-043a	0.022	0.15	mg/kg	J	MDLRL
n-Butylbenzene	8260B	SB-15(10-15)	2308A58-045a	0.32	0.17	mg/kg	J+	HR-SUR
n-Propylbenzene	8260B	SB-14(0.5-1)	2308A58-001a	0.018	0.074	mg/kg	J	MDLRL
n-Propylbenzene	8260B	SB-02(0.5-1)	2308A58-014a	0.092	0.13	mg/kg	J	MDLRL
n-Propylbenzene	8260B	SB-02(19.7-20.7)	2308A58-016a	1.9	0.45	mg/kg	J+	HR-SUR
n-Propylbenzene	8260B	SB-02(33.5-34.5)	2308A58-017a	0.047	0.069	mg/kg	J	MDLRL
n-Propylbenzene	8260B	SB-03(18-19)	2308A58-020a	0.21	0.28	mg/kg	J	MDLRL
n-Propylbenzene	8260B	SB-04(15-20)	2308A58-022a	0.083	0.10	mg/kg	J	MDLRL
n-Propylbenzene	8260B	SB-04(19.5-20.5)	2308A58-023a	0.022	0.054	mg/kg	J	MDLRL
n-Propylbenzene	8260B	SB-09(15-20)	2308A58-026a	0.044	0.064	mg/kg	J	MDLRL
n-Propylbenzene	8260B	SB-10(15-20)	2308A58-029a	0.015	0.050	mg/kg	J	MDLRL
n-Propylbenzene	8260B	SB-10(23.5-24.5)	2308A58-030a	0.018	0.064	mg/kg	J	MDLRL
n-Propylbenzene	8260B	SB-11(0.5-1)	2308A58-031a	0.018	0.071	mg/kg	J	MDLRL
n-Propylbenzene	8260B	DUP-0816-1	2308A58-039a	0.015	0.067	mg/kg	J	MDLRL

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
n-Propylbenzene	8260B	DUP-0816-5	2308A58-043a	0.040	0.050	mg/kg	J	MDLRL
n-Propylbenzene	8260B	SB-15(10-15)	2308A58-045a	0.84	0.057	mg/kg	J+	HR-SUR
Phenanthrene	8270C	SB-11(17.5-18.5)	2308A58-033a	2.4	2.4	mg/kg	J	MDLRL
Phenanthrene	8270C	SB-13(14-15)	2308A58-037a	2.3	2.5	mg/kg	J	MDLRL
p-Isopropyltoluene	8260B	SB-16(0.5-1)	2308A58-004a	0.064	0.078	mg/kg	J	MDLRL
p-Isopropyltoluene	8260B	SB-02(15-20)	2308A58-015a	0.18	0.69	mg/kg	J	MDLRL
p-Isopropyltoluene	8260B	SB-02(19.7-20.7)	2308A58-016a	0.41	0.45	mg/kg	J+	HR-SUR
p-Isopropyltoluene	8260B	SB-03(15-20)	2308A58-019a	0.13	0.60	mg/kg	J	MDLRL
p-Isopropyltoluene	8260B	SB-03(18-19)	2308A58-020a	0.035	0.28	mg/kg	J	MDLRL
p-Isopropyltoluene	8260B	SB-03(29-30)	2308A58-021a	0.58	0.58	mg/kg	J	MDLRL
p-Isopropyltoluene	8260B	SB-11(17.5-18.5)	2308A58-033a	0.21	0.28	mg/kg	J	MDLRL
p-Isopropyltoluene	8260B	SB-11(19-20)	2308A58-034a	0.17	0.26	mg/kg	J	MDLRL
p-Isopropyltoluene	8260B	DUP-0816-5	2308A58-043a	0.014	0.05	mg/kg	J	MDLRL
p-Isopropyltoluene	8260B	SB-15(10-15)	2308A58-045a	0.087	0.057	mg/kg	J+	HR-SUR
Pyrene	8270C	SB-03(15-20)	2308A58-019A	0.23	0.25	mg/kg	J	MDLRL
sec-Butylbenzene	8260B	SB-16(14-15)	2308A58-006a	0.03	0.054	mg/kg	J	MDLRL
sec-Butylbenzene	8260B	SB-02(19.7-20.7)	2308A58-016a	1.0	0.45	mg/kg	J+	HR-SUR, MDLRL
sec-Butylbenzene	8260B	SB-11(17.5-18.5)	2308A58-033a	0.27	0.28	mg/kg	J	MDLRL
sec-Butylbenzene	8260B	SB-11(19-20)	2308A58-034a	0.21	0.26	mg/kg	J	MDLRL
sec-Butylbenzene	8260B	DUP-0816-5	2308A58-043a	0.024	0.050	mg/kg	J	MDLRL
sec-Butylbenzene	8260B	SB-15(10-15)	2308A58-045a	0.70	0.057	mg/kg	J+	HR-SUR
Selenium, Total	6020A	SB-10(23.5-24.5)	2308A58-030A	1.9	0.49	mg/kg	J-	LR-MS
Selenium, Total	6020A	SB-11(0.5-1)	2308A58-031A	2.0	0.97	mg/kg	J-	LR-MS
Selenium, Total	6020A	SB-11(1-5)	2308A58-032A	1.6	1.0	mg/kg	J-	LR-MS
Selenium, Total	6020A	SB-11(17.5-18.5)	2308A58-033A	1.5	1.0	mg/kg	J-	LR-MS
Selenium, Total	6020A	SB-11(19-20)	2308A58-034A	1.4	0.50	mg/kg	J-	LR-MS
Selenium, Total	6020A	SB-13(0.5-1)	2308A58-035A	1.7	1.0	mg/kg	J-	LR-MS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Selenium, Total	6020A	SB-13(10-15)	2308A58-036A	1.2	1.0	mg/kg	J-	LR-MS
Selenium, Total	6020A	SB-13(14-15)	2308A58-037A	3.3	0.96	mg/kg	J-	LR-MS
Selenium, Total	6020A	SB-13(24-25)	2308A58-038A	1.4	1.0	mg/kg	J-	LR-MS
Selenium, Total	6020A	DUP-0816-1	2308A58-039A	1.2	0.97	mg/kg	J-	LR-MS
Selenium, Total	6020A	DUP-0816-2	2308A58-040A	1.4	1.0	mg/kg	J-	LR-MS
Selenium, Total	6020A	DUP-0816-3	2308A58-041A	3.0	0.98	mg/kg	J-	LR-MS
Selenium, Total	6020A	DUP-0816-4	2308A58-042A	3.0	0.49	mg/kg	J-	LR-MS
Selenium, Total	6020A	DUP-0816-5	2308A58-043A	2.9	0.52	mg/kg	J-	LR-MS
Selenium, Total	6020A	SB-15(10-15)	2308A58-045A	5.1	1.1	mg/kg	J-	LR-MS
tert-Butylbenzene	8260B	SB-15(10-15)	2308A58-045a	0.023	0.057	mg/kg	J+	HR-SUR, MDLRL
Toluene	8260B	SB-02(0.5-1)	2308A58-014a	0.029	0.13	mg/kg	J	MDLRL
Toluene	8260B	SB-02(15-20)	2308A58-015a	0.14	0.69	mg/kg	J	MDLRL
Toluene	8260B	SB-03(15-20)	2308A58-019a	0.16	0.60	mg/kg	J	MDLRL
Toluene	8260B	SB-03(18-19)	2308A58-020a	0.071	0.28	mg/kg	J	MDLRL
Toluene	8260B	SB-09(15-20)	2308A58-026a	0.015	0.064	mg/kg	J	MDLRL
Toluene	8260B	SB-10(23.5-24.5)	2308A58-030a	0.043	0.064	mg/kg	J	MDLRL
Toluene	8260B	DUP-0816-5	2308A58-043a	0.011	0.05	mg/kg	J	MDLRL
TPH DRO	8015	SB-16(10-15)	2308A58-005A	97	9.9	mg/kg	J	ERPD-FD
TPH DRO	8015	DUP-0816-1	2308A58-039A	25	9.7	mg/kg	J	ERPD-FD
TPH GRO	8015	SB-14(25-28)	2308A58-002a	590	31	mg/kg	J+	HR-MS
TPH GRO	8015	SB-14(27-28)	2308A58-003a	3.5	6.5	mg/kg	J+	HR-MS
TPH GRO	8015	SB-16(0.5-1)	2308A58-004a	20	7.8	mg/kg	J+	HR-MS
TPH GRO	8015	SB-16(10-15)	2308A58-005a	92	7.3	mg/kg	J+	HR-MS, HR-SUR
TPH GRO	8015	SB-16(14-15)	2308A58-006a	10	5.4	mg/kg	J+	HR-MS
TPH GRO	8015	SB-14(24-25)	2308A58-007a	4.9	5.7	mg/kg	J+	HR-MS
TPH GRO	8015	SB-05(20-25)	2308A58-012a	4.1	4.8	mg/kg	J+	HR-MS
TPH GRO	8015	SB-05(24-25)	2308A58-013a	80	5.0	mg/kg	J+	HR-MS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
TPH GRO	8015	SB-02(0.5-1)	2308A58-014a	43	6.3	mg/kg	J+	HR-MS
TPH GRO	8015	SB-02(15-20)	2308A58-015a	640	34	mg/kg	J+	HR-MS, HR-SUR
TPH GRO	8015	SB-02(19.7-20.7)	2308A58-016a	420	45	mg/kg	J+	HR-MS
TPH GRO	8015	SB-02(33.5-34.5)	2308A58-017a	8.2	6.9	mg/kg	J+	HR-MS
TPH GRO	8015	SB-03(15-20)	2308A58-019a	350	30	mg/kg	J+	HR-MS
TPH GRO	8015	SB-03(18-19)	2308A58-020a	140	5.6	mg/kg	J+	HR-MS, HR-SUR
TPH GRO	8015	SB-04(24-25)	2308A58-024a	2.0	4.6	mg/kg	J	MDLRL
TPH GRO	8015	SB-09(10-15)	2308A58-027a	1.7	6.4	mg/kg	J	MDLRL
TPH GRO	8015	SB-13(10-15)	2308A58-036a	200	30	mg/kg	J+	HR-SUR
TPH GRO	8015	SB-13(14-15)	2308A58-037a	160	27	mg/kg	J+	HR-SUR
TPH GRO	8015	SB-15(10-15)	2308A58-045a	110	5.7	mg/kg	J+	HR-SUR
TPH ORO	8015	SB-02(0.5-1)	2308A58-014A	41	46	mg/kg	J	MDLRL
TPH ORO	8015	SB-03(29-30)	2308A58-021A	29	47	mg/kg	J	MDLRL
Vanadium, Total	6010B	SB-14(0.5-1)	2308A58-001A	29	5.2	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-14(25-28)	2308A58-002A	25	13	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-14(27-28)	2308A58-003A	16	4.8	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-16(0.5-1)	2308A58-004A	24	4.9	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-16(10-15)	2308A58-005A	15	5.2	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-16(14-15)	2308A58-006A	14	4.9	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-14(24-25)	2308A58-007A	15	5.1	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-17(14-15)	2308A58-008A	11	4.9	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-17(15-20)	2308A58-009A	13	5.1	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-17(22.5-23.5)	2308A58-010A	16	5.0	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-05(0.5-1)	2308A58-011A	20	4.8	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-05(20-25)	2308A58-012A	15	5.2	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-05(24-25)	2308A58-013A	14	4.9	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-02(0.5-1)	2308A58-014A	23	5.1	mg/kg	J+	HR-MS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Vanadium, Total	6010B	SB-02(15-20)	2308A58-015A	30	120	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-02(19.7-20.7)	2308A58-016A	14	4.8	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-02(33.5-34.5)	2308A58-017A	16	5.0	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-03(0.5-1)	2308A58-018A	21	5.1	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-03(15-20)	2308A58-019A	13	4.9	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-03(18-19)	2308A58-020A	14	4.9	mg/kg	J+	HR-MS
Xylenes, Total	8260B	SB-05(0.5-1)	2308A58-011a	0.03	0.14	mg/kg	J	MDLRL
Xylenes, Total	8260B	SB-02(0.5-1)	2308A58-014a	0.096	0.25	mg/kg	J	MDLRL
Xylenes, Total	8260B	SB-02(15-20)	2308A58-015a	0.72	1.4	mg/kg	J	MDLRL
Xylenes, Total	8260B	SB-02(19.7-20.7)	2308A58-016a	1.3	0.89	mg/kg	J+	HR-SUR
Xylenes, Total	8260B	SB-02(33.5-34.5)	2308A58-017a	0.024	0.14	mg/kg	J	MDLRL
Xylenes, Total	8260B	SB-03(0.5-1)	2308A58-018a	0.017	0.061	mg/kg	J	MDLRL
Xylenes, Total	8260B	SB-03(18-19)	2308A58-020a	0.44	0.56	mg/kg	J	MDLRL
Xylenes, Total	8260B	SB-04(15-20)	2308A58-022a	0.077	0.21	mg/kg	J	MDLRL
Xylenes, Total	8260B	SB-10(15-20)	2308A58-029a	0.020	0.10	mg/kg	J	MDLRL
Xylenes, Total	8260B	SB-10(23.5-24.5)	2308A58-030a	0.087	0.13	mg/kg	J	MDLRL
Xylenes, Total	8260B	DUP-0816-5	2308A58-043a	0.034	0.10	mg/kg	J	MDLRL
Xylenes, Total	8260B	SB-15(10-15)	2308A58-045a	0.056	0.11	mg/kg	J+	HR-SUR, MDLRL
Zinc, Total	6010B	SB-14(0.5-1)	2308A58-001A	21	5.2	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-14(25-28)	2308A58-002A	10	5.2	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-14(27-28)	2308A58-003A	13	4.8	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-16(0.5-1)	2308A58-004A	44	4.9	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-16(10-15)	2308A58-005A	14	5.2	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-16(14-15)	2308A58-006A	13	4.9	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-14(24-25)	2308A58-007A	13	5.1	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-17(14-15)	2308A58-008A	11	4.9	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-17(15-20)	2308A58-009A	14	5.1	mg/kg	J+	HR-LCS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Zinc, Total	6010B	SB-17(22.5-23.5)	2308A58-010A	16	5.0	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-05(0.5-1)	2308A58-011A	12	4.8	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-05(20-25)	2308A58-012A	13	5.2	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-05(24-25)	2308A58-013A	14	4.9	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-02(0.5-1)	2308A58-014A	28	5.1	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-02(19.7-20.7)	2308A58-016A	8.7	4.8	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-02(33.5-34.5)	2308A58-017A	12	5.0	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-03(0.5-1)	2308A58-018A	27	5.1	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-03(15-20)	2308A58-019A	12	4.9	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-03(18-19)	2308A58-020A	14	4.9	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-10(23.5-24.5)	2308A58-030A	15	4.9	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-11(0.5-1)	2308A58-031A	11	4.8	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-11(1-5)	2308A58-032A	14	5.2	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-11(17.5-18.5)	2308A58-033A	14	5.1	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-11(19-20)	2308A58-034A	12	5.0	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-13(0.5-1)	2308A58-035A	30	13	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-13(10-15)	2308A58-036A	12	5.0	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-13(14-15)	2308A58-037A	12	4.8	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-13(24-25)	2308A58-038A	14	5.0	mg/kg	J+	HR-LCS
Zinc, Total	6010B	DUP-0816-1	2308A58-039A	14	4.9	mg/kg	J+	HR-LCS
Zinc, Total	6010B	DUP-0816-2	2308A58-040A	14	5.0	mg/kg	J+	HR-LCS
Zinc, Total	6010B	DUP-0816-3	2308A58-041A	14	4.9	mg/kg	J+	HR-LCS
Zinc, Total	6010B	DUP-0816-4	2308A58-042A	19	4.9	mg/kg	J+	HR-LCS
Zinc, Total	6010B	DUP-0816-5	2308A58-043A	16	5.2	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-15(10-15)	2308A58-045A	11	5.3	mg/kg	J+	HR-LCS

