



## Western Refining Southwest LLC

A subsidiary of Marathon Petroleum Corporation

I-40 Exit 39  
Jamestown, NM 87347

November 11, 2021

Mr. Kevin Pierard, Chief  
New Mexico Environment Department  
2905 Rodeo Park Drive East, Bldg. 1  
Santa Fe, NM 87505-6303

**RE: Well Installation and Abandonment Report  
Western Refining Southwest LLC, D/B/A Marathon Gallup Refinery  
EPA ID# NMD000333211**

Dear Mr. Pierard:

Western Refining Southwest LLC (D/B/A Marathon Gallup Refinery) (Refinery) is submitting this *Well Installation and Abandonment Report*. These wells were requested in the following documents:

- “Disapproval, Annual Groundwater Monitoring Report, Gallup Refinery – 2015” from New Mexico Environment Department (NMED) letter issued January 31, 2018.
- “Disapproval, Work Plan 2015 Annual Groundwater Report Comments” from NMED letter issued January 28, 2019.
- “Disapproval, Annual Groundwater Monitoring Report, Gallup Refinery – 2016” from NMED letter issued June 4, 2018.
- “Disapproval, Investigation Work Plan [SMW-2] and [GWM-1] Areas” from NMED letter issued February 20, 2019.

Property access was not granted for the two proposed off-site monitoring wells (west of monitoring well OW-1 and northeast of monitoring well OW-30). The off-site monitoring wells will be installed after site access is obtained from the property owners.

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.

Mr. Kevin Pierard  
November 11, 2021  
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**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, Marathon Gallup Refinery

*Ruth A. Cade*

Ruth Cade  
Vice-President

Enclosure

cc: D. Cobrain, NMED HWB  
L. Barr, NMOCD  
M. Bracey, Marathon Petroleum Company  
H. Jones, Trihydro

M. Suzuki, NMED HWB  
K. Luka, Marathon Petroleum Company  
J. Moore, Marathon Gallup Refinery

# Well Installation and Abandonment Report



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Western Refining Southwest, LLC  
(D/B/A Marathon Gallup Refinery)  
Gallup, New Mexico

*EPA ID# NMD000333211*

NOVEMBER 11, 2021



## Well Installation and Abandonment Report

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## Well Installation and Abandonment Report

## Executive Summary

Western Refining Southwest LLC, D/B/A Marathon Gallup Refinery (Refinery) proposed the installation of 13 wells: 6 existing wells were abandoned and replaced due to submerged well screens, and 7 new wells were planned to aid in evaluation of the separate phase hydrocarbon (SPH) and dissolved-phase plumes. However, 4 of the 7 new wells were not installed. Groundwater was not encountered during drilling in two of the on-site borings, and property access was not granted for the two off-site monitoring wells (west of monitoring well OW-1 and northeast of monitoring well OW-30). In summary, six wells were abandoned, and nine wells were installed.

The objectives and the key findings of the well installation activities are described below.

- Replacement monitoring wells MKTF-01R, MKTF-02R, MKTF-04R, MKTF-17R, MKTF-18R, and RW-2R were installed such that the well screens are appropriately positioned to allow SPH, if present, to enter the well. These data will be used to further delineate the SPH plume. Soil samples were collected from within the borings at the zone with the highest total organic vapor (TOV) reading and at the bottom of the boring. Total petroleum hydrocarbon – gasoline range organics (TPH-GRO) was detected in each soil sample at or near the zone with the highest TOV reading exceeding the residential and industrial soil screening levels (RSSL and ISSL, respectively), with the exception of MKTF-02R and MKTF-04R. MKTF-02R and MKTF-04R sample concentrations only exceeded the RSSL. The other target soil analytes were below the ISSLs and RSSLs. Groundwater was collected from the replacement wells except for well RW-2R, which had SPH. VOCs, SVOCs, total and dissolved metals, and general chemistry analytes were detected in the wells; however, several of the detections were an estimated or “J” concentration. The samples had detections of VOCs indicative of gasoline and chlorinated VOCs above groundwater cleanup and/or screening standards. SVOCs above groundwater standards were limited to naphthalene and 1-methylnaphthalene. Total barium, cobalt, iron, lead, and manganese were detected above standards in most samples. Dissolved metal detections primarily consisted of barium, cobalt, and manganese. General chemistry detections above standards were primarily TPH-DRO and TPH-GRO. Chloride was detected above standards in two wells; sulfate and TPH-ORO were detected in one well above standards.
- Monitoring well OW-66 was installed between monitoring wells OW-13 and OW-29 to further evaluate groundwater flow direction in the area. Soil samples were collected at the zone with the highest TOV reading and at the bottom of the boring. TPH-GRO in soil was detected at or near the zone with the highest TOV reading, exceeding the RSSL and ISSL. The other target soil analytes were below the ISSLs and RSSLs. A groundwater sample was collected from the well. VOCs, SVOCs, total and dissolved metals, and general chemistry analytes were detected in the wells; however, several of the detections were an estimated or “J” concentration. The samples had detections of VOCs indicative of gasoline and chlorinated VOCs above groundwater standards. SVOCs above groundwater standards were limited to 1-methylnaphthalene,



## Well Installation and Abandonment Report

2-methylnaphthalene, and naphthalene. Total and dissolved cobalt and manganese and total nickel were detected in the sample above standards. General chemistry data exceedances above standards included chloride, TPH-DRO, and TPH-GRO exceeded the applicable standards.

- Boring OW-13A was drilled to assess the dissolved-phase methyl tert butyl ether (MTBE) in the groundwater in the vicinity of monitoring well OW-13. The well was to be installed at the upper sand (alluvium)/Chinle interface and not in the Chinle formation. Groundwater was not encountered in boring OW-13A in either the upper sand (alluvium) or Chinle formation. Therefore, no well was installed. Based on the boring log for OW-13A (Appendix A), no olfactory or visual evidence of SPH was observed. In addition, soil analytical data did not show the presence of TPH, VOC, or SVOC constituents, including MTBE. Analytical results indicated that total metals concentrations were below the ISSLs and RSSLs.
- Monitoring wells OW-67 and OW-68 were installed in the upper sand (alluvium) aquifer to assess previously detected elevated concentrations of chloride and sulfate northwest of evaporation pond (EP) 2 and monitoring well GWM-1 and east of EP-2. TPH-GRO was detected in monitoring well OW-66 soil exceeding the RSSL and ISSL. Soil samples collected from OW-67 and OW-68 did not show the presence of TPH, VOC, or SVOC constituents and metals data were below the ISSLs and RSSLs. Groundwater was collected from the monitoring wells. VOCs, SVOCs, total and dissolved metals, and general chemistry analytes were detected in the wells; however, several of the detections were an estimated or "J" concentration. No VOCs or SVOCs were detected above applicable standards. Total and dissolved cobalt, and manganese were detected in the sample above standards. Total fluoride exceeded the standard in monitoring well OW-68. General chemistry data exceedances above standards included chloride, sulfate, TPH-DRO, and TPH-GRO exceeded the applicable standards. TPH-ORO was also detected above the standard in monitoring well OW-68.
- Boring OW-69 was drilled to assess previously detected elevated concentrations of chloride and sulfate northwest of evaporation pond (EP) 2 and monitoring well GWM-1 and east of EP-2. The well was to be installed in the upper sand (alluvium) aquifer. Groundwater was not encountered in boring OW-69 in the upper sand (alluvium) or Chinle formation. Therefore, no well was installed. Based on the boring log for OW-69 (Appendix A), no olfactory or visual evidence of SPH was observed. In addition, soil analytical data did not show the presence of TPH, VOC, or SVOC constituents. Analytical results indicated that total metals concentrations were below the ISSLs and RSSLs.
- Two proposed monitoring wells, located off site of the Refinery property, were not installed. The off-site monitoring wells will be installed after site access is obtained from the property owners.



## Well Installation and Abandonment Report

## 1.0 Introduction and Background

The Western Refining Southwest LLC, Marathon Gallup Refinery (Refinery) is located on 810 acres approximately 17 miles east of Gallup, New Mexico, along the north side of Interstate Highway I-40 in McKinley County. The physical address is I 40, Exit #39 Jamestown, New Mexico 87347. Figure 1-1 presents the Refinery location as well as regional features.

### 1.1 Background

The Refinery has been indefinitely idled since April 2020. Historically, the Refinery generally processed crude oil transported to the facility by pipeline or tanker truck. Various process units were operated at the facility, including crude distillation, reforming, fluidized catalytic cracking, alkylation, sulfur recovery, mercox treater, and hydrotreating. Refinery operations have produced gasoline, diesel fuels, jet fuels, kerosene, propane, butane, and residual fuel.

### 1.2 Scope and Objectives

In 2018 and 2019, the New Mexico Environment Department (NMED) requested 13 monitoring wells to be installed at the Refinery. Six existing monitoring wells were to be abandoned and replaced due to submerged well screens. An additional seven new monitoring wells were to be installed to aid in evaluation of the separate phase hydrocarbon (SPH) and dissolved-phase plumes. The proposed locations and NMED objectives for the 13 monitoring wells are summarized in Table 1-1.

The project objectives were to:

- Abandon and replace monitoring wells MKTF-01, MKTF-02, MKTF-04, MKTF-17, MKTF-18, and RW-2 to monitor for the presence of SPH.
- Install one monitoring well in the Chinle aquifer to further evaluate groundwater flow direction between monitoring wells OW-13 and OW-29 in the upper sand (alluvium)/Chinle interface.
- Install one shallow monitoring well in the upper sand (alluvium)/Chinle interface to assess the dissolved-phase methyl tert butyl ether (MTBE) plume in the groundwater in the vicinity of deep monitoring well OW-13.
- Install three shallow monitoring wells in the upper sand (alluvium) aquifer to assess elevated detections of chloride and sulfate northwest of evaporation pond (EP) 2 and monitoring well GWM-1 and east of EP-2.
- Install one off-site monitoring well in the Sonsela aquifer west of monitoring well OW-1 to act as a sentinel monitoring well to monitor for potential MTBE migration.
- Install one off-site monitoring well in the upper sand (alluvium)/Chinle interface northeast of monitoring well OW-30 to delineate the potential MTBE plume in this area.



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### 1.3 Deviations from the Scope of Work

The scope of work proposed 13 monitoring wells for installation. However, 4 of the 13 monitoring wells were not installed. Groundwater was not encountered during drilling in two of the borings: the shallow monitoring well adjacent to OW-13 and the monitoring well east of EP-2. In addition, property access was not granted for the two proposed off-site monitoring wells (west of monitoring well OW-1 and northeast of monitoring well OW-30). The off-site monitoring wells will be installed after site access is obtained by the property owners. In summary, six wells were abandoned, and nine wells were installed.

### 1.4 Document Organization

This report provides the monitoring well installation and data. It is organized by the following sections and topics.

- Section 2 provides a discussion on the drilling and sample collection.
- Section 3 presents the soil and groundwater sample information and data discussion.
- Section 4 discusses the summary and conclusions.



## Well Installation and Abandonment Report

## 2.0 Well Installation Activities

This section provides information pertaining to the drilling and sampling activities. The drilling and well installation field work was completed between July 19, 2021, and August 16, 2021. Groundwater sampling was conducted on September 17, 2021.

Information regarding the well installation, soil sample collection, and soil analytical results for monitoring wells OW-67, OW-68, and boring OW-69 was provided in the "Investigation Report, SMW-1 and GWM-1 Areas" (Western 2021) submitted to NMED on September 30, 2021. Iron and manganese soil data were not available for the September report and are included in Section 3.0. Groundwater information collected from monitoring wells OW-67 and OW-68 is also presented in Section 3.0 of this report.

### 2.1 Pre-investigation Activities

Subsurface utility locates were conducted in a two-step process. A subsurface geophysical survey was conducted for each of the 11 proposed monitoring well locations. After the geophysical survey, v-trenches were air-knifed to a depth of approximately 5 feet below ground surface (ft bgs). The monitoring well locations shown on Figure 2-1 reflect location changes due to subsurface conflicts detected through the use of the geophysical survey and/or access issues with the hollow stem auger rig. One location, RW-2R, was moved due to observed utilities in the v-trench excavation. The location was moved and advanced to a depth of 5 ft bgs with no conflicts at the new location.

### 2.2 Drilling

Drilling and soil sampling activities were completed using a hollow-stem auger with split spoon sampler. Soil was collected continuously from borings OW-66, OW-67, OW-68, and OW-69. Soil was collected at approximately 5 ft intervals for the replacement and shallower completed monitoring wells (OW-13A, MKTF-01R, MKTF-02R, MKTF-04R, MKTF-17R, MKTF-18R, and RW-2R). Monitoring well locations are shown on Figure 2-1.

Borings were logged by a field geologist, working under the supervision of a senior geologist, using the Unified Soil Classification System (USCS). The boring logs and well construction information, if applicable, are provided in Appendix A. Well construction details are summarized in Table 2-1. During drilling, field screening for total organic volatiles (TOV) was conducted with a photoionization detector (PID) on approximate 2-ft intervals. TOV readings are included on the attached logs.

### 2.3 Soil Borings

Groundwater was not encountered in two of the proposed monitoring well locations, OW-13A and OW-69 (Figure 2-1). Using the auger as a tremie pipe, the borings were abandoned by hydrating bentonite chips in 5-ft increments from total depth to ground surface.



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Boring OW-13A was advanced to a depth of 25.5 ft bgs. Bedrock (siltstone) was observed at a depth of approximately 13 feet ft bgs. The rig was advanced to a total depth of 25.5 ft bgs, with no observable saturated interval in the upper sand (alluvium) or the Chinle formation. Because the well was to be installed at the upper sand (alluvium)/Chinle interface and not in the Chinle formation, the boring was not advanced past 25.5 ft and no monitoring well was installed. TOV was measured at 0 parts per million (ppm) throughout the boring except at 15 ft bgs where the TOV was 4.1 ppm.

Boring OW-69 was advanced to a depth of 26 ft bgs. Bedrock (mudstone) was observed at a depth of approximately 10 ft bgs to the bottom of the boring. The rig was advanced to a total depth of 26 ft bgs, with no observable saturated interval in the upper sand (alluvium) or Chinle formation. Because the well was to be installed in the upper sand (alluvium) and not in the Chinle formation, the boring was not advanced past 26 ft bgs and no monitoring well was installed. TOV concentrations ranged from 0 ppm at 25 ft bgs to 2.4 ppm at 5 ft bgs.

## 2.4 Well Installation

The nine monitoring wells installed were constructed using blank 2-inch schedule 40 polyvinyl chloride (PVC) casing and 2-inch schedule 40 PVC 0.01-inch slot screen. Silica sand was emplaced from the bottom of the borehole to approximately 2 feet (ft) above the top of the screen. The remaining annular space was filled with bentonite to 1 ft bgs followed by concrete to surface. Specific monitoring well construction information is provided below and summarized in Table 2-1:

- Monitoring well OW-66. The total depth of the boring was 26 ft bgs. TOV concentrations were less than 1 ppm from 0 to 14 ft bgs. TOV ranged from 1,150 ppm at 25 ft bgs to 1,891 ppm at 17 ft bgs. Water was encountered at 14 ft bgs. The screened interval was installed from 10 to 25 ft bgs, with sand from 8 to 26 ft bgs. A sanitary seal consisting of bentonite was then placed from 1 to 8 ft bgs, above which concrete was placed to surface. The well was completed with an approximately 3 ft tall 4-inch diameter aboveground steel monument with two crash bollards.
- Monitoring well OW-67. The total depth of the boring was 26 ft bgs. TOV concentrations ranged from 0 to 1.9 ppm, which was measured at 17 ft bgs. Water was encountered at 12.4 ft bgs. The screened interval was installed from 10 to 25 ft bgs, with sand from 8 to 26 ft bgs. A sanitary seal consisting of hydrated bentonite was then placed from 1 to 8 ft bgs, above which concrete was placed to surface. The well was completed with an approximately 3 ft tall 4-inch diameter aboveground steel monument with a crash bollard.
- Monitoring well OW-68. The total depth of the boring was 26 ft bgs. TOV concentrations ranged from 0.8 at 2 ft bgs to 4.4 ppm at 23 ft bgs. Water was encountered at 21 ft bgs. The screened interval was installed from 5 to 25 ft bgs, with sand from 3 to 26 ft bgs. A sanitary seal consisting of hydrated bentonite was then placed from 2 to 3 ft bgs, above which concrete was placed to surface. The well was completed with a flush mounted well box.
- Replacement monitoring well MKTF-01R. The total depth of the boring was 19 ft bgs. TOV concentrations ranged from 2.7 ppm at 17 ft bgs to 803 ppm at 5 ft bgs. Water was





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encountered at 4 ft bgs during drilling; the depth to water (DTW) in June 2021 was 6.12 ft bgs. The screened interval was installed from 3 to 18 ft bgs, with sand 2 to 19 ft bgs. A sanitary seal consisting of hydrated bentonite was then placed from 1 to 2 ft bgs, above which concrete was placed to surface. The well was completed with a flush-mounted well box.

- Replacement well MKTF-02R. The total depth of the boring was 19 ft bgs. Water was not encountered in the boring; however, a hydrocarbon odor was noted from ground surface to approximately 5 ft bgs, where the highest TOV reading was recorded (1,140 ppm). The DTW in June 2021 was 8.02 ft bgs. Because groundwater has historically been measured in MKTF-02, the replacement well was completed. The screened interval was installed from 3 to 18 ft bgs, with sand from 2 to 19 ft bgs. A sanitary seal consisting of hydrated bentonite was then placed from 1 to 2 ft bgs, above which concrete was placed to surface. The well was completed with a flush mounted well box and a bollard.
- Replacement well MKTF-04R. The total depth of the boring was 20 ft bgs. TOV concentrations ranged from 0 to 405.9 ppm, measured at 9 ft bgs. Water was encountered at 8 ft bgs during drilling; the DTW in June 2021 was 9.22 ft bgs. The screened interval was installed 4 to 19 ft bgs, with sand 3 to 20 ft bgs. A sanitary seal consisting of hydrated bentonite was then placed from 1 to 3 ft bgs, above which was placed concrete to surface. The well was completed with a flush mounted well box.
- Replacement well MKTF-17R. The total depth of the boring was 21 ft bgs. TOV concentrations ranged from 0 ppm at 21 ft bgs to 2,676 ppm at 5 ft bgs. Water was encountered at 6.5 ft bgs during drilling; the DTW in June 2021 was 15.15 ft bgs. The screened interval was from 5 to 20 ft bgs, with sand from 3 to 21 ft bgs. A sanitary seal consisting of hydrated bentonite was then placed from 1 to 3 ft bgs, above which was placed concrete to surface. The well was completed with a flush mounted well box and a bollard.
- Replacement well MKTF-18R. The total depth of the boring was 26 ft bgs. TOV concentrations ranged from 3 ppm at 19 ft bgs to 1,554 ppm at 8 ft bgs. Water was encountered at 9.5 ft bgs during drilling; the DTW in June 2021 was 9.21 ft bgs. The screened interval was from 5 to 25 ft bgs, with sand from 3 to 26 ft bgs. A sanitary seal consisting of hydrated bentonite was then placed from 1 to 3 ft bgs, above which was placed concrete to surface. The well was completed with a flush mounted well box.
- Replacement well RW-2R. The total depth of the boring was 33 ft bgs. TOV concentrations ranged from 51.1 ppm at 10 ft bgs to 1,348 ppm at 30 ft bgs. Water was encountered at 16.5 ft bgs during drilling; the DTW in June 2021 was 23.86 ft bgs. The screened interval was from 11.5 to 31.5 ft bgs, with sand from 9.5 to 33 ft bgs. A sanitary seal consisting of hydrated bentonite was then placed from 6.5 to 9.5 ft bgs, above which was placed concrete to surface. The well was completed with an approximately 3 ft tall 6-inch diameter aboveground steel monument.