Tier II Data Validation Report Summary

Client: Marathon Oil	Laboratory: Hall Environmental Analysis Laboratory
Project Name: AOC 26 & 27 August 2023 Soil Investigation	Sample Matrix: Soil, QA Water
Project Number: 00697-097-0020 Task: 2A00	Sample Start Date: 08/15/2023
Date Validated: 10/27/2023	Sample End Date: 08/15/2023
Parameters Included: ▪ Volatile Organic Compounds (VOC) by Environmental Protection Agency (EPA) Test Methods for Evaluating Solid Waste (SW-846) Method 8260B ▪ 1,2-Dibromoethane (EDB) by SW-846 Method 8011 ▪ Semivolatile Organic Compounds (SVOC) by SW-846 Method 8270C ▪ Total Petroleum Hydrocarbons (TPH) Gasoline Range Organics (GRO) by SW-846 Method 8015D ▪ TPH Diesel Range Organics (DRO) and Motor Oil Range Organics (MRO) by SW-846 Method 8015D Modified ▪ Total Metals by EPA Methods 200.7 and 200.8 and SW-846 Methods 6010B and 6020A ▪ Total Mercury by EPA Method 245.1 and SW-846 Method 7471B ▪ Chloride by EPA Method 300.0	
Laboratory Project ID: 2308975	
Data Validator: Daran O'Hollearn, Lead Project Scientist	
Reviewer: Kyle Power, Environmental Chemist	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services Group on the analytical data report packages generated by Hall Environmental Analysis Laboratory of Albuquerque, New Mexico, evaluating samples from the Marathon Oil site, located in Gallup, New Mexico.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated relative percent difference (RPD) values from:

- Field duplicate pairs
- Matrix spike (MS) and matrix spike duplicate (MSD) pairs
- Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) pairs

Laboratory accuracy was established by reviewing the demonstrated percent recoveries (%R) of the following items to verify that data are not biased.

- MS/MSD samples
- LCS/LCSD samples
- Organic system monitoring compounds (surrogates)

Field accuracy was established by collecting and analyzing the following samples to monitor for possible ambient or cross contamination during sampling and transportation.

Tier II Data Validation Report Summary

- Equipment blanks
- Trip blanks

Method compliance was established by reviewing sample integrity, holding times, detection limits, surrogate recoveries, laboratory blanks, initial and continuing calibrations (where applicable), and the LCS/LCSD percent recoveries against method-specific requirements.

Completeness was evaluated by determining the overall ratio of the number of samples and analyses planned versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody (CoC), laboratory analytical methods, and other laboratory and field documents associated with this analytical data set.

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
SB-24(0.5-1)	2308975-001
SB-24(25-27)	2308975-002
SB-24(19.5-20.5)	2308975-003
SB-23(0.5-1)	2308975-004
SB-23(4-5)	2308975-005
SB-22(0.5-1)	2308975-006
SB-22(16-17)	2308975-007
SB-22(20-24)	2308975-008
SB-22(23-24)	2308975-009
SB-21(5-6)	2308975-010
SB-21(8.5-9.5)	2308975-011
SB-20(0.5-1)	2308975-012
SB-20(10-11)	2308975-013
SB-20(20-21)	2308975-014
SB-19(0.5-1)	2308975-015
SB-19(10-11)	2308975-016
SB-19(13-14)	2308975-017
SB-18(0.5-1)	2308975-018
SB-18(10-11)	2308975-019
SB-18(18-19)	2308975-020
SB-01(0.5-1)	2308975-021
SB-01(15-16)	2308975-022
SB-01(18.5-19.5)	2308975-023
SB-06(11.5-12.5)	2308975-024
SB-06(10-15)	2308975-025

Tier II Data Validation Report Summary

Client Sample ID	Laboratory Sample Number
SB-06(17-18)	2308975-026
SB-07(5-10)	2308975-027
SB-07(11-12)	2308975-028
SB-07(17-18)	2308975-029
SB-08(0.5-1)	2308975-030
SB-08(5-10)	2308975-031
SB-08(13-14)	2308975-032
SB-12(0.5-1)	2308975-033
SB-12(5-10)	2308975-034
SB-15(0.5-1)	2308975-035
SB-15(18-19)	2308975-036
MeOH Blank	2308975-037
DUP-0815-1	2308975-038
DUP-0815-2	2308975-039
DUP-0815-3	2308975-040
DUP-0815-4	2308975-041
DUP-0815-5	2308975-042
EB-0815	2308975-043

Sample DUP-0815-5 represents sample SB-12(23.5-24). Please see CoC Confirmation Letter in Appendix A for clarification.