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## 2.5 Well Abandonment

Because wells MKTF-01, MKTF-02, MKTF-04, MKTF-17, MKTF-18, and RW-2 were not correctly constructed (i.e., the tops of the well screens were submerged below the water table surface and therefore could not monitor for the presence of SPH), they were abandoned after the replacement wells were installed. The above ground pipes were cut off at below ground surface. The total depth of the existing wells was measured, and a stinger pipe was placed to the bottom of the well. Cement was then tremied through the stinger pipe, filling the well from the bottom up. The concrete pads were destroyed and removed.

In the Comment 3 of the letter "Approval with Modifications, Hydrocarbon Seep Interim Measures 2021 Second Quarter Status Report" dated September 14, 2021, NMED stated, "Existing Wells MKTF-1, MKTF-2, MKTF-4, MKTF-17, and MKTF-18 must not be plugged and abandoned; they must be preserved at this time." However, the wells were abandoned in July 2021 and August 2021, in accordance with previous correspondence, before the September 2021 letter was received. The replacement wells will provide enhanced information (the ability to monitor for SPH) in addition to providing equivalent dissolved constituent data while reducing the liability of maintaining duplicative shallow groundwater wells.

## 2.6 Well Development

The depth to water and total depth were measured at the nine monitoring wells prior to well development. SPH was not detected in the wells except for RW-2R (apparent SPH thickness of 2.67 feet). For monitoring wells OW-67 and OW-68, 10 casing volumes were bailed from each well. Additional groundwater was then removed until the field parameters equilibrated. A YSI multiprobe meter was used to collect measurements (conductivity, pH, temperature, dissolved oxygen, and salinity). The remaining seven monitoring wells went dry during bailing the 10 casing volumes; therefore, groundwater measurements were collected during purging and sampling on September 17, 2021. Well development field forms are included as Appendix B.

## 2.7 Elevation Survey

The nine monitoring wells were surveyed after completion by a licensed New Mexico land surveyor. The two borings (OW-13A and OW-69) were logged with a hand-held global positioning system device. The elevations will be submitted in the 2021 annual groundwater report.

## 2.8 Investigation Derived Waste

Soil generated during drilling was drummed and transferred to the 90-day storage pad and samples collected. The labeled drums will be shipped off site to an appropriate disposal facility after data are received. Water generated during development, purging, and sampling activities was placed into a labeled drum for processing by the Refinery.



## Well Installation and Abandonment Report

### 3.0 Sample Collection and Analytical Results

This section presents soil and groundwater sample collection and data results. Soil results are summarized in Tables 3-1 through 3-4. Groundwater results are summarized in Tables 3-5 through 3-10.

#### 3.1 Sample Collection and Analysis

Samples were collected for analysis following procedures outlined in the approved work plans, “Work Plan 2015 Annual Groundwater Report Comments”, dated October 2018, and revised June & October 2019 (DiSorbo 2019a) and “Work Plan SMW-2 and GWM-1 Areas” dated August 2018 and revised August 2019 (DiSorbo 2019b). The monitoring well installations followed their respective work plans.

##### 3.1.1 Soil Sampling

Soil samples were collected in two separate events, July 19 to July 22, 2021, and August 13 to August 16, 2021. Two soil samples from each boring were selected for analysis, one at the depth with the highest PID reading and one at the bottom of the boring. Samples were collected as follows:

- MKTF-01R at 6 ft bgs and 18 ft bgs
- MKTF-02R at 6 ft bgs and 18 ft bgs
- MKTF-04R at 8.2 to 8.7 ft bgs and 19.5 to 20 ft bgs
- MKTF-17R at 6.5 to 7 ft bgs and 20.5 to 21 ft bgs
- MKTF-18R at 9.5 to 10 ft bgs and 25.5 to 26 ft bgs
- OW-13A at 14 ft bgs and 25.5 ft bgs
- OW-66 at 18 ft bgs and 25 ft bgs
- OW-67 at 17 ft bgs and 26 ft bgs
- OW-68 at 22 ft bgs and 26 ft bgs
- OW-69 at 6 ft bgs and 26 ft bgs
- RW-2R at 16.5 to 17 ft bgs and 32.5 to 33 ft bgs

Duplicates were collected at MKTF-17R (20.5 to 21 ft bgs) and RW-2R (16.5 to 17 ft bgs). Soil samples were submitted for analysis of:

- Total Petroleum hydrocarbons, gasoline range organics (TPH-GRO) by Environmental Protection Agency (EPA) Method 8015M/D
- TPH, diesel range organics (TPH-DRO) by EPA Method 8015D



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- TPH, motor oil range organics (TPH-MRO) by EPA Method 8015D
- Volatile Organic Compounds (VOCs) including fuel oxygenates by EPA Method 8260B
- Semi-volatile organic compounds (SVOCs) by EPA Method 8270
- Resource Conservation Recovery Act (RCRA) Metals: arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver, and iron and manganese by EPA Method 6010B

### 3.1.2 Soil Sample Results

TPH and benzene, toluene, ethylbenzene, and xylenes (BTEX) data are presented in Table 3-1; VOC data are presented in Table 3-2; SVOC data are presented in Table 3-3; and metals data are presented in Table 3-4. Data were compared to the 2019 NMED Residential and Industrial Soil Screening Levels (RSSLs and ISSLs, respectively) (NMED 2019). None of the soil samples exceed RSSLs or ISSLs for TPH-DRO, TPH-MRO, BTEX, MTBE, VOCs, SVOCs, or metals. TPH GRO exceeded the screening levels in several borings. TPH-GRO data are summarized below.

- MKTF-01R. The sample collected at 6 ft bgs had an estimated TPH-GRO concentration of an estimated concentration (J) 1,100 milligrams per kilogram (mg/kg), exceeding the RSSL and ISSL (100 mg/kg and 500 mg/kg, respectively). The sample collected at the bottom of the boring (18 ft bgs) did not exceed the RSSL or ISSL.
- MKTF-02R. The sample collected at 6 ft bgs had an estimated TPH-GRO concentration of 260 J mg/kg, exceeding the RSSL (100 mg/kg) and not exceeding the ISSL. The sample collected at the bottom of the boring (18 ft bgs) did not exceed the RSSL or ISSL.
- MKTF-04R. The sample collected at 8.2 to 8.7 ft bgs had a TPH-GRO concentration of 300 mg/kg, exceeding the RSSL (100 mg/kg) and not exceeding the ISSL. The sample collected at the bottom of the boring (19.5 to 20 ft bgs) did not exceed the RSSL or ISSL.
- MKTF-17R. The sample collected at 6.5 to 7 ft bgs had a TPH-GRO concentration of 2,100 mg/kg, exceeding RSSL and ISSL (100 mg/kg and 500 mg/kg, respectively). The sample collected at the bottom of the boring (20.5 to 21 ft bgs) did not exceed the RSSL or ISSL.
- MKTF-18R. The sample collected at 9.5 to 10 ft bgs had a TPH-GRO concentration of 2,400 mg/kg, exceeding the RSSL and ISSL (100 mg/kg and 500 mg/kg, respectively). The sample collected at the bottom of the boring (25.5 to 26 ft bgs) did not exceed the RSSL or ISSL.
- OW-13A. Neither sample exceeded the RSSL or ISSL.



## Well Installation and Abandonment Report

- OW-66. The sample collected at 18 ft bgs had a TPH-GRO concentration of 1,800 mg/kg, exceeding the RSSL and ISSL (100 mg/kg and 500 mg/kg, respectively). The sample collected at the bottom of the boring (26 ft bgs) did not exceed the RSSL or ISSL.
- OW-67. Neither sample exceeded the RSSL or ISSL.
- OW-68. Neither sample exceeded the RSSL or ISSL.
- OW-69. Neither sample exceeded the RSSL or ISSL.
- RW-2R. The sample collected at 16 to 17 ft had a TPH-GRO concentration of 1,900 mg/kg, exceeding the RSSL and ISSL (100 mg/kg and 500 mg/kg, respectively). The sample collected at the bottom of the boring (32.5 to 33 ft bgs) did not exceed the RSSL or ISSL.

Iron and manganese results were inadvertently left off the analyte list for OW-67, OW-68, and OW-69 (Western 2021). Those data are included in this report. As indicated above, the samples were below RSSLs and ISSLs.

Soil laboratory reports are included as Appendix C.

## 3.2 Groundwater Sampling and Results

Samples were collected for analysis following procedures outlined in the approved work plans, “Work Plan 2015 Annual Groundwater Report Comments” dated October 2018 and revised June & October 2019 (DiSorbo 2019a) and “Work Plan SMW-2 and GWM-1 Areas” dated August 2018 and revised August 2019 (DiSorbo 2019b).

### 3.2.1 Groundwater Sampling

Samples were collected from eight of the nine new monitoring wells on September 17, 2021: MKTF-01R, MKTF-02R, MKTF-04R, MKTF-17R, MKTF-18R, OW-66, OW-67, and OW-68. Replacement well RW-2R was not sampled due to the presence of SPH. A duplicate sample was collected from MKTF-18R. Groundwater samples were submitted for analysis of:

- TPH-GRO by EPA Method 8015D
- TPH-DRO by EPA Method 8015D
- TPH-MRO by EPA Method 8015D
- VOCs (including fuel oxygenates) by EPA Method 8260B
- SVOCs by EPA Method 8270C and 8270SIM



## Well Installation and Abandonment Report

- Total Metals: barium, beryllium, cadmium, calcium, chromium, cobalt, iron, magnesium, manganese, nickel, potassium, silver, sodium, vanadium, and zinc by EPA Method 200.7; antimony, arsenic, lead, and selenium by EPA Method 200.8; and mercury by EPA Method 245.1
- Dissolved Metals: barium, beryllium, cadmium, chromium, cobalt, iron, manganese, nickel, silver, vanadium, and zinc by EPA Method 200.7; antimony, arsenic, lead, and selenium by EPA Method 200.8; and mercury by EPA Method 245.1
- Anions: fluoride, chloride, nitrate-nitrogen (as N), nitrite-nitrogen (as N), and sulfate by EPA Method 300.0
- Alkalinity: bicarbonate (as  $\text{CaCO}_3$ ), carbonate (as  $\text{CaCO}_3$ ), and total alkalinity (as  $\text{CaCO}_3$ ) by method SM2320B

### 3.2.2 Fluid Level Measurements

Fluid levels were measured during well development and sample collection. The data are provided in Table 2-1. Observable SPH thickness was measured in replacement well RW-2R at 2.67 ft. Replacement well RW-2R was not sampled for analytical parameters.

### 3.2.3 Groundwater Analytical Results

Groundwater was analyzed for VOCs (Table 3-5), SVOCs (Table 3-6), total and dissolved metals (Table 3-7 and 3-8, respectively), and general chemistry (Table 3-9). Field parameters collected during sample collection are provided in Table 3-10. Laboratory data and the data validation report are provided in Appendices C and D, respectively. Data were compared to applicable cleanup levels as indicated on Tables 3-5 through 3-9.

#### VOCs

A summary of the groundwater data exceeding applicable VOC cleanup levels is provided below.

- MKTF-01R. VOC results from MKTF-01R showed estimated (J) concentrations of 1,2,4-trimethylbenzene (310 J micrograms per liter [ug/L]), 1-methyl naphthalene (28 J ug/L), benzene (7,100 J ug/L), and naphthalene (52 J ug/L). Vinyl chloride and xylenes were detected at 22 ug/L and 850 ug/L, respectively.
- MKTF-02R. VOC results from MKTF-02R showed estimated concentrations of benzene (29 J ug/L). Other VOCs detected above standards include 1,1,2-trichloroethane (7.9 ug/L), 1,1-dichloroethane (110 ug/L), 1,1-dichloroethene (280 ug/L), 1,2-dichloroethane (67 ug/L), and trichloroethene (23 ug/L).



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- MKTF-04R. VOC results from MKTF-04R showed estimated concentrations of 1,2,4-trimethylbenzene (160 J ug/L), 1-methylnaphthalene (48 J ug/L), 2-methylnaphthalene (59 J ug/L), benzene (1,100 J ug/L), MTBE (1,600 J ug/L), and naphthalene (81 J ug/L). Other VOC results detected above standards include 1,1-dichloroethane (35 ug/L) and 1,1-dichloroethene (45 ug/L).
- MKTF-17R. VOC results from MKTF-17R showed estimated concentrations of 1,2,4-trimethylbenzene (430 J ug/L), 1,3,5-trimethylbenzene (120 J ug/L), 1-methylnaphthalene (27 J ug/L), benzene (1,600 J ug/L), MTBE (3,900 J ug/L), naphthalene (72 J ug/L), and toluene (5,400 J ug/L). Other VOC results detected above standards included xylenes (2,700 ug/L).
- MKTF-18R. VOC results from MKTF-18R showed estimated concentrations of 1,1-dichloroethane (32 J ug/L), 1,2,4-trimethylbenzene (780 J ug/L), 1-methylnaphthalene (200 J ug/L), 2-methylnaphthalene (300 J ug/L), benzene (3,700 J ug/L), MTBE (200 J ug/L), naphthalene (77 J ug/L), and toluene (1,800 J ug/L).
- OW-66. VOC results from OW-66 showed estimated concentrations of 1,2,4-trimethylbenzene (1,300 J ug/L), 1,3,5-trimethylbenzene (350 J ug/L), 2-methylnaphthalene (61 J ug/L), benzene (12,000 J ug/L), bromodichloromethane (2.1 J ug/L), chloromethane (28 J ug/L), dibromochloromethane (6.2 J ug/L), ethylbenzene (720 J ug/L), MTBE (680 J ug/L), and toluene (9,200 J ug/L). Other VOCs include naphthalene (130 ug/L) and xylenes (6,200 ug/L).
- OW-67. No VOCs were detected above applicable standards.
- OW-68. No VOCs were detected above applicable standards.

**SVOCs**

A summary of the groundwater data exceeding applicable SVOC cleanup levels is provided below.

- MKTF-01R. No SVOCs were detected above applicable standards.
- MKTF-02R. No SVOCs were detected above applicable standards.
- MKTF-04R. No SVOCs were detected above applicable standards..
- MKTF-17R. SVOC results from MKTF-17R showed estimated concentrations of 1-methylnaphthalene (15 J ug/L) and naphthalene (38 J ug/L).
- MKTF-18R. SVOC results from MKTF-18R showed estimated concentrations of 1-methylnaphthalene (27 J ug/L) and naphthalene (87 J ug/L).
- OW-66. SVOC results from OW-66 showed estimated concentrations of 1-methylnaphthalene (33 J ug/L) and 2-methylnaphthalene (51 J ug/L). Other SVOCs detected above standards include naphthalene (110 ug/L).
- OW-67. No SVOCs were detected above applicable standards.
- OW-68. No SVOCs were detected above applicable standards.





## Well Installation and Abandonment Report

**Total Metals**

A summary of the groundwater data exceeding applicable metals cleanup levels is provided below.

- MKTF-01R. Total metals exceeding standards included barium (5,400 ug/L), cobalt (12 ug/L), and manganese (3,400 ug/L).
- MKTF-02R. No total metals were detected above applicable standards.
- MKTF-04R. Total metals exceeding standards included cobalt (9 ug/L) and manganese (2,700 ug/L).
- MKTF-17R. Total metals exceeding standards included manganese (3,400 ug/L).
- MKTF-18R. Total metals results from MKTF-18R showed estimated concentrations of iron (17,000 J ug/L), lead (46 J ug/L), and manganese (2,900 J ug/L). Other total metals exceeding standards included barium (2,000 ug/L) and cobalt (15 ug/L).
- OW-66. Total metals results from OW-66 showed estimated concentrations of nickel (380 J ug/L). Other total metals exceeding standards included cobalt (10 ug/L) and manganese (2,600 ug/L).
- OW-67. Total metals results from OW-67 showed estimated concentrations of cobalt (29 J ug/L). Other total metals exceeding standards included manganese (8,000 ug/L).
- OW-68. Total metals exceeding standards included cobalt (100 ug/L), fluoride (6,400 ug/L), and manganese (11,000 ug/L).

**Dissolved Metals**

A summary of the groundwater data exceeding applicable metals cleanup levels is provided below.

- MKTF-01R. Dissolved metals results from MKTF-01R showed estimated concentrations of arsenic (6.6 J ug/L). Other dissolved metals exceeding standards included barium (4,700 ug/L), cobalt (8 ug/L), and manganese (3,100 ug/L).
- MKTF-02R. No dissolved metals exceeded applicable standards.
- MKTF-04R. Dissolved metals results from MKTF-04R showed estimated concentrations of arsenic (3.6 J ug/L). Other dissolved metals exceeding standards included manganese (2,400 ug/L).
- MKTF-17R. Dissolved metals results from MKTF-17R showed estimated concentrations of arsenic (4.6 J ug/L). Other dissolved metals exceeding standards included manganese (2,800 ug/L).
- MKTF-18R. Dissolved metals results from MKTF-18R showed estimated concentrations of arsenic (2.6 J ug/L). Other dissolved metals exceeding standards included cobalt (8.8 ug/L).





## Well Installation and Abandonment Report

- OW-66. Dissolved metals results from OW-66 showed estimated concentrations of arsenic (3.7 J ug/L). Other dissolved metals exceeding standards included cobalt (8.4 ug/L) and manganese (2,400 ug/L).
- OW-67. Dissolved metals results from OW-67 showed estimated concentrations of arsenic (2.3 J ug/L). Other dissolved metals exceeding standards included cobalt (11 ug/L) and manganese (7,400 ug/L).
- OW-68. Dissolved metals results from OW-68 showed estimated concentrations of arsenic (5.5 J ug/L). Other dissolved metals exceeding standards included cobalt (79 ug/L) and manganese (9,600 ug/L).

**General Chemistry**

A summary of the groundwater general chemistry data exceeding applicable cleanup levels is provided below.

- MKTF-01R. TPH-DRO, TPH-GRO, and TPH-ORO exceeded applicable standards at 2,200 ug/L, 5,200 ug/L, and 96 ug/L, respectively.
- MKTF-02R. Chloride, TPH-DRO, and TPH-GRO exceeded applicable standards at 1,800,000 ug/L, 220 ug/L, and 560 ug/L, respectively. Sulfate had an estimated concentration exceeding standards of 710,000 J ug/L.
- MKTF-04R. Chloride, TPH-DRO, and TPH-GRO exceeded applicable standards at 1,200,000 ug/L, 1,200 ug/L, and 19,000 ug/L, respectively.
- MKTF-17R. TPH-DRO and TPH-GRO exceeded applicable standards at 1,800 ug/L and 29,000 ug/L, respectively.
- MKTF-18R. TPH-DRO and TPH-GRO had estimated concentrations exceeding standards of 2,600 J ug/L and 5,000 J ug/L, respectively.
- OW-66. Chloride, TPH-DRO, and TPH-GRO exceeded applicable standards at 320,000 ug/L, 4,000 ug/L, and 69,000 ug/L, respectively.
- OW-67. Chloride, TPH-DRO, and TPH-GRO exceeded applicable standards at 4,900,000 ug/L, 560 ug/L, and 410 ug/L, respectively. Sulfate had an estimated concentration exceeding standards of 760,000 J ug/L.
- OW-68. Chloride, TPH-DRO, TPH-GRO, and TPH-ORO exceeded applicable standards at 5,100,000 ug/L, 1,100 ug/L, 1,700 ug/L, and 120 ug/L, respectively. Sulfate had an estimated concentration exceeding standards of 800,000 J ug/L.