Tier II Data Validation Report Summary

The laboratory data were reviewed to evaluate compliance with the methods and the quality of the reported data. Assessment of CoC completeness is included in Item 3 of the Data Validation Checklist. A check mark (✓) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (⊗) indicates validation criteria for which the data have been qualified by the data validator. An empty circle (○) indicates that the specified criterion does not apply to the reviewed data. Details are noted in the tables below.

Validation Criteria

- ✓ Data Completeness
- ✓ CoC Documentation (Item 3)
- ✓ Holding Times and Preservation (Items 6 and 7)
- ○ Initial and Continuing Calibrations (Items 9 and 10)
- ⊗ Laboratory Blanks (Items 11 and 12)
- ⊗ MS/MSD (Items 13 and 14)
- ⊗ LCS/LCSD (Items 15 and 16)
- ⊗ System Monitoring Compounds (i.e., Surrogates) (Item 17)
- ✓ Trip and Equipment Blanks (Items 18 and 19)
- ⊗ Field Duplicates (Items 20 and 21)
- ○ Laboratory Duplicates (Item 22)

Guidance References

Chemical data validation was conducted in accordance with the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines for the analyses listed below, or by the appropriate method if not covered in the National Functional Guidelines.

- Data for organic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Organic Superfund Methods Data Review, document number EPA-540-R-20-005, November 2020.
- Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Inorganic Superfund Methods Data Review, document number EPA-540-R-20-006, November 2020.
- Review of field duplicates was conducted according to the USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020.
- Trihydro Data Validation Variance Documentation, March 2023.

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Item 2 of the Validation Criteria Checklist.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data that are not qualified meet the site data quality objectives. If values are assigned qualifiers other than an R (rejected, data not usable), the data

may be used for site evaluation; however, consideration should be given to the reasons for qualification when interpreting sample concentrations. Data points that are assigned an R qualifier should not be used for site evaluation purposes.

If applicable, text was identified in **bold font** in the Validation Criteria Checklist to indicate that further action and/or qualification of the data were required. Data may have been qualified with J data flags by the laboratory if the result was greater than or equal to the method detection limit (MDL) but less than the reporting limit (RL). These laboratory-applied J flags were preserved, if present, and included in the Data Qualification Summary table at the end of this report. If applicable, data validation qualifiers were added for the items noted with crossed circles in the Validation Criteria section above. Please see the Data Qualification Summary table at the end of this report for a complete list of samples and analytes qualified.

If data would be qualified with more than one flag, one qualifier was assigned based on the severity; however, all reasons for qualification were retained. Data that would be qualified with both J+ and J- flags were evaluated based on validation criteria and assigned the appropriate flag. The hierarchy of qualifiers from the most to least severe is as follows:

- R > JB/U > NJ > J+/J- > J/UJ

Data qualifiers used during this validation are included in the following table.

Qualifier	Definition
J	Estimated concentration
J+	The result is an estimated concentration, but may be biased high
J-	The result is an estimated concentration, but may be biased low
UJ	Estimated reporting limit
U	Evaluated to be undetected at the reporting limit

Data Completeness

The analyses were performed as requested on the CoC records. The associated samples were received by the laboratory and analyzed properly unless otherwise noted in the Criteria Checklist below. The complete data package consisted of 6,478 data points. The data completeness calculation does not include any submitted blank sample results. Data points were not rejected. The data completeness measure for this data package is calculated to be 100% and is acceptable.

VALIDATION CRITERIA CHECKLIST	
1. Was the report free of non-conformances identified by the laboratory?	Yes
Comments: The laboratory did not report non-conformances related to the analytical data for this sample set.	
2. Were the data free of data qualification flags and/or notes used by the laboratory? If no, define.	No
Comments: The laboratory used the following data qualification flags with this data set. D – Sample diluted due to matrix. J – Analyte detected below quantitation limits. R – RPD outside of standard limits. S – % Recovery outside of standard limits. If undiluted results may be estimated.	
3. Were sample CoC forms and custody procedures complete?	Yes
Comments: The CoC records from field to laboratory was not complete, but custody was maintained as evidenced by laboratory personnel signatures, dates, times of receipt, and the CoC confirmation letter (Attachment A). The laboratory noted that the shipping containers were sealed, and custody seals were present and intact on the shipping containers.	
4. Were detection limits in accordance with the quality assurance project plan (QAPP), permit, or method, or indicated as acceptable?	Yes
Comments: The reporting limits for the analyses were reviewed and appeared to be acceptable. Dilutions were applied for the analyses of individual samples due to matrix interference and to maintain instrument responses within defined calibration limits.	
5. Were the reported analytical methods and constituents in compliance with the QAPP, permit, or CoC?	Yes
Comments: The reported analytical methods were in compliance with the CoC, and the laboratory reported the requested constituents in accordance with the CoC.	
6. Were samples received in good condition within method-specified requirements?	Yes
Comments: Samples were received on ice, in good condition, and with the cooler temperatures within the recommended temperature range of 4°C ± 2°C at 4.6°C, 5.6°C, and 5.8°C as noted on the Sample Log-in Check List.	
7. Were samples extracted/digested and analyzed within method-specified or technical holding times?	Yes
Comments: The samples were extracted/digested and analyzed within method-specific holding times.	
8. Were reported units appropriate for the sample matrix/matrices and analytical method(s)? Specify if wet or dry units were used for soil.	Yes
Comments: The results were reported in concentration units of micrograms per liter (µg/L), milligrams per liter (mg/L), micrograms per kilogram (µg/kg), and milligrams per kilogram (mg/kg), which were acceptable for the sample matrix and the analyses requested. The analytical results for the soil samples were reported on a wet weight, as received basis for this sample set.	
9. Did the laboratory provide any specific initial and/or continuing calibration results?	No
Comments: Initial and continuing calibration data were not included as part of this data set.	
10. If initial and/or continuing calibration results were provided, were the results within acceptable limits?	N/A
Comments: Initial and continuing calibration data were not included as part of this data set.	

VALIDATION CRITERIA CHECKLIST

11. Was the total number of laboratory blank samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The number of laboratory blank samples prepared was equal to at least 5% of the total number of samples.

12. Were target analytes reported as not detected in the laboratory blanks? No

Comments: Target analytes were reported as not detected in the laboratory blanks, with the following exceptions.

Method	Analyte	Batch	Concentration
200.7	Iron	A99201	0.0095 mg/L
8260B	Chloroform	R99117	0.0098 mg/kg
8260B	Carbon Disulfide	B99117	0.030 mg/kg
8260B	1-Methylnaphthalene	R99109	1.8 µg/L
8260B	**2-Methylnaphthalene**	**R99109**	**1.9 µg/L**

The detection of 2-methylnaphthalene in the associated sample EB-0815 that was less than the blank result and less than the applicable reporting limit was assigned a U qualifier. Non-detections of the identified analytes in the associated samples and did not require qualification.

13. Was the total number of MS samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of matrix spike samples prepared was equal to at least 5% of the total number of samples, although MS samples were not prepared/reported for all analyses and/or batches. The matrix spike sample source for each analytical batch in this sample set has been indicated below.

Method	Analytes	Batch	MS Sample Source
200.7	Total Metals	A99201	Not Prepared
200.8	Total Metals	76972	Not Prepared
200.8	Total Metals	77031	Not Prepared
200.8	Total Metals	77032	Not Prepared
200.8	Total Metals	77100	Not Prepared
200.8	Total Metals	77148	Not Prepared
245.1	Total Mercury	76963	Not Prepared
300.0	Chloride	76953	Not Prepared
300.0	Chloride	77012	Not Prepared
300.0	Chloride	77044	Not Prepared
300.0	Chloride	77116	Not Prepared
300.0	Chloride	R99082	Not Prepared
504.1	EDB	76925	DUP-0815-5
504.1	EDB	76927	SB-24(0.5-1)
504.1	EDB	76928	SB-01(0.5-1)
504.1	EDB	77041	Not Prepared
6010B	Metals	76972	SB-24(25-27)
6010B	Metals	77031	SB-19(10-11)
6010B	Metals	77032	SB-15(0.5-1)
6010B	Metals	77148	DUP-0815-3
6020A	Metals	77032	SB-15(0.5-1)
Method	Analytes	Batch	MS Sample Source

VALIDATION CRITERIA CHECKLIST				
	6020A	Metals	76972	SB-24(25-27)
	6020A	Metals	77031	SB-19(0.5-1)
	6020A	Metals	77148	SB-24(0.5-1)
	7471	Mercury	77142	SB-18(18-19)
	7471	Mercury	77143	SB-01(0.5-1)
	7471	Mercury	77144	DUP-0815-5
	8015D	TPH DRO and MRO	76950	SB-24(0.5-1)
	8015D	TPH DRO and MRO	76951	Not Prepared
	8015D	TPH DRO and MRO	76954	Not Prepared
	8015D	TPH DRO and MRO	76983	DUP-0815-5
	8015D	TPH GRO	77000	Not Prepared
	8015D	TPH GRO	GS99112	SB-24(25-27)
	8015D	TPH GRO	GS99130	SB-01(0.5-1)
	8015D	TPH GRO	R99197	Not Prepared
	8260B	VOCs	R99117	SB-24(0.5-1), SB-19(13-14)
	8260B	VOCs	R99109	Not Prepared
	8260B	VOCs	B99117	Not Prepared
	8260B	VOCs	R99144	SB-06(17-18)
	8270C	SVOCs	76962	Not Prepared
	8270C	SVOCs	76988	Not Prepared
	8270C	SVOCs	77003	Not Prepared
	8270C	SVOCs	77079	DUP-0815-2

Not Prepared – Matrix spikes were not prepared/reported for this batch.

VALIDATION CRITERIA CHECKLIST

14. For MS/MSDs prepared from project samples, were percent recoveries and RPDs within data validation or laboratory quality control (QC) limits? No

Comments: The percent recoveries and RPDs for MS/MSDs prepared from project samples were within data validation and laboratory QC limits or were not applicable because the unspiked amount was more than four times the spike added, with the following exceptions.