## Well Installation and Abandonment Report

## 4.0 Summary and Conclusions

The Refinery proposed the installation of 13 monitoring wells: 6 existing wells were to be abandoned and replaced due to submerged well screens. 7 new monitoring wells were planned to be installed to aid in evaluation of the SPH and dissolved-phase plumes. However, 4 of the 7 new monitoring wells were not installed for the following reasons; groundwater was not encountered during drilling in two of the borings, the shallow monitoring well adjacent to OW-13 (boring OW-13A) and the monitoring well east of EP-2 (boring OW-69), and, property access was not granted for the two off-site monitoring wells (west of monitoring well OW-1 and northeast of monitoring well OW-30). In summary, six wells were abandoned, and nine wells were installed.

The objectives presented in Section 1.2 were met and the key findings are described below.

- Replacement wells MKTF-01R, MKTF-02R, MKTF-04R, MKTF-17R, MKTF-18R, and RW-2R were installed such that the well screens are appropriately positioned to allow SPH, if present, to enter the well. Soil samples were collected at the zone with the highest TOV reading and at the bottom of the boring. TPH-GRO was detected in each soil sample at or near the zone with the highest TOV reading exceeding the RSSL and ISSL, with the exception of MKTF-02R and MKTF-04R where samples only exceeded the RSSL. The other target soil analytes were below the ISSLs and RSSLs. Groundwater was collected from the replacement wells except for well RW-2R, which had SPH. VOCs, SVOCs, total and dissolved metals, and general chemistry analytes were detected in the wells; however, several of the detections were an estimated or “J” concentration. The samples had detections of VOCs indicative of gasoline and chlorinated VOCs above groundwater standards. SVOCs above groundwater standards were limited to naphthalene and 1-methylnaphthalene. Total barium, cobalt, iron, lead, and manganese were detected above standards in most samples. Dissolved metal detections primarily consisted of barium, cobalt, and manganese. General chemistry detections above standards were primarily TPH-DRO and TPH-GRO. Chloride was detected above standards in two wells; sulfate and TPH-ORO were detected in one well above standards.
- Monitoring well OW-66 was installed between monitoring wells OW-13 and OW-29 to further evaluate groundwater flow direction in the area. Soil samples were collected at the zone with the highest TOV reading and at the bottom of the boring. TPH-GRO in soil was detected at or near the zone with the highest TOV reading, exceeding the RSSL and ISSL. The other target soil analytes were below the ISSLs and RSSLs. A groundwater sample was collected from the well. VOCs, SVOCs, total and dissolved metals, and general chemistry analytes were detected in the wells; however, several of the detections were an estimated or “J” concentration. The samples had detections of VOCs indicative of gasoline and chlorinated VOCs above groundwater standards. SVOCs above groundwater standards were limited to 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene. Total and dissolved cobalt and manganese and total



## Well Installation and Abandonment Report

nickel were detected in the sample above standards. General chemistry data exceedances above standards included chloride, TPH-DRO, and TPH-GRO exceeded the applicable standards.

- Boring OW-13A was installed to assess the dissolved-phase MTBE in the groundwater in the vicinity of the deep monitoring well OW-13. Groundwater was not encountered in boring OW-13A and, therefore, no well was installed. Based on the boring log for OW-13A (Appendix A), no olfactory or visual evidence of SPH was observed. In addition, soil analytical data did not show the presence of TPH, VOC, or SVOC constituents, including MTBE. Analytical results indicate that total metals concentrations were below the ISSLs and RSSLs.
- Monitoring wells OW-67 and OW-68 and boring OW-69 were installed in the upper sand aquifer to assess elevated detections of chloride and sulfate northwest of evaporation pond (EP) 2 and monitoring well GWM-1 and east of EP-2. TPH-GRO was detected in monitoring well OW-66 exceeding the RSSL and ISSL. Soil samples collected from borings OW-67 and OW-68 did not show the presence of TOC, VOC, or SVOC constituents, and metals concentrations were below the ISSLs and RSSLs. Groundwater was collected from the monitoring wells. VOCs, SVOCs, total and dissolved metals, and general chemistry analytes were detected in the wells; however, several of the detections were an estimated or “J” concentration. No VOCs or SVOCs were detected above applicable standards. Total and dissolved cobalt, and manganese were detected in the sample above standards. Total fluoride exceeded the standard in monitoring well OW-68. General chemistry data exceedances above standards included chloride, sulfate, TPH-DRO, and TPH-GRO exceeded the applicable standards. TPH-ORO was also detected above the standard in monitoring well OW-68.
- Two proposed monitoring wells, located off site of the Refinery property, were not installed. The off-site monitoring wells will be installed after access is obtained from the property owners.



## Well Installation and Abandonment Report

### 5.0 References

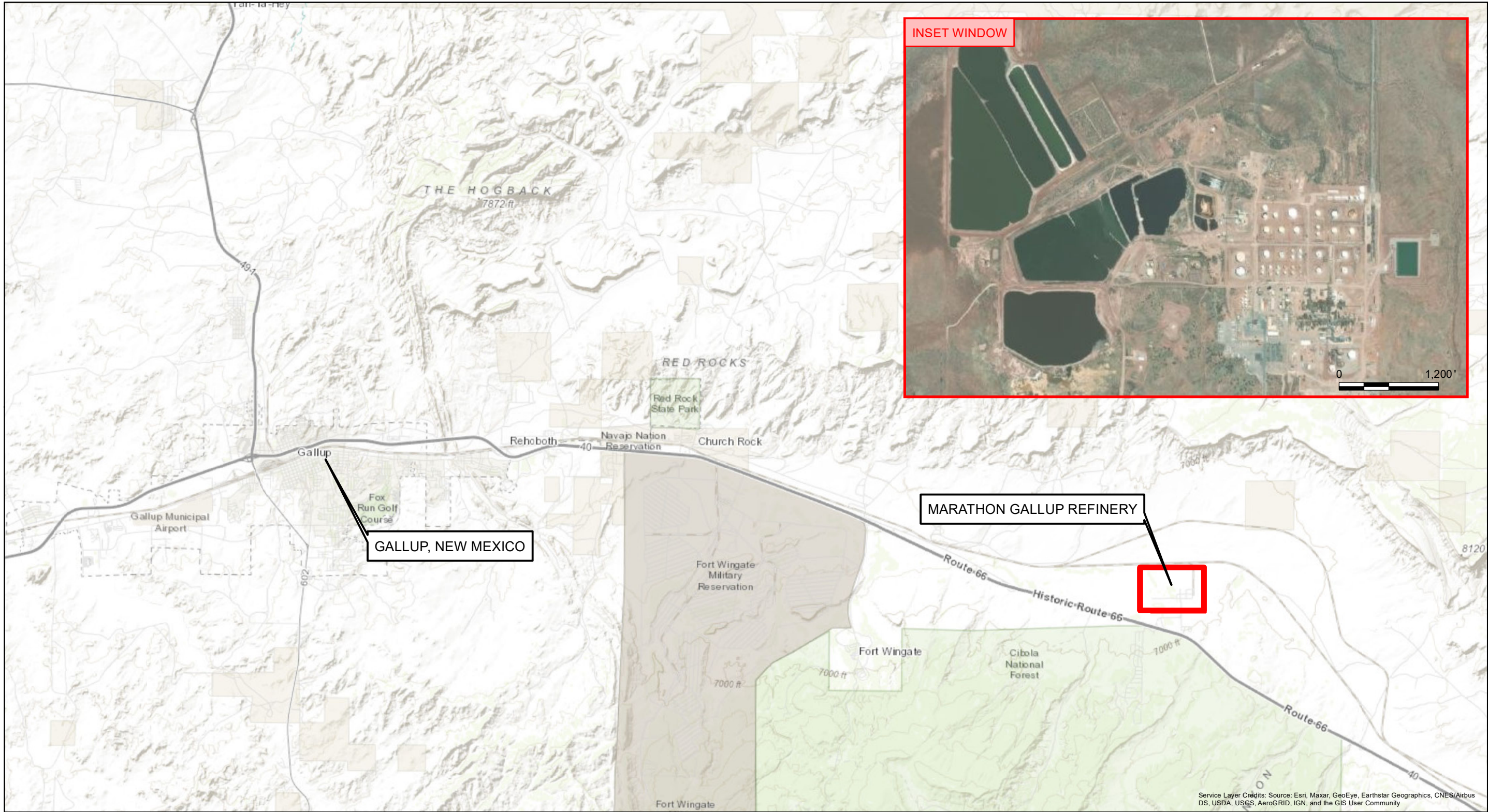
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- United States Environmental Protection Agency (USEPA). 2021. Regional Soil Screening Levels. September. Available from: <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>.
- Western Refining Southwest LLC (Western). 2021. Investigation Report SMW-2 and GWM-1 Areas, Marathon Gallup Refinery, Western Refining Southwest LLC, Gallup, New Mexico. September.



## Well Installation and Abandonment Report

### Figures





**NOTE:**

SITE LEGAL DESCRIPTION: TOWNSHIP 15 NORTH, RANGE 15 WEST, SECTION 33

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**FIGURE 1-1**

**SITE LOCATION MAP**

**WESTERN REFINING SOUTHWEST LLC.  
MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO**

Drawn By: JDH    Checked By: LA    Scale: 1" = 2 miles    Date: 10/8/21    File: 1-1\_SiteLocation\_Fig1-1.mxd

\\AT\ON\MARATHON\GIS\GALLUP\MAPPING\SITE\WIDE FIGURES\WELLS202107 REFINERY\ADDITIONAL\WELLS\INSTALL\1-1 SITE\LOCATION FIG1-1.MXD





Image Cite: DigitalGlobe © CNES (2019) Distribution Airbus DS © Microsoft Corporation, BING Imagery

**EXPLANATION**

- OW-66 NEWLY INSTALLED MONITORING WELL AND DESIGNATION
- OW-69 NEWLY INSTALLED SOIL BORING AND DESIGNATION
- RW-2R NEWLY INSTALLED RECOVERY WELL AND DESIGNATION
- MKTF-01 NEWLY ABANDONED WELL AND DESIGNATION
- RW-2 NEWLY ABANDONED RECOVERY WELL AND DESIGNATION



0 350' 700'



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| FIGURE 2-1                                                                       |                |                  |                 |                                |
|----------------------------------------------------------------------------------|----------------|------------------|-----------------|--------------------------------|
| NEW WELL LOCATIONS AND ABANDONED WELLS<br>JULY AND AUGUST 2021                   |                |                  |                 |                                |
| WESTERN REFINING SOUTHWEST LLC<br>MARATHON GALLUP REFINERY<br>GALLUP, NEW MEXICO |                |                  |                 |                                |
| Drawn By: REP                                                                    | Checked By: PH | Scale: 1" = 350' | Date: 9/21/2021 | File: 697-RAWI-NEWWELLS-202109 |





## Well Installation and Abandonment Report

### Tables



TABLE 1-1. WELL LIST  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Well                                   | Location                                        | Objective                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Abandon & Replace or New? | Geologic Unit                                   | Reference                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MKTF-01R                               | Adjacent to MKTF-01                             | The screens in wells MKTF-01, -02, -04, -17, and -18 have historically been or are currently (as of 2019) submerged. NMED requested replacement wells with appropriate screened intervals to delineate the SPH plume.                                                                                                                                                                                                                                                                                                                                                   | Abandon & Replace         | Chinle-Alluvium Interface                       | 2018. NMED. Disapproval, Annual Groundwater Monitoring Report, Gallup Refinery - 2015, Comment 40. January 31.                                                                                                                                                                                                                                                                                                                 |
| MKTF-02R                               | Adjacent to MKTF-02                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Abandon & Replace         | Chinle-Alluvium Interface                       | 2018. NMED. Disapproval, Annual Groundwater Monitoring Report, Gallup Refinery - 2015, Comment 40. January 31.                                                                                                                                                                                                                                                                                                                 |
| MKTF-04R                               | Adjacent to MKTF-04                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Abandon & Replace         | Chinle-Alluvium Interface                       | 2018. NMED. Disapproval, Annual Groundwater Monitoring Report, Gallup Refinery - 2015, Comment 40. January 31.                                                                                                                                                                                                                                                                                                                 |
| MKTF-17R                               | Adjacent to MKTF-17                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Abandon & Replace         | Chinle-Alluvium Interface                       | 2018. NMED. Disapproval, Annual Groundwater Monitoring Report, Gallup Refinery - 2015, Comment 40. January 31.                                                                                                                                                                                                                                                                                                                 |
| MKTF-18R                               | Adjacent to MKTF-18                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Abandon & Replace         | Chinle-Alluvium Interface                       | 2018. NMED. Disapproval, Annual Groundwater Monitoring Report, Gallup Refinery - 2015, Comment 40. January 31.                                                                                                                                                                                                                                                                                                                 |
| RW-2R                                  | Adjacent to RW-2                                | The screen in well RW-2 has historically been or is currently (as of 2019) submerged. NMED requested a replacement well be installed with the appropriate screened interval to delineate the SPH plume.                                                                                                                                                                                                                                                                                                                                                                 | Abandon & Replace         | Chinle-Alluvium Interface                       | 2019. NMED. Disapproval, Work Plan 2015 Annual Groundwater Report Comments, Western Refining Southwest, Inc., Gallup Refinery, Comment 4, January 28.                                                                                                                                                                                                                                                                          |
| OW-66                                  | Midway between OW-29 and OW-13                  | Wells OW-50 and OW-52 may be located cross-gradient relative to the piezometric groundwater flow direction and a change of flow direction from north to west may be occurring between well OW-13 (screened in the Sonsela formation) and well OW-29 (screened in the Chinle formation). NMED requested a well screened across the Chinle-Alluvium interface between well OW-13 and well OW-29 to clarify groundwater flow direction.                                                                                                                                    | New                       | Chinle-Alluvium Interface                       | 2018. NMED. Disapproval, Annual Groundwater Monitoring Report, Gallup Refinery - 2015, Comment 18.3. January 31.                                                                                                                                                                                                                                                                                                               |
| OW-13A <sup>1</sup><br>(Not Installed) | Adjacent to OW-13 (shallow)                     | The MTBE plume may be migrating in a westerly direction. Although well OW-13 is appropriately located to define the west boundary of the plume, well OW-13 is screened in the Sonsela formation and not monitoring the same stratigraphic units as other monitoring wells in the area. Therefore, well OW-13 may not provide relevant information to characterize the groundwater flow direction or detect the MTBE/benzene plumes. NMED requested a well screened across the Chinle-Alluvium interface in the vicinity of OW-13 to clarify groundwater flow direction. | New                       | Chinle-Alluvium Interface                       | 2018. NMED. Disapproval, Annual Groundwater Monitoring Report, Gallup Refinery - 2015, Comment 18.4. January 31.                                                                                                                                                                                                                                                                                                               |
| OW-67                                  | Near MW-4 (north boundary of EP-2)              | The initial site investigation identified the Land Treatment Unit as a potential source of elevated chloride and sulfate concentrations detected in well SMW-2. The investigation report recommended additional evaluation at evaporation pond EP-2 by installing two monitoring wells.                                                                                                                                                                                                                                                                                 | New                       | Uppermost saturated interval (i.e., Upper Sand) | This area was initially identified by the New Mexico Environment Department (NMED) in comment letters regarding the 2013 and 2014 Annual Wide Ground Water Monitoring Reports as requesting additional groundwater monitoring wells and again in the a comment letter on the 2016 Annual Ground Water Monitoring Report.<br><br>The <i>Investigation Work Plan SMW-2 and GWM-1 Areas</i> was approved by NMED on July 1, 2020. |
| OW-68                                  | Between MW-4 and OW-60 (north boundary of EP-2) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | New                       | Uppermost saturated interval (i.e., Upper Sand) |                                                                                                                                                                                                                                                                                                                                                                                                                                |
| OW-69 <sup>1</sup><br>(Not Installed)  | Between GWM-1 and EP-2                          | SPH was observed in GWM-1 in 2016. Due to the location of GWM-1, a potential source of SPH is the aeration lagoons AL-1 and AL-2. NMED requested a monitoring well downgradient from well GWM-1 (halfway between the eastern perimeter of pond EP-1 and well GWM-1) to evaluate the extent of SPH in the shallow aquifer. The well would also serve as a sentinel well for the eastern perimeter of EP-2.                                                                                                                                                               | New                       | Shallow                                         | 2018. NMED. Disapproval, Annual Groundwater Monitoring Report, Gallup Refinery - 2016, Comment 9. June 4.<br>2019. NMED. Disapproval, Investigation Work Plan [SMW-2] and [GWM-1] Areas. February 20.<br><br>The <i>Investigation Work Plan SMW-2 and GWM-1 Areas</i> was approved by NMED on July 1, 2020.                                                                                                                    |
| Not Installed <sup>2</sup>             | West of OW-1                                    | Well OW-1 has had MTBE detections below the applicable standard during 2017. NMED believes this could be the leading edge of the MTBE plume. Because there is a water supply well approximately 1-mile downgradient, MPC must ensure that no contaminants migrate further downgradient of OW-1 and off site. NMED has requested a sentinel well screened in the Sonsela formation west of OW-1 to monitor for potential MTBE migration.                                                                                                                                 | New                       | Sonsela                                         | 2018. NMED. Disapproval, Annual Groundwater Monitoring Report, Gallup Refinery - 2015, Comment 22. January 31.                                                                                                                                                                                                                                                                                                                 |
| Not Installed <sup>2</sup>             | NE of OW-30                                     | MTBE has been detected in OW-30 at concentrations above the applicable standard since 2007. NMED noted that the data also have shown a steady increase indicating that the MTBE plume may be migrating in a northeastern direction. Since there is no monitoring well to define northeastern extent of the plume beyond the property boundary, NMED has requested a monitoring well be installed approximately 500 feet northeast of well OW-30 to delineate the potential plume. The new well should be screened across the Chinle-Alluvium interface.                 | New                       | Chinle-Alluvium Interface                       | 2018. NMED. Disapproval, Annual Groundwater Monitoring Report, Gallup Refinery - 2015, Comment 18.2. January 31.                                                                                                                                                                                                                                                                                                               |