Method	Analyte	Batch	MS Recovery	MSD Recovery	MS/MSD QC Limits
6020A	**Lead**	**76972**	**Acceptable**	**145%**	**75-125%**
6020A	**Nickel**	**76972**	**128%**	**163%**	**75-125%**
6020A	**Antimony**	**77031**	**35.5%**	**37.6%**	**75-125%**
6020A	**Lead**	**77031**	**167%**	**145%**	**75-125%**
6020A	**Nickel**	**77031**	**-48.7%**	**-4.74%**	**75-125%**
6010B	**Vanadium**	**76972**	**147%**	**136%**	**75-125%**
6010B	**Zinc**	**76972**	**141%**	**152%**	**75-125%**
6010B	**Chromium**	**77032**	**48.8%**	**45.4%**	**75-125%**
6010B	**Zinc**	**77032**	**22.2%**	**Acceptable**	**75-125%**
6010B	**Zinc**	**77148**	**Acceptable**	**69.3%**	**75-125%**

Analytes with MS and/or MSD recoveries greater than the QC limits were detected in associated samples, and the results were qualified as J+ due to potential high bias.

Analytes with MS and/or MSD recoveries less than the QC limits were detected in associated samples, and the results were qualified as J- due to potential low bias.

15. Was the total number of LCSs analyzed equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of LCS samples analyzed was equal to at least 5% of the total number of samples.

VALIDATION CRITERIA CHECKLIST

16. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within data validation or laboratory QC limits? No

Comments: The LCS and LCSD percent recoveries and LCS/LCSD RPDs were within data validation and laboratory QC limits, with the following exceptions.

Method	Analyte	Batch	LCS Recovery	LCSD Recovery	LCS/LCSD QC Limits
200.7	Barium	A99201	148%	-----	70-130%
8011	EDB	76927	131%	-----	70-130%
8011	EDB	76927	133%	-----	70-130%
8011	EDB	76298	Acceptable	139%	70-130%
8011	EDB	76298	Acceptable	133%	70-130%
8011	**EDB**	**76925**	**61.5%**	**-----**	**70-130%**
6020A	**Nickel**	**76972**	**134%**	**-----**	**70-130%**
6020A	**Lead**	**77032**	**137%**	**-----**	**70-130%**
6020A	**Selenium**	**77032**	**58.6%**	**-----**	**70-130%**
6020A	**Nickel**	**77148**	**271%**	**-----**	**70-130%**
6020A	**Nickel**	**77148**	**260%**	**-----**	**70-130%**
6010B	**Manganese**	**76972**	**138%**	**-----**	**70-130%**
6010B	**Iron**	**77032**	**194%**	**-----**	**70-130%**
6010B	**Zinc**	**77032**	**420%**	**-----**	**70-130%**
6010B	**Iron**	**77031**	**211%**	**-----**	**70-130%**
6010B	**Manganese**	**77031**	**136%**	**-----**	**70-130%**
6010B	**Zinc**	**77031**	**187%**	**-----**	**70-130%**

Analytes with LCS and/or LCSD recoveries greater than the laboratory or data validation QC limits were detected in associated samples and the results were qualified as J+ due to potential high bias. Non-detections of these analytes in the associated samples did not require qualification.

EDB was not detected in batch 76925, and the result was assigned a UJ qualifier. Selenium was detected in batch 77032, and the results were qualified as J- due to evidence of potential low bias.

VALIDATION CRITERIA CHECKLIST

17. Were surrogate recoveries within laboratory QC limits? No

Comments: Surrogate recoveries were within QC limits, with the following exceptions.

The Method 8015D surrogate BFB was recovered in samples SB-06(11.5-12.5), SB-06(10-15), and SB-07(5-10) greater than the acceptance limits of 15-244% at 392%, 430%, and 279%, respectively. The target analyte GRO associated with this surrogate that was detected in samples SB-06(11.5-12.5), SB-06(10-15), and SB-07(5-10) were assigned J+ qualifiers due to evidence of potential high bias.

Since Method 8270C surrogate associations were not available from the laboratory, qualification was assigned to all the target analytes in a given fraction (acid or base/neutral) when two or more surrogates from the same fraction (acid or base/neutral) were outside the acceptance range. This condition did not exist for the samples SB-06(10-15) and EB-0815, and qualification of sample data was not required.

The SVOC results for multiple samples were not qualified based on the surrogate non-conformances in the Method 8270C analyses since the applied dilutions of 10 times resulted in surrogate concentrations below routinely calibrated levels, and those results were deemed unreliable and possibly inaccurate.

The DRO and MRO results for sample SB-01(0.5-1), SB-06(11.5-12.5), and SB-06(10-15) were not qualified based on the surrogate non-conformance in the Method 8015D analysis since the applied dilutions of 10 times resulted in a surrogate concentrations below routinely calibrated levels, and the results were deemed unreliable and possibly inaccurate.

Qualification of sample data was not required based on surrogate non-conformances in QC samples as the environmental samples were evaluated based on their specific surrogate recoveries.

18. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit? Yes

Comments: The number of trip, field, and equipment blanks collected was not equal to at least 10% of the number of samples. One trip blank sample, MeOH Blank, and one equipment blank sample, EB-0815, were collected as part of this sample set.

19. Were target analytes reported as not detected in the trip blank, field blank, and/or equipment blank samples? No

Comments: Target analytes were not detected in the trip blank and equipment blank samples, with the following exceptions.

Blank Sample ID	Method	Analyte	Concentration (µg/L)
EB-0815	8260B	2-Methylnaphthalene	1.3
EB-0815	8260B	Acetone	4.3

Non-detections of the identified analytes in the associated samples and detections that were above the reporting limit and greater than ten times the blank concentration did not require qualification.

The 2-methylnaphthalene result for the equipment blank sample in batch R99109 was previously qualified as U (evaluated to be undetected at the reported concentration). Therefore, additional qualification due to the equipment blank contamination was not required.

20. Was the number of field duplicates collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit? Yes

Comments: The number of field duplicates collected was equal to at least 10% of the number of samples.

- Sample DUP-0815-1 was collected as a field duplicate of sample SB-22 (16-17).
- Sample DUP-0815-2 was collected as a field duplicate of sample SB-18 (10-11).
- Sample DUP-0815-3 was collected as a field duplicate of sample SB-01 (18.5-19.5).
- Sample DUP-0815-4 was collected as a field duplicate of sample SB-07 (17-18).

VALIDATION CRITERIA CHECKLIST	
21. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)?	No

Comments: As indicated in the Field Duplicate Summary Tables at the end of this report, field duplicate RPD values were within data validation QC limits of 0-50% for soil samples, with the following exceptions.

Duplicate pair SB-22(16-17) / DUP-0815-1: **The RPD values for multiple analytes exceeded the data validation limit of 50%. These analyte results were qualified as J for samples SB-22 (16-17) and DUP-0815-1 due to evidence of poor precision.**

Duplicate pair SB-18(10-11) / DUP-0815-2: **The RPD value for vanadium exceeded the data validation limit of 50%. The analyte results were qualified as J for samples SB-18 (10-11) and DUP-0815-2 due to evidence of poor precision.**

Duplicate pair SB-01(18.5-19.5) / DUP-0815-3: **The RPD value for manganese exceeded the data validation limit of 50% at 88.0%. The manganese results for samples SB-01 (18.5-19.5) and DUP-0815-3 were assigned J qualifiers due to evidence of poor precision.**

Duplicate pair SB-07(18-18) / DUP-0815-4: **The RPD values for multiple analytes exceeded the data validation limit of 50%, which was evidence of poor precision. These analyte results were qualified as J for samples SB-07 (17-18) and DUP-0815-4.**

RPD values exceeding 100% would routinely result in qualification of data in associated samples in addition to the parent and duplicate. However, since multiple field duplicate samples were collected for this data set, assignment of associations was considered arbitrary and inappropriate. Therefore, qualification of results was limited to the parent and duplicate samples in this case.

22. For laboratory duplicates prepared from project samples, were RPDs within data validation or laboratory QC limits?	N/A

Comments: Laboratory duplicate samples were not prepared for this sample set.

23. Were the following data relationships realistic?

• Target analytes were reported by more than one method (e.g., 8260/8270, EPH/8270)?	Yes

Comments: The target analyte EDB was reported by both Method 8011/ Method 504.1 and Method 8260B. This analyte was reported as not detected by all methods.

Target analytes 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1-methylnaphthalene, 2-methylnaphthalene, hexachlorobutadiene, and naphthalene were reported by both Method 8260B and Method 8270C.

The EPA has not provided guidance or requirements for the evaluation, validation, and qualification of the comparability of analyte results obtained by more than one method. Therefore, qualification of results was not performed based on these data.

• Both total and dissolved metals analyses were performed, and the total metals results were greater than or equal to the dissolved metals results?	N/A

Comments: Dissolved metals analyses were not performed for this data set.

FIELD DUPLICATE SUMMARY

Client Sample ID: SB-22 (16-17) Field Duplicate Sample ID: DUP-0815-1				
Analyte	**Method**	**Laboratory Result (mg/kg)**	**Duplicate Result (mg/kg)**	**Relative Percent Difference (RPD)**
Arsenic	E200.8	0.60	2.1	111.1% +/-RL
Lead	E200.8	12	9.7	21.2%
Nickel	**E200.8**	**15**	**8.8**	**52.1%**
Selenium	E200.8	2.0	1.6	22.2% +/-RL
Chloride	E300	ND (60)	65	DL
Beryllium	SW6010B	1.2	0.65	59.5% +/-RL
Chromium	SW6010B	10	6.5	42.4%
Cobalt	**SW6010B**	**6.8**	**3.4**	**66.7%**
Vanadium	SW6010B	18	23	24.4%
Zinc	SW6010B	23	16	35.9%
Barium	**SW6010B**	**93**	**1,100**	**168.8%**
Manganese	**SW6010B**	**240**	**920**	**117.2%**
Iron	SW6010B	14,000	11,000	24%
Mercury	SW7471	ND (0.074)	0.090	DL
Diesel Range Organics (DRO)	SW8015	ND (9.6)	14	DL
Motor Oil Range Organics (MRO)	SW8015	ND (48)	59	DL
1,2,4-Trimethylbenzene	SW8260B	ND (0.073)	0.028	DL
1,3,5-Trimethylbenzene	SW8260B	ND (0.073)	0.0084	DL
1-Methylnaphthalene	SW8260B	ND (0.029)	0.014	DL
n-Propylbenzene	SW8260B	ND (0.073)	0.0079	DL

Field duplicate RPD control limits are not to exceed 50% for soil as established by USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020.

DL – Indicates that the analyte was detected in one of the duplicate samples and was undetected in the other sample, and therefore an RPD could not be calculated. Data were not qualified since the detection was within five times the reporting limit. Non-detected results are indicated above with the applicable reporting limit as ND (RL).

+/-RL – Indicates that the detections in one or both of the samples were within five times the reporting limit. The differences between the results were within data validation limits.

The RPD values for multiple analytes exceeded the data validation limit of 50%, which was evidence of poor precision. These analyte results were qualified as J for samples SB-22 (16-17) and DUP-0815-1.

RPD values exceeding 100% would routinely result in qualification of data in associated samples in addition to the parent and duplicate. However, since multiple field duplicate samples were collected for this data set, assignment of associations was considered arbitrary and inappropriate. Therefore, qualification of results was limited to the parent and duplicate samples in this case.

Client Sample ID: SB-18 (10-11) Field Duplicate Sample ID: DUP-0815-2				
Analyte	**Method**	**Laboratory Result (mg/kg)**	**Duplicate Result (mg/kg)**	**Relative Percent Difference (RPD)**
Arsenic	E200.8	0.67	0.86	24.8% +/-RL
Lead	E200.8	7.6	10	27.3%
Nickel	E200.8	14	15	6.9%
Selenium	E200.8	2.3	2.5	8.3% +/-RL
Barium	SW6010B	700	450	43.5%
Beryllium	SW6010B	0.92	1.1	17.8%
Chromium	SW6010B	9.0	13	36.4%
Cobalt	SW6010B	4.5	6.1	30.2%
Vanadium	**SW6010B**	**11**	**31**	**95.2%**
Zinc	SW6010B	14	17	19.4%
Manganese	SW6010B	1,400	940	39.3%
Iron	SW6010B	9.900	15,000	41.0%

Field duplicate RPD control limits are not to exceed 50% for soil as established by USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020.

+/-RL – Indicates that the detections in one or both of the samples were within five times the reporting limit. The differences between the results were within data validation limits.

The RPD value for vanadium exceeded the data validation limit of 50%, which was evidence of poor precision. The analyte results were qualified as J for samples SB-18 (10-11) and DUP-0815-2.

Client Sample ID: SB-01 (18.5-19.5) Field Duplicate Sample ID: DUP-0815-3				
Analyte	**Method**	**Laboratory Result (mg/kg)**	**Duplicate Result (mg/kg)**	**Relative Percent Difference (RPD)**
Arsenic	E200.8	2.9	4.4	41.1%
Lead	E200.8	14	19	30.3%
Nickel	E200.8	11	11	0.0%
Selenium	E200.8	1.6	3.5	74.5% +/-RL
Beryllium	SW6010B	1.3	0.66	65.3% +/-RL
Chromium	SW6010B	5.4	6.4	16.9%
Vanadium	SW6010B	15	13	14.3%
Zinc	SW6010B	26	19	31.1%
Barium	SW6010B	310	340	9.2%
Cobalt	SW6010B	7.5	8.5	12.5%
Manganese	**SW6010B**	**700**	**1,800**	**88.0%**
Iron	SW6010B	12,000	10,000	18.2%
Gasoline Range Organics (GRO)	SW8015	3.0	ND (6.6)	DL

Analyte	Method	Laboratory Result (mg/kg)	Duplicate Result (mg/kg)	Relative Percent Difference (RPD)
Diesel Range Organics (DRO)	SW8015	280	430	42.3%
Motor Oil Range Organics (MRO)	SW8015	30	ND (48)	DL
1,2,4-Trimethylbenzene	SW8260B	ND (0.29)	0.25	DL
1-Methylnaphthalene	SW8260B	ND (1.2)	0.32	DL
4-Isopropyltoluene	SW8260B	ND (0.29)	0.11	DL
n-Butylbenzene	SW8260B	ND (0.29)	0.24	DL
n-Propylbenzene	SW8260B	ND (0.29)	0.16	DL
sec-Butylbenzene	SW8260B	ND (0.29)	0.38	DL

Field duplicate RPD control limits are not to exceed 50% for soil as established by USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020.

DL – Indicates that the analyte was detected in one of the duplicate samples and was undetected in the other sample, and therefore an RPD could not be calculated. Data were not qualified since the detection was within five times the reporting limit. Non-detected results are indicated above with the applicable reporting limit as ND (RL).

+/-RL – Indicates that the detections in one or both of the samples were within five times the reporting limit. The differences between the results were within data validation limits.

The RPD values for beryllium and manganese exceeded the data validation limit of 50% at 65.3% and 88.0%, respectively, which was evidence of poor precision. These analyte results were qualified as J for samples SB-01 (18.5-19.5) and DUP-0815-3.

Client Sample ID: SB-07 (17-18) Field Duplicate Sample ID: DUP-0815-4				
Analyte	**Method**	**Laboratory Result (mg/kg)**	**Duplicate Result (mg/kg)**	**Relative Percent Difference (RPD)**
Arsenic	E200.8	0.55	1.4	87.2% +/-RL
Lead	**E200.8**	**6.0**	**12**	**66.7%**
Nickel	E200.8	11	15	30.8%
Selenium	E200.8	1.5	2.6	53.7% +/-RL
Chloride	E300.0	120	ND (60)	DL
Beryllium	SW6010B	0.86	0.88	2.3% +/-RL
Chromium	SW6010B	8.1	11	30.4%
Cobalt	SW6010B	6.9	5.5	22.6%
Vanadium	**SW6010B**	**8.7**	**45**	**135.2%**
Zinc	SW6010B	26	16	47.6%
Barium	**SW6010B**	**140**	**680**	**131.7%**
Manganese	**SW6010B**	**370**	**1,600**	**124.9%**
Iron	**SW6010B**	**8,600**	**17,000**	**65.6%**

Field duplicate RPD control limits are not to exceed 50% for soil as established by USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020.

DL – Indicates that the analyte was detected in one of the duplicate samples and was undetected in the other sample, and therefore an RPD could not be calculated. Data were not qualified since the detection was within five times the reporting limit. Non-detected results are indicated above with the applicable reporting limit as ND (RL).

+/-RL – Indicates that the detections in one or both of the samples were within five times the reporting limit. The differences between the results were within data validation limits.

The RPD values for multiple analytes exceeded the data validation limit of 50%, which was evidence of poor precision. These analyte results were qualified as J for samples SB-07 (17-18) and DUP-0815-4.

RPD values exceeding 100% would routinely result in qualification of data in associated samples in addition to the parent and duplicate. However, since multiple field duplicate samples were collected for this data set, assignment of associations was considered arbitrary and inappropriate. Therefore, qualification of results was limited to the parent and duplicate samples in this case.

DATA QUALIFICATION SUMMARY

Abbreviation	Reason
ERPD-FD	High field duplicate RPD.
HR-LCS	The LCS and/or LCSD percent recovery was greater than the upper acceptable limit indicating a possible high bias.
HR-MS	The MS and/or MSD percent recovery was greater than the upper acceptable limit indicating possible matrix interference.
HR-SUR	The surrogate percent recovery was greater than the upper acceptable limit indicating a possible high bias.
LR-LCS	The LCS and/or LCSD percent recovery was less than the lower acceptable limit indicating a possible low bias.
LR-MS	The MS and/or MSD percent recovery was less than the lower acceptable limit indicating possible matrix interference.
MBD	Method blank detection
MDLRL	Flagged by the laboratory: The result was greater than the MDL but less than the RL.

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
1,2,4-Trimethylbenzene	8260B	SB-23(4-5)	2308975-005a	0.024	0.053	mg/kg	J	MDLRL
1,2,4-Trimethylbenzene	8260B	SB-20(0.5-1)	2308975-012a	0.040	0.048	mg/kg	J	MDLRL
1,2,4-Trimethylbenzene	8260B	SB-01(15-16)	2308975-022a	0.052	0.058	mg/kg	J	MDLRL
1,2,4-Trimethylbenzene	8260B	SB-07(11-12)	2308975-028a	0.024	0.063	mg/kg	J	MDLRL
1,2,4-Trimethylbenzene	8260B	SB-08(0.5-1)	2308975-030a	0.021	0.057	mg/kg	J	MDLRL
1,2,4-Trimethylbenzene	8260B	SB-12(5-10)	2308975-034a	0.016	0.053	mg/kg	J	MDLRL
1,2,4-Trimethylbenzene	8260B	SB-15(0.5-1)	2308975-035a	0.027	0.059	mg/kg	J	MDLRL
1,2,4-Trimethylbenzene	8260B	DUP-0815-1	2308975-038a	0.028	0.029	mg/kg	J	MDLRL
1,2,4-Trimethylbenzene	8260B	DUP-0815-3	2308975-040a	0.25	0.33	mg/kg	J	MDLRL
1,2-Dibromoethane	504.1	DUP-0815-5	2308975-042A	ND	0.093	µg/kg	UJ	LR-LCS
1,3,5-Trimethylbenzene	8260B	SB-24(0.5-1)	2308975-001a	0.032	0.064	mg/kg	J	MDLRL
1,3,5-Trimethylbenzene	8260B	SB-22(0.5-1)	2308975-006a	0.059	0.063	mg/kg	J	MDLRL
1,3,5-Trimethylbenzene	8260B	SB-20(0.5-1)	2308975-012a	0.012	0.048	mg/kg	J	MDLRL
1,3,5-Trimethylbenzene	8260B	SB-01(0.5-1)	2308975-021a	0.52	0.52	mg/kg	J	MDLRL