TABLE 2-1. WELL CONSTRUCTION AND GAUGING DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Well ID  | Sample Date | Date of Installation | Casing Diameter (in) | Surface Elevation (ft) | Well Casing Rim Elevation (ft) | Ground Elevation Inside Steel Sleeve (ft) | Stick-up length (ft) | Well Casing Bottom Elevation (ft) | Total Well Depth (ft) | Depth to SPH (ft) | SPH Column Thickness (ft) | DTW (ft) | GW Elevation (ft) | Corrected Water Table <sup>1</sup> Elevation (ft) | Screened Interval Depth Top to Bottom (ft) | Stratigraphic unit in which screen exists |
|----------|-------------|----------------------|----------------------|------------------------|--------------------------------|-------------------------------------------|----------------------|-----------------------------------|-----------------------|-------------------|---------------------------|----------|-------------------|---------------------------------------------------|--------------------------------------------|-------------------------------------------|
| MKTF-01R | 09/17/21    | 07/22/21             | 2                    | 6,921.82               | 6,921.62                       | NA                                        | -0.20                | 6,902.87                          | 18.75                 | NM                | NA                        | 3.40     | 6,918.22          | 6918.22                                           | 3 - 18                                     | Chinle/Alluvium Interface                 |
| MKTF-02R | 09/17/21    | 07/22/21             | 2                    | 6,920.46               | 6,922.93                       | NA                                        | 2.47                 | 6,901.43                          | 21.50                 | NM                | NA                        | 16.10    | 6,906.83          | 6906.83                                           | 3 - 18                                     | Chinle/Alluvium Interface                 |
| MKTF-04R | 09/17/21    | 08/16/21             | 2                    | 6,938.49               | 6,937.96                       | NA                                        | -0.53                | 6,918.76                          | 19.20                 | NM                | NA                        | 9.60     | 6,928.36          | 6928.36                                           | 4 - 19                                     | Chinle/Alluvium Interface                 |
| MKTF-17R | 09/17/21    | 08/14/21             | 2                    | 6,950.61               | 6,950.20                       | NA                                        | -0.41                | 6,929.75                          | 20.45                 | NM                | NA                        | 11.93    | 6,938.27          | 6938.27                                           | 5 - 20                                     | Chinle/Alluvium Interface                 |
| MKTF-18R | 09/17/21    | 08/14/21             | 2                    | 6,955.29               | 6,954.87                       | NA                                        | -0.42                | 6,929.32                          | 25.55                 | NM                | NA                        | 9.58     | 6,945.29          | 6945.29                                           | 5 - 25                                     | Chinle/Alluvium Interface                 |
| OW-13A   | NA          | Dry Hole             | NA                   | NS                     | NS                             | NA                                        | NA                   | NA                                | 25.50                 | NA                | NA                        | NA       | NA                | NA                                                | NA                                         | Chinle/Alluvium Interface                 |
| OW-66    | 09/17/21    | 07/19/21             | 2                    | 6,919.80               | 6,922.35                       | NA                                        | 2.55                 | 6,894.52                          | 27.83                 | NM                | NA                        | 18.21    | 6,904.14          | 6904.14                                           | 10 - 25                                    | Chinle/Alluvium Interface                 |
| OW-67    | 09/17/21    | 07/20/21             | 2                    | 6,900.73               | 6,903.29                       | NA                                        | 2.56                 | 6,875.54                          | 27.75                 | NM                | NA                        | 12.40    | 6,890.89          | 6890.89                                           | 10 - 25                                    | Chinle/Alluvium Interface                 |
| OW-68    | 09/17/21    | 07/21/21             | 2                    | 6,888.68               | 6,891.51                       | NA                                        | 2.83                 | 6,863.29                          | 28.22                 | NM                | NA                        | 14.22    | 6,877.29          | 6877.29                                           | 5 - 26                                     | Chinle/Alluvium Interface                 |
| OW-69    | NA          | Dry Hole             | NA                   | NS                     | NS                             | NA                                        | NA                   | NA                                | 26.00                 | NA                | NA                        | NA       | NA                | NA                                                | NA                                         | Chinle/Alluvium Interface                 |
| RW-2R    | SPH - NA    | 08/13/21             | 4                    | 6,931.04               | 6,934.21                       | NA                                        | 3.17                 | 6,898.50                          | 35.71                 | 22.21             | 2.67                      | 24.88    | 6,909.33          | 6911.47                                           | 11.5 - 31.5                                | Chinle/Alluvium Interface                 |

Definitions:  
NA = not applicable  
DTW = depth to water  
SPH = separate phase hydrocarbons  
NS = Not Surveyed  
NM = Not Measured  
DRY = no water detected  
in = inch  
ft = feet

Notes:  
1. Corrected Water Table Elevation applies only if SPH thickness column measurement exists. (0.8 X SPH thickness + Groundwater Elevation)  
Negative number in Stick up Length column indicates well is flushmount and located at or below ground level.  
Depth to Water Column - if 0.00 is indicated - means water is at top of casing (full) under artesian flow conditions.

TABLE 3-1. PETROLEUM HYDROCARBONS, BTEX, AND MTBE ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location ID  | Start Depth<br>(ft) | End Depth<br>(ft) | Date Sampled | Diesel Range Organics<br>(mg/kg) | Gasoline Range<br>Organics<br>(mg/kg) | Oil Range Organics<br>(mg/kg) | Benzene<br>(mg/kg) | Ethylbenzene<br>(mg/kg) | Toluene<br>(mg/kg) | Xylenes, Total<br>(mg/kg) | MTBE<br>(mg/kg)     |
|--------------|---------------------|-------------------|--------------|----------------------------------|---------------------------------------|-------------------------------|--------------------|-------------------------|--------------------|---------------------------|---------------------|
| MKTf-01R     | 6                   | 6                 | 07/22/21     | 26                               | <b>1100 J-</b> <sup>a,b</sup>         | ND(45)                        | 7                  | 9.6                     | 24                 | 42                        | ND(0.024)           |
|              | 18                  | 18                | 07/22/21     | 12                               | 6.9 J-                                | ND(44)                        | 0.11               | 0.055                   | 0.082              | 0.23                      | 0.017 J             |
| MKTf-02R     | 6                   | 6                 | 07/22/21     | 41                               | <b>260 J-</b> <sup>a</sup>            | ND(48)                        | 0.027              | 0.79                    | 0.014 J            | 1.7                       | ND(0.03)            |
|              | 18                  | 18                | 07/22/21     | ND(9.4)                          | ND(3.6) UJ                            | ND(47)                        | ND(0.018)          | ND(0.036)               | 0.0062 J           | ND(0.071)                 | ND(0.036)           |
| MKTf-04R     | 8.2                 | 8.7               | 08/16/21     | 75                               | <b>300</b> <sup>a</sup>               | ND(50)                        | ND(0.014)          | 1.9                     | 0.0073             | 14                        | 0.018               |
|              | 19.5                | 20                | 08/16/21     | 130                              | 0.89                                  | ND(47)                        | ND(0.014)          | ND(0.027)               | ND(0.027)          | ND(0.054)                 | 0.063               |
| MKTf-17R     | 6.5                 | 7                 | 08/14/21     | 200                              | <b>2100</b> <sup>a,b</sup>            | ND(50)                        | 11                 | 17                      | 150                | 92                        | 0.088               |
| MKTf-17R Dup | 20.5                | 21                | 08/14/21     | ND(10)                           | 1.4                                   | ND(50)                        | ND(0.013)          | ND(0.026)               | 0.005              | ND(0.051)                 | 0.021               |
| MKTf-17R     | 20.5                | 21                | 08/14/21     | ND(9.9)                          | 0.75                                  | ND(49)                        | ND(0.013)          | ND(0.026)               | 0.0045             | ND(0.052)                 | 0.021               |
| MKTf-18R     | 9.5                 | 10                | 08/14/21     | 830                              | <b>2400</b> <sup>a,b</sup>            | ND(46)                        | 6.1                | 25                      | 98                 | 130                       | 0.096               |
|              | 25.5                | 26                | 08/14/21     | 260                              | 11                                    | ND(47)                        | ND(0.025)          | ND(0.049)               | 0.0064             | ND(0.098)                 | 0.041               |
| OW-13A       | 14                  | 14                | 07/19/21     | ND(9.3)                          | ND(4.1)                               | ND(47)                        | ND(0.02)           | ND(0.041)               | ND(0.041)          | ND(0.082)                 | ND(0.041)           |
|              | 25.5                | 25.5              | 07/19/21     | ND(9.3)                          | ND(3.8)                               | ND(47)                        | ND(0.019)          | ND(0.038)               | ND(0.038)          | ND(0.076)                 | ND(0.038)           |
| OW-66        | 18                  | 18                | 07/19/21     | 96                               | <b>1200</b> <sup>a,b</sup>            | ND(43)                        | 10                 | 8.1                     | 52                 | 93                        | 0.054J/ND(0.11)U*   |
|              | 26                  | 26                | 07/19/21     | 7.8 J                            | 5.7                                   | ND(49)                        | 0.12               | 0.057                   | 0.33               | 0.38                      | 0.035 JB            |
| OW-67        | 17                  | 17                | 07/20/21     | ND(9.7)                          | ND(2.9)                               | ND(49)                        | ND(0.014)          | ND(0.029)               | ND(0.029)          | ND(0.057)                 | ND(0.029)           |
|              | 26                  | 26                | 07/20/21     | ND(9.7)                          | ND(2.3)                               | ND(48)                        | ND(0.012)          | ND(0.023)               | ND(0.023)          | ND(0.046)                 | ND(0.023)           |
| OW-68        | 22                  | 22                | 07/20/21     | ND(9)                            | ND(2.6)                               | ND(45)                        | ND(0.013)          | ND(0.026)               | ND(0.026)          | ND(0.051)                 | 0.0055J/ND(0.026)U* |
|              | 26                  | 26                | 07/20/21     | ND(8.7)                          | ND(2.8)                               | ND(43)                        | ND(0.014)          | ND(0.028)               | ND(0.028)          | ND(0.056)                 | 0.0057J/ND(0.028)U* |
| OW-69        | 6                   | 6                 | 07/21/21     | 8.4 J                            | ND(3.4)                               | ND(47)                        | ND(0.017)          | ND(0.034)               | ND(0.034)          | ND(0.068)                 | ND(0.034)           |
|              | 26                  | 26                | 07/21/21     | ND(9.3)                          | ND(3.5)                               | ND(46)                        | ND(0.018)          | ND(0.035)               | ND(0.035)          | ND(0.071)                 | ND(0.035)           |
| RW-2R Dup    | 16.5                | 17                | 08/13/21     | 100                              | <b>1900</b> <sup>a,b</sup>            | ND(48)                        | 8.2                | 12                      | 38                 | 65                        | ND(0.12)            |
| RW-2R        | 16.5                | 17                | 08/13/21     | 86                               | <b>1900</b> <sup>a,b</sup>            | ND(48)                        | 9.7                | 13                      | 44                 | 72                        | ND(0.12)            |
|              | 32.5                | 33                | 08/13/21     | ND(9.2)                          | 12                                    | ND(46)                        | 1                  | 0.07                    | 0.041              | 0.17                      | 0.037               |

|              |                      |       |     |       |       |       |        |       |    |
|--------------|----------------------|-------|-----|-------|-------|-------|--------|-------|----|
| <sup>a</sup> | NMED Residential SSL | 1,000 | 100 | 1,000 | 17.8  | 75.1  | 5,230  | 871   | NA |
| <sup>b</sup> | NMED Industrial SSL  | 3,000 | 500 | 3,000 | 87.24 | 367.6 | 61,340 | 4,275 | NA |

Notes:  
ND - Not detected  
ft - feet  
mg/kg - milligrams per kilogram  
Dup - duplicate sample  
NA - Not applicable  
BTEX - benzene, toluene, ethylbenzene, and total xylenes  
MTBE - methyl tert butyl ether  
a. NMED Residential SSL - New Mexico Environment Department Residential Soil Screening Level, June 2019  
b. NMED Industrial SSL - New Mexico Environment Department Industrial Soil Screening Level, June 2019  
Results bolded exceeded the screening level  
J- - Estimated concentration, possibly biased low  
J - Estimated concentration  
UJ - Estimated reporting limit  
U - Evaluated to be undetected at the reported concentration  
JB - Estimated concentration due to blank contamination  
\* - The first result represents the laboratory reported concentration. The second result was evaluated to be undetected at the reported concentration by the data validator. The result was determined to be a false positive.