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
1,3,5-Trimethylbenzene	8260B	DUP-0815-1	2308975-038a	0.0084	0.029	mg/kg	J	MDLRL
1-Methylnaphthalene	8260B	SB-24(0.5-1)	2308975-001a	0.11	0.25	mg/kg	J	MDLRL
1-Methylnaphthalene	8260B	SB-22(0.5-1)	2308975-006a	0.036	0.25	mg/kg	J	MDLRL
1-Methylnaphthalene	8260B	SB-06(17-18)	2308975-026a	0.075	0.30	mg/kg	J	MDLRL
1-Methylnaphthalene	8260B	SB-07(11-12)	2308975-028a	0.18	0.25	mg/kg	J	MDLRL
1-Methylnaphthalene	8260B	SB-15(0.5-1)	2308975-035a	0.064	0.24	mg/kg	J	MDLRL
1-Methylnaphthalene	8260B	DUP-0815-1	2308975-038a	0.014	0.12	mg/kg	J	MDLRL
1-Methylnaphthalene	8260B	DUP-0815-3	2308975-040a	0.32	1.3	mg/kg	J	MDLRL
2-Methylnaphthalene	8260B	SB-24(0.5-1)	2308975-001a	0.15	0.25	mg/kg	J	MDLRL
2-Methylnaphthalene	8260B	SB-06(17-18)	2308975-026a	0.11	0.3	mg/kg	J	MDLRL
2-Methylnaphthalene	8270C	SB-07(5-10)	2308975-027a	1.8	2.5	mg/kg	J	MDLRL
2-Methylnaphthalene	8260B	SB-12(5-10)	2308975-034a	0.056	0.21	mg/kg	J	MDLRL
2-Methylnaphthalene	8260B	SB-15(0.5-1)	2308975-035a	0.089	0.24	mg/kg	J	MDLRL
2-Methylnaphthalene	8260B	EB-0815	2308975-043a	1.3	4.0	µg/L	U	MBD, MDLRL
Acetone	8260B	EB-0815	2308975-043a	4.3	10	µg/L	J	MDLRL
Antimony, Total	6020A	SB-19(10-11)	2308975-016A	ND	0.50	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-19(13-14)	2308975-017A	ND	0.52	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-18(0.5-1)	2308975-018A	ND	0.51	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-18(10-11)	2308975-019A	ND	0.48	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-18(18-19)	2308975-020A	ND	0.51	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-01(0.5-1)	2308975-021A	ND	0.52	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-01(15-16)	2308975-022A	ND	0.49	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-01(18.5-19.5)	2308975-023A	ND	0.51	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-06(11.5-12.5)	2308975-024A	ND	0.5	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-06(10-15)	2308975-025A	ND	0.51	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-06(17-18)	2308975-026A	ND	0.52	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-07(5-10)	2308975-027A	ND	0.49	mg/kg	UJ	LR-MS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Antimony, Total	6020A	SB-07(11-12)	2308975-028A	ND	0.98	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-07(17-18)	2308975-029A	ND	0.48	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-08(0.5-1)	2308975-030A	ND	0.52	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-08(5-10)	2308975-031A	ND	0.99	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-08(13-14)	2308975-032A	ND	1.0	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-12(0.5-1)	2308975-033A	ND	1.0	mg/kg	UJ	LR-MS
Antimony, Total	6020A	SB-12(5-10)	2308975-034A	ND	0.50	mg/kg	UJ	LR-MS
Arsenic, Total	6020A	DUP-0815-2	2308975-039A	0.86	0.98	mg/kg	J	MDLRL
Arsenic, Total	6020A	DUP-0815-5	2308975-042A	0.88	0.97	mg/kg	J	MDLRL
Barium, Total	6010B	SB-22(16-17)	2308975-007A	93	0.20	mg/kg	J	ERPD-FD
Barium, Total	6010B	SB-07(17-18)	2308975-029A	140	0.19	mg/kg	J	ERPD-FD
Barium, Total	6010B	DUP-0815-1	2308975-038A	1,100	0.52	mg/kg	J	ERPD-FD
Barium, Total	6010B	DUP-0815-4	2308975-041A	680	0.48	mg/kg	J	ERPD-FD
Chromium, Total	6010B	SB-15(0.5-1)	2308975-035A	25	0.41	mg/kg	J-	LR-MS
Chromium, Total	6010B	SB-15(18-19)	2308975-036A	12	0.39	mg/kg	J-	LR-MS
Chromium, Total	6010B	DUP-0815-1	2308975-038A	6.5	0.42	mg/kg	J-	LR-MS
Cobalt, Total	6010B	SB-22(16-17)	2308975-007A	6.8	0.20	mg/kg	J	ERPD-FD
Cobalt, Total	6010B	DUP-0815-1	2308975-038A	3.4	0.21	mg/kg	J	ERPD-FD
Ethylbenzene	8260B	SB-24(0.5-1)	2308975-001a	0.032	0.064	mg/kg	J	MDLRL
Ethylbenzene	8260B	SB-23(4-5)	2308975-005a	0.011	0.053	mg/kg	J	MDLRL
Ethylbenzene	8260B	SB-22(0.5-1)	2308975-006a	0.048	0.063	mg/kg	J	MDLRL
Ethylbenzene	8260B	SB-20(0.5-1)	2308975-012a	0.012	0.048	mg/kg	J	MDLRL
Ethylbenzene	8260B	SB-01(0.5-1)	2308975-021a	0.48	0.52	mg/kg	J	MDLRL
Ethylbenzene	8260B	SB-07(5-10)	2308975-027a	0.022	0.035	mg/kg	J	MDLRL
Iron, Total	6010B	SB-15(0.5-1)	2308975-035A	15,000	210	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-15(18-19)	2308975-036A	20,000	200	mg/kg	J+	HR-LCS
Iron, Total	6010B	DUP-0815-1	2308975-038A	11,000	210	mg/kg	J+	HR-LCS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Iron, Total	6010B	DUP-0815-4	2308975-041A	17,000	190	mg/kg	J	ERPD-FD
Iron, Total	6010B	SB-19(0.5-1)	2308975-015A	11,000	200	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-19(10-11)	2308975-016A	11,000	200	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-19(13-14)	2308975-017A	11,000	210	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-18(0.5-1)	2308975-018A	7,600	200	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-18(10-11)	2308975-019A	9,900	190	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-18(18-19)	2308975-020A	16,000	200	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-01(0.5-1)	2308975-021A	6,600	210	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-01(15-16)	2308975-022A	6,900	200	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-01(18.5-19.5)	2308975-023A	12,000	200	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-06(11.5-12.5)	2308975-024A	13,000	200	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-06(10-15)	2308975-025A	11,000	200	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-06(17-18)	2308975-026A	13,000	210	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-07(5-10)	2308975-027A	6,900	190	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-07(11-12)	2308975-028A	6,500	200	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-07(17-18)	2308975-029A	8,600	190	mg/kg	J+	ERPD-FD, HR-LCS
Iron, Total	6010B	SB-08(0.5-1)	2308975-030A	10,000	210	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-08(5-10)	2308975-031A	7,200	200	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-08(13-14)	2308975-032A	8,300	200	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-12(0.5-1)	2308975-033A	12,000	200	mg/kg	J+	HR-LCS
Iron, Total	6010B	SB-12(5-10)	2308975-034A	13,000	200	mg/kg	J+	HR-LCS
Isopropylbenzene	8260B	SB-24(0.5-1)	2308975-001a	0.018	0.064	mg/kg	J	MDLRL
Isopropylbenzene	8260B	SB-22(0.5-1)	2308975-006a	0.028	0.063	mg/kg	J	MDLRL
Lead, Total	6020A	SB-24(0.5-1)	2308975-001A	6.9	0.51	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-24(25-27)	2308975-002A	15	0.50	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-24(19.5-20.5)	2308975-003A	9.0	0.48	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-23(0.5-1)	2308975-004A	4.5	0.52	mg/kg	J+	HR-MS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Lead, Total	6020A	SB-23(4-5)	2308975-005A	48	0.96	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-22(0.5-1)	2308975-006A	22	0.49	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-22(16-17)	2308975-007A	12	0.49	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-22(20-24)	2308975-008A	8.5	0.50	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-22(23-24)	2308975-009A	8.2	0.48	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-21(5-6)	2308975-010A	24	0.50	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-21(8.5-9.5)	2308975-011A	9.5	0.97	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-20(0.5-1)	2308975-012A	13	0.52	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-20(10-11)	2308975-013A	11	0.49	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-20(20-21)	2308975-014A	8.9	0.51	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-19(0.5-1)	2308975-015A	14	0.50	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-19(10-11)	2308975-016A	9.1	0.50	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-19(13-14)	2308975-017A	11	0.52	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-18(0.5-1)	2308975-018A	9.2	0.51	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-18(10-11)	2308975-019A	7.6	0.48	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-18(18-19)	2308975-020A	9.2	0.51	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-01(0.5-1)	2308975-021A	8.9	0.52	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-01(15-16)	2308975-022A	8.4	0.49	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-01(18.5-19.5)	2308975-023A	14	0.51	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-06(11.5-12.5)	2308975-024A	10	0.5	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-06(10-15)	2308975-025A	7.6	0.51	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-06(17-18)	2308975-026A	12	0.52	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-07(5-10)	2308975-027A	6.9	0.49	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-07(11-12)	2308975-028A	11	0.98	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-07(17-18)	2308975-029A	6.0	0.48	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-08(0.5-1)	2308975-030A	18	0.52	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-08(5-10)	2308975-031A	7.0	0.99	mg/kg	J+	HR-MS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Lead, Total	6020A	SB-08(13-14)	2308975-032A	6.6	1.0	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-12(0.5-1)	2308975-033A	14	1.0	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-12(5-10)	2308975-034A	10	0.50	mg/kg	J+	HR-MS
Lead, Total	6020A	SB-15(0.5-1)	2308975-035A	13	0.52	mg/kg	J+	HR-LCS
Lead, Total	6020A	SB-15(18-19)	2308975-036A	12	0.98	mg/kg	J+	HR-LCS
Lead, Total	6020A	DUP-0815-1	2308975-038A	9.7	1.0	mg/kg	J+	HR-LCS
Lead, Total	6020A	DUP-0815-4	2308975-041A	12	0.97	mg/kg	J	ERPD-FD
Manganese, Total	6010B	SB-24(0.5-1)	2308975-001A	340	0.20	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-24(25-27)	2308975-002A	200	0.20	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-24(19.5-20.5)	2308975-003A	1,100	0.48	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-23(0.5-1)	2308975-004A	430	0.21	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-23(4-5)	2308975-005A	360	0.19	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-22(0.5-1)	2308975-006A	310	0.20	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-22(16-17)	2308975-007A	240	0.20	mg/kg	J+	ERPD-FD, HR-LCS
Manganese, Total	6010B	SB-22(20-24)	2308975-008A	270	0.20	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-22(23-24)	2308975-009A	670	0.48	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-21(5-6)	2308975-010A	960	0.50	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-21(8.5-9.5)	2308975-011A	3,900	1.9	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-20(0.5-1)	2308975-012A	690	0.52	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-20(10-11)	2308975-013A	660	0.49	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-20(20-21)	2308975-014A	830	0.51	mg/kg	J+	HR-LCS
Manganese, Total	6010B	DUP-0815-1	2308975-038A	920	0.52	mg/kg	J	ERPD-FD
Manganese, Total	6010B	DUP-0815-3	2308975-040A	1,800	1.0	mg/kg	J	ERPD-FD
Manganese, Total	6010B	DUP-0815-4	2308975-041A	1,600	0.97	mg/kg	J	ERPD-FD
Manganese, Total	6010B	SB-19(0.5-1)	2308975-015A	430	0.20	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-19(10-11)	2308975-016A	670	0.50	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-19(13-14)	2308975-017A	1,700	1.0	mg/kg	J+	HR-LCS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Manganese, Total	6010B	SB-18(0.5-1)	2308975-018A	440	0.20	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-18(10-11)	2308975-019A	1,400	0.96	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-18(18-19)	2308975-020A	670	0.51	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-01(0.5-1)	2308975-021A	2,600	1.0	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-01(15-16)	2308975-022A	700	0.49	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-01(18.5-19.5)	2308975-023A	700	0.51	mg/kg	J+	ERPD-FD, HR-LCS
Manganese, Total	6010B	SB-06(11.5-12.5)	2308975-024A	400	0.20	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-06(10-15)	2308975-025A	470	0.20	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-06(17-18)	2308975-026A	200	0.21	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-07(5-10)	2308975-027A	1,100	0.49	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-07(11-12)	2308975-028A	2,300	0.98	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-07(17-18)	2308975-029A	370	0.19	mg/kg	J+	ERPD-FD, HR-LCS
Manganese, Total	6010B	SB-08(0.5-1)	2308975-030A	500	0.21	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-08(5-10)	2308975-031A	1,500	0.99	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-08(13-14)	2308975-032A	1,400	1.0	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-12(0.5-1)	2308975-033A	570	0.51	mg/kg	J+	HR-LCS
Manganese, Total	6010B	SB-12(5-10)	2308975-034A	280	0.20	mg/kg	J+	HR-LCS
Naphthalene	8260B	SB-24(0.5-1)	2308975-001a	0.044	0.13	mg/kg	J	MDLRL
Naphthalene	8260B	SB-22(0.5-1)	2308975-006a	0.048	0.13	mg/kg	J	MDLRL
Naphthalene	8270C	SB-06(11.5-12.5)	2308975-024a	2.3	2.5	mg/kg	J	MDLRL
Naphthalene	8260B	SB-15(0.5-1)	2308975-035a	0.026	0.12	mg/kg	J	MDLRL
n-Butylbenzene	8260B	SB-24(0.5-1)	2308975-001a	0.040	0.19	mg/kg	J	MDLRL
n-Butylbenzene	8260B	SB-22(0.5-1)	2308975-006a	0.058	0.19	mg/kg	J	MDLRL
n-Butylbenzene	8260B	SB-01(15-16)	2308975-022a	0.082	0.18	mg/kg	J	MDLRL
n-Butylbenzene	8260B	SB-07(11-12)	2308975-028a	0.021	0.19	mg/kg	J	MDLRL
n-Butylbenzene	8260B	DUP-0815-3	2308975-040a	0.24	0.99	mg/kg	J	MDLRL
Nickel, Total	6020A	SB-24(0.5-1)	2308975-001A	7.1	0.51	mg/kg	J+	HR-MS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Nickel, Total	6020A	SB-24(25-27)	2308975-002A	23	0.50	mg/kg	J+	HR-MS
Nickel, Total	6020A	SB-24(19.5-20.5)	2308975-003A	7.9	0.48	mg/kg	J+	HR-MS
Nickel, Total	6020A	SB-23(0.5-1)	2308975-004A	7.6	0.52	mg/kg	J+	HR-MS
Nickel, Total	6020A	SB-23(4-5)	2308975-005A	25	0.96	mg/kg	J+	HR-MS
Nickel, Total	6020A	SB-22(0.5-1)	2308975-006A	24	0.49	mg/kg	J+	HR-MS
Nickel, Total	6020A	SB-22(16-17)	2308975-007A	15	0.49	mg/kg	J+	HR-MS
Nickel, Total	6020A	SB-22(20-24)	2308975-008A	6.0	0.50	mg/kg	J+	HR-MS
Nickel, Total	6020A	SB-22(23-24)	2308975-009A	12	0.48	mg/kg	J+	HR-MS
Nickel, Total	6020A	SB-21(5-6)	2308975-010A	9.7	0.50	mg/kg	J+	HR-MS
Nickel, Total	6020A	SB-21(8.5-9.5)	2308975-011A	4.9	0.48	mg/kg	J+	HR-MS
Nickel, Total	6020A	SB-20(0.5-1)	2308975-012A	11	0.52	mg/kg	J+	HR-MS
Nickel, Total	6020A	SB-20(10-11)	2308975-013A	13	0.49	mg/kg	J+	HR-MS
Nickel, Total	6020A	SB-20(20-21)	2308975-014A	13	0.51	mg/kg	J+	HR-MS
Nickel, Total	6020A	SB-19(0.5-1)	2308975-015A	25	0.50	mg/kg	J-	LR-MS
Nickel, Total	6020A	SB-19(10-11)	2308975-016A	9.1	0.50.	mg/kg	J-	LR-MS
Nickel, Total	6020A	SB-19(13-14)	2308975-017A	11	0.52	mg/kg	J-	LR-MS
Nickel, Total	6020A	SB-18(0.5-1)	2308975-018A	8.6	0.51	mg/kg	J-	LR-MS
Nickel, Total	6020A	SB-18(10-11)	2308975-019A	14	0.48	mg/kg	J-	LR-MS
Nickel, Total	6020A	SB-18(18-19)	2308975-020A	12	0.51	mg/kg	J-	LR-MS
Nickel, Total	6020A	SB-01(0.5-1)	2308975-021A	5.2	0.52	mg/kg	J-	LR-MS
Nickel, Total	6020A	SB-01(15-16)	2308975-022A	6.0	0.49	mg/kg	J-	LR-MS
Nickel, Total	6020A	SB-01(18.5-19.5)	2308975-023A	11	0.51	mg/kg	J-	LR-MS
Nickel, Total	6020A	SB-06(11.5-12.5)	2308975-024A	9.4	0.50	mg/kg	J-	LR-MS
Nickel, Total	6020A	SB-06(10-15)	2308975-025A	8.6	0.51	mg/kg	J-	LR-MS
Nickel, Total	6020A	SB-06(17-18)	2308975-026A	15	0.52	mg/kg	J-	LR-MS
Nickel, Total	6020A	SB-07(5-10)	2308975-027A	5.6	0.49	mg/kg	J-	LR-MS
Nickel, Total	6020A	SB-07(11-12)	2308975-028A	7.8	0.98	mg/kg	J-	LR-MS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Nickel, Total	6020A	SB-07(17-18)	2308975-029A	11	0.48	mg/kg	J-	LR-MS
Nickel, Total	6020A	SB-08(0.5-1)	2308975-030A	12	0.52	mg/kg	J-	LR-MS
Nickel, Total	6020A	SB-08(5-10)	2308975-031A	5.4	0.99	mg/kg	J-	LR-MS
Nickel, Total	6020A	SB-08(13-14)	2308975-032A	5.7	1.0	mg/kg	J-	LR-MS
Nickel, Total	6020A	SB-12(0.5-1)	2308975-033A	28	1.0	mg/kg	J-	LR-MS
Nickel, Total	6020A	SB-12(5-10)	2308975-034A	9.2	0.50	mg/kg	J-	LR-MS
Nickel, Total	6020A	DUP-0815-1	2308975-038A	8.8	1.0	mg/kg	J	ERPD-FD
Nickel, Total	6020A	DUP-0815-2	2308975-039A	15	0.98	mg/kg	J+	HR-LCS
Nickel, Total	6020A	DUP-0815-3	2308975-040A	11	1.0	mg/kg	J+	HR-LCS
Nickel, Total	6020A	DUP-0815-4	2308975-041A	15	0.97	mg/kg	J+	HR-LCS
Nickel, Total	6020A	DUP-0815-5	2308975-042A	15	0.97	mg/kg	J+	HR-LCS