TABLE 3-2. VOC ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location ID  | Start Depth<br>(ft) | End Depth<br>(ft) | Date Sampled | Acetone<br>(mg/kg) | n-Butylbenzene<br>(mg/kg) | sec-Butylbenzene<br>(mg/kg) | Chloroethane<br>(mg/kg) | Chloroform<br>(mg/kg) | Chloromethane<br>(mg/kg) | 1,1-Dichloroethane<br>(mg/kg) | 1,2-Dichloroethane<br>(mg/kg) | 1,1-Dichloroethene<br>(mg/kg) |
|--------------|---------------------|-------------------|--------------|--------------------|---------------------------|-----------------------------|-------------------------|-----------------------|--------------------------|-------------------------------|-------------------------------|-------------------------------|
| MKTf-01R     | 6                   | 6                 | 07/22/21     | ND(0.36)           | 2.3                       | 0.61                        | ND(0.048)               | ND(0.024)             | ND(0.072)                | ND(0.024)                     | ND(0.024)                     | ND(0.024)                     |
|              | 18                  | 18                | 07/22/21     | ND(0.4)            | 0.011 J                   | ND(0.027)                   | 0.016 J                 | ND(0.027)             | ND(0.081)                | 0.016 J                       | ND(0.027)                     | 0.01 J                        |
| MKTf-02R     | 6                   | 6                 | 07/22/21     | ND(0.44)           | 0.88                      | 0.24                        | 0.046 J                 | ND(0.03)              | ND(0.089)                | 0.021 J                       | ND(0.03)                      | ND(0.03)                      |
|              | 18                  | 18                | 07/22/21     | ND(0.53)           | ND(0.11)                  | ND(0.036)                   | ND(0.071)               | 0.015 J               | ND(0.11)                 | ND(0.036)                     | 0.014 J                       | ND(0.036)                     |
| MKTf-04R     | 8.2                 | 8.7               | 08/16/21     | ND(0.41)           | 1.1                       | 0.44                        | ND(0.054)               | ND(0.027)             | ND(0.081)                | ND(0.027)                     | ND(0.027)                     | ND(0.027)                     |
|              | 19.5                | 20                | 08/16/21     | ND(0.41)           | ND(0.081)                 | ND(0.027)                   | ND(0.054)               | ND(0.027)             | ND(0.081)                | 0.014                         | ND(0.027)                     | 0.014                         |
| MKTf-17R     | 6.5                 | 7                 | 08/14/21     | ND(1.9)            | 1.9                       | 0.7                         | ND(0.26)                | ND(0.13)              | ND(0.38)                 | ND(0.13)                      | ND(0.13)                      | ND(0.13)                      |
| MKTf-17R Dup | 20.5                | 21                | 08/14/21     | ND(0.38)           | ND(0.077)                 | ND(0.026)                   | ND(0.051)               | ND(0.026)             | ND(0.077)                | ND(0.026)                     | ND(0.026)                     | ND(0.026)                     |
| MKTf-17R     | 20.5                | 21                | 08/14/21     | ND(0.39)           | ND(0.078)                 | ND(0.026)                   | ND(0.052)               | ND(0.026)             | ND(0.078)                | ND(0.026)                     | ND(0.026)                     | ND(0.026)                     |
| MKTf-18R     | 9.5                 | 10                | 08/14/21     | ND(2.3)            | 4.3                       | 1.7                         | ND(0.3)                 | ND(0.15)              | 0.41                     | ND(0.15)                      | ND(0.15)                      | ND(0.15)                      |
|              | 25.5                | 26                | 08/14/21     | ND(0.74)           | 0.036                     | ND(0.049)                   | ND(0.098)               | ND(0.049)             | ND(0.15)                 | ND(0.049)                     | ND(0.049)                     | ND(0.049)                     |
| OW-13A       | 14                  | 14                | 07/19/21     | 0.11 J             | ND(0.12)                  | ND(0.041)                   | ND(0.082)               | ND(0.041)             | ND(0.12)                 | ND(0.041)                     | ND(0.041)                     | ND(0.041)                     |
|              | 25.5                | 25.5              | 07/19/21     | ND(0.57)           | ND(0.11)                  | ND(0.038)                   | ND(0.076)               | ND(0.038)             | ND(0.11)                 | ND(0.038)                     | ND(0.038)                     | ND(0.038)                     |
| OW-66        | 18                  | 18                | 07/19/21     | 0.37 J             | 1.2                       | 0.41                        | ND(0.22)                | ND(0.11)              | 0.11 J                   | ND(0.11)                      | ND(0.11)                      | ND(0.11)                      |
|              | 26                  | 26                | 07/19/21     | ND(0.36)           | ND(0.072)                 | ND(0.024)                   | 0.017 J                 | ND(0.024)             | ND(0.072)                | ND(0.024)                     | ND(0.024)                     | ND(0.024)                     |
| OW-67        | 17                  | 17                | 07/20/21     | ND(0.43)           | ND(0.086)                 | ND(0.029)                   | ND(0.057)               | ND(0.029)             | ND(0.086)                | ND(0.029)                     | ND(0.029)                     | ND(0.029)                     |
|              | 26                  | 26                | 07/20/21     | ND(0.35)           | ND(0.069)                 | ND(0.023)                   | ND(0.046)               | ND(0.023)             | ND(0.069)                | ND(0.023)                     | ND(0.023)                     | ND(0.023)                     |
| OW-68        | 22                  | 22                | 07/20/21     | 0.074 J            | ND(0.077)                 | ND(0.026)                   | ND(0.051)               | ND(0.026)             | ND(0.077)                | ND(0.026)                     | ND(0.026)                     | ND(0.026)                     |
|              | 26                  | 26                | 07/20/21     | 0.075 J            | ND(0.084)                 | ND(0.028)                   | ND(0.056)               | ND(0.028)             | ND(0.084)                | ND(0.028)                     | ND(0.028)                     | ND(0.028)                     |
| OW-69        | 6                   | 6                 | 07/21/21     | ND(0.51)           | ND(0.1)                   | ND(0.034)                   | ND(0.068)               | ND(0.034)             | ND(0.1)                  | ND(0.034)                     | ND(0.034)                     | ND(0.034)                     |
|              | 26                  | 26                | 07/21/21     | ND(0.53)           | ND(0.11)                  | ND(0.035)                   | ND(0.071)               | ND(0.035)             | ND(0.11)                 | ND(0.035)                     | ND(0.035)                     | ND(0.035)                     |
| RW-2R Dup    | 16.5                | 17                | 08/13/21     | ND(1.8)            | 1.6                       | 1.5                         | ND(0.23)                | ND(0.12)              | 0.17                     | ND(0.12)                      | ND(0.12)                      | ND(0.12)                      |
| RW-2R        | 16.5                | 17                | 08/13/21     | ND(1.8)            | 1.6                       | 1.6                         | ND(0.24)                | ND(0.12)              | 0.19                     | ND(0.12)                      | ND(0.12)                      | ND(0.12)                      |
|              | 32.5                | 33                | 08/13/21     | 0.27               | 0.0092                    | ND(0.031)                   | ND(0.061)               | 0.0088                | ND(0.092)                | ND(0.031)                     | ND(0.031)                     | ND(0.031)                     |

|                      |         |    |    |        |       |       |       |       |       |
|----------------------|---------|----|----|--------|-------|-------|-------|-------|-------|
| NMED Residential SSL | 66,300  | NA | NA | 19,000 | 5.9   | 41.1  | 78.6  | 8.32  | 440   |
| NMED Industrial SSL  | 960,100 | NA | NA | 89,540 | 28.66 | 200.8 | 383.3 | 40.67 | 2,255 |

Notes:  
ND - Not detected  
ft - feet  
mg/kg - milligrams per kilogram  
Dup - duplicate sample  
NA - Not applicable  
VOC - volatile organic compounds  
All Other VOCs - VOCs analyzed that were non-detect are included in the lab reports  
NMED Residential SSL - New Mexico Environment Department Residential Soil Screening Level, June 2019  
NMED Industrial SSL - New Mexico Environment Department Industrial Soil Screening Level, June 2019  
J - Estimated concentration  
U - Evaluated to be undetected at the reported concentration  
JB - Estimated concentration due to blank contamination  
\* - The first result represents the laboratory reported concentration. The second result was evaluated to be undetected at the reported concentration by the data validator. The result was determined to be a false positive.



TABLE 3-2. VOC ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location ID  | Start Depth<br>(ft) | End Depth<br>(ft) | Date Sampled | 2,2-Dichloropropane<br>(mg/kg) | Cis-1,3-dichloro-<br>propene<br>(mg/kg) | Isopropylbenzene<br>(mg/kg) | p-Isopropyltoluene<br>(mg/kg) | 4-Methyl-2-<br>Pentanone<br>(mg/kg) | 1-Methyl-<br>naphthalene<br>(mg/kg) | 2-Methyl-<br>naphthalene<br>(mg/kg) | Naphthalene<br>(mg/kg) | n-Propylbenzene<br>(mg/kg) |
|--------------|---------------------|-------------------|--------------|--------------------------------|-----------------------------------------|-----------------------------|-------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|------------------------|----------------------------|
| MKTf-01R     | 6                   | 6                 | 07/22/21     | 0.021 J                        | 0.0072 J                                | 1.1                         | 0.24                          | 0.13 J                              | 2                                   | 3.3                                 | 1.2                    | 5.3                        |
|              | 18                  | 18                | 07/22/21     | ND(0.054)                      | ND(0.027)                               | 0.0068 J                    | ND(0.027)                     | ND(0.27)                            | ND(0.11)                            | ND(0.11)                            | 0.013 J                | 0.023 J                    |
| MKTf