n-Propylbenzene	8260B	SB-24(0.5-1)	2308975-001a	0.040	0.064	mg/kg	J	MDLRL
n-Propylbenzene	8260B	SB-22(0.5-1)	2308975-006a	0.056	0.063	mg/kg	J	MDLRL
n-Propylbenzene	8260B	SB-20(0.5-1)	2308975-012a	0.014	0.048	mg/kg	J	MDLRL
n-Propylbenzene	8260B	DUP-0815-1	2308975-038a	0.0079	0.029	mg/kg	J	MDLRL
n-Propylbenzene	8260B	DUP-0815-3	2308975-040a	0.16	0.33	mg/kg	J	MDLRL
Phenanthrene	8270C	SB-01(0.5-1)	2308975-021a	2.0	2.4	mg/kg	J	MDLRL
p-Isopropyltoluene	8260B	SB-24(0.5-1)	2308975-001a	0.017	0.064	mg/kg	J	MDLRL
p-Isopropyltoluene	8260B	SB-22(0.5-1)	2308975-006a	0.031	0.063	mg/kg	J	MDLRL
p-Isopropyltoluene	8260B	SB-20(0.5-1)	2308975-012a	0.0068	0.048	mg/kg	J	MDLRL
p-Isopropyltoluene	8260B	SB-01(15-16)	2308975-022a	0.034	0.058	mg/kg	J	MDLRL
p-Isopropyltoluene	8260B	SB-12(5-10)	2308975-034a	0.017	0.053	mg/kg	J	MDLRL
p-Isopropyltoluene	8260B	DUP-0815-3	2308975-040a	0.11	0.33	mg/kg	J	MDLRL
sec-Butylbenzene	8260B	SB-24(0.5-1)	2308975-001a	0.024	0.064	mg/kg	J	MDLRL
sec-Butylbenzene	8260B	SB-22(0.5-1)	2308975-006a	0.037	0.063	mg/kg	J	MDLRL
sec-Butylbenzene	8260B	SB-12(5-10)	2308975-034a	0.018	0.053	mg/kg	J	MDLRL
Selenium, Total	6020A	SB-15(18-19)	2308975-036A	2.4	0.98	mg/kg	J-	LR-MS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Selenium, Total	6020A	DUP-0815-1	2308975-038A	1.6	1.0	mg/kg	J-	LR-MS
TPH GRO	8015	SB-22(0.5-1)	2308975-006a	1.8	6.3	mg/kg	J	MDLRL
TPH GRO	8015	SB-01(15-16)	2308975-022A	5.4	5.8	mg/kg	J	MDLRL
TPH GRO	8015	SB-01(18.5-19.5)	2308975-023A	3.0	5.8	mg/kg	J	MDLRL
TPH GRO	8015	SB-06(11.5-12.5)	2308975-024A	13	2.4	mg/kg	J+	HR-SUR
TPH GRO	8015	SB-06(10-15)	2308975-025A	130	14	mg/kg	J+	HR-SUR
TPH GRO	8015	SB-06(17-18)	2308975-026A	4.2	7.5	mg/kg	J	MDLRL
TPH GRO	8015	SB-07(5-10)	2308975-027A	12	3.5	mg/kg	J+	HR-SUR
TPH GRO	8015	SB-07(11-12)	2308975-028A	6.1	6.3	mg/kg	J	MDLRL
TPH ORO	8015	SB-23(0.5-1)	2308975-004A	79	99	mg/kg	J	MDLRL
TPH ORO	8015	SB-21(8.5-9.5)	2308975-011A	35	47	mg/kg	J	MDLRL
TPH ORO	8015	SB-20(0.5-1)	2308975-012A	42	49	mg/kg	J	MDLRL
TPH ORO	8015	SB-19(0.5-1)	2308975-015A	80	95	mg/kg	J	MDLRL
TPH ORO	8015	SB-18(0.5-1)	2308975-018A	91	96	mg/kg	J	MDLRL
TPH ORO	8015	SB-01(0.5-1)	2308975-021A	330	500	mg/kg	J	MDLRL
TPH ORO	8015	SB-01(15-16)	2308975-022A	29	46	mg/kg	J	MDLRL
TPH ORO	8015	SB-01(18.5-19.5)	2308975-023A	30	48	mg/kg	J	MDLRL
TPH ORO	8015	SB-06(11.5-12.5)	2308975-024A	310	490	mg/kg	J	MDLRL
TPH ORO	8015	SB-06(10-15)	2308975-025A	300	470	mg/kg	J	MDLRL
TPH ORO	8015	SB-07(5-10)	2308975-027A	62	97	mg/kg	J	MDLRL
TPH ORO	8015	SB-08(0.5-1)	2308975-030A	78	91	mg/kg	J	MDLRL
TPH ORO	8015	SB-12(0.5-1)	2308975-033A	84	100	mg/kg	J	MDLRL
TPH ORO	8015	SB-15(0.5-1)	2308975-035A	83	93	mg/kg	J	MDLRL
Vanadium, Total	6010B	SB-24(0.5-1)	2308975-001A	13	0.20	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-24(25-27)	2308975-002A	30	0.20	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-24(19.5-20.5)	2308975-003A	12	0.19	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-23(0.5-1)	2308975-004A	15	0.21	mg/kg	J+	HR-MS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Vanadium, Total	6010B	SB-23(4-5)	2308975-005A	26	0.19	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-22(0.5-1)	2308975-006A	20	0.20	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-22(16-17)	2308975-007A	18	0.20	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-22(20-24)	2308975-008A	15	0.20	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-22(23-24)	2308975-009A	7.5	0.19	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-21(5-6)	2308975-010A	15	0.20	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-21(8.5-9.5)	2308975-011A	8.8	0.19	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-20(0.5-1)	2308975-012A	17	0.21	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-20(10-11)	2308975-013A	10	0.20	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-20(20-21)	2308975-014A	5.4	0.20	mg/kg	J+	HR-MS
Vanadium, Total	6010B	SB-18(10-11)	2308975-019A	11	0.19	mg/kg	J	ERPD-FD
Vanadium, Total	6010B	SB-07(17-18)	2308975-029A	8.7	0.19	mg/kg	J	ERPD-FD
Vanadium, Total	6010B	DUP-0815-2	2308975-039A	31	0.20	mg/kg	J	ERPD-FD
Vanadium, Total	6010B	DUP-0815-4	2308975-041A	45	0.19	mg/kg	J	ERPD-FD
Xylenes, Total	8260B	SB-24(0.5-1)	2308975-001a	0.037	0.13	mg/kg	J	MDLRL
Xylenes, Total	8260B	SB-22(0.5-1)	2308975-006a	0.055	0.13	mg/kg	J	MDLRL
Xylenes, Total	8260B	SB-01(0.5-1)	2308975-021a	0.21	1.0	mg/kg	J	MDLRL
Xylenes, Total	8260B	SB-06(11.5-12.5)	2308975-024a	0.015	0.048	mg/kg	J	MDLRL
Xylenes, Total	8260B	SB-07(5-10)	2308975-027a	0.035	0.069	mg/kg	J	MDLRL
Zinc, Total	6010B	SB-19(0.5-1)	2308975-015A	66	2.0	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-19(10-11)	2308975-016A	13	2.0	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-19(13-14)	2308975-017A	12	2.1	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-18(0.5-1)	2308975-018A	20	2.0	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-18(10-11)	2308975-019A	14	1.9	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-18(18-19)	2308975-020A	11	2.0	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-01(0.5-1)	2308975-021A	7.5	2.1	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-01(15-16)	2308975-022A	9.7	2.0	mg/kg	J+	HR-LCS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Zinc, Total	6010B	SB-01(18.5-19.5)	2308975-023A	26	2.0	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-06(11.5-12.5)	2308975-024A	12	2.0	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-06(10-15)	2308975-025A	11	2.0	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-06(17-18)	2308975-026A	25	2.1	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-07(5-10)	2308975-027A	10	1.9	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-07(11-12)	2308975-028A	14	2.0	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-07(17-18)	2308975-029A	26	1.9	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-08(0.5-1)	2308975-030A	33	2.1	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-08(5-10)	2308975-031A	8.8	2.0	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-08(13-14)	2308975-032A	10	2.0	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-12(0.5-1)	2308975-033A	42	2.0	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-12(5-10)	2308975-034A	12	2.0	mg/kg	J+	HR-LCS
Zinc, Total	6010B	SB-24(0.5-1)	2308975-001A	25	2.0	mg/kg	J+	HR-MS
Zinc, Total	6010B	SB-24(25-27)	2308975-002A	30	2.0	mg/kg	J+	HR-MS
Zinc, Total	6010B	SB-24(19.5-20.5)	2308975-003A	9.4	1.9	mg/kg	J+	HR-MS
Zinc, Total	6010B	SB-23(0.5-1)	2308975-004A	31	2.1	mg/kg	J+	HR-MS
Zinc, Total	6010B	SB-23(4-5)	2308975-005A	88	1.9	mg/kg	J+	HR-MS
Zinc, Total	6010B	SB-22(0.5-1)	2308975-006A	160	2.0	mg/kg	J+	HR-MS
Zinc, Total	6010B	SB-22(16-17)	2308975-007A	23	2.0	mg/kg	J+	HR-MS
Zinc, Total	6010B	SB-22(20-24)	2308975-008A	8.6	2.0	mg/kg	J+	HR-MS
Zinc, Total	6010B	SB-22(23-24)	2308975-009A	14	1.9	mg/kg	J+	HR-MS
Zinc, Total	6010B	SB-21(5-6)	2308975-010A	18	2.0	mg/kg	J+	HR-MS
Zinc, Total	6010B	SB-21(8.5-9.5)	2308975-011A	5.3	1.9	mg/kg	J+	HR-MS
Zinc, Total	6010B	SB-20(0.5-1)	2308975-012A	38	2.1	mg/kg	J+	HR-MS
Zinc, Total	6010B	SB-20(10-11)	2308975-013A	12	2.0	mg/kg	J+	HR-MS
Zinc, Total	6010B	SB-20(20-21)	2308975-014A	11	2.0	mg/kg	J+	HR-MS
Zinc, Total	6010B	SB-15(0.5-1)	2308975-035A	73	2.1	mg/kg	J-	LR-MS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Zinc, Total	6010B	SB-15(18-19)	2308975-036A	23	2.0	mg/kg	J-	LR-MS
Zinc, Total	6010B	DUP-0815-1	2308975-038A	16	2.1	mg/kg	J-	LR-MS
Zinc, Total	6010B	DUP-0815-2	2308975-039A	17	2.0	mg/kg	J-	LR-MS
Zinc, Total	6010B	DUP-0815-3	2308975-040A	19	2.0	mg/kg	J-	LR-MS
Zinc, Total	6010B	DUP-0815-4	2308975-041A	16	1.9	mg/kg	J-	LR-MS
Zinc, Total	6010B	DUP-0815-5	2308975-042A	15	1.9	mg/kg	J-	LR-MS

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 319225

CONDITIONS

Operator: Western Refining Southwest LLC 539 South Main Street Findlay, OH 45840	OGRID: 267595
	Action Number: 319225
	Action Type: [UF-DP] Discharge Permit (DISCHARGE PERMIT)

CONDITIONS

Created By	Condition	Condition Date
joel.stone	Accepted for OCD record retention purposes.	2/7/2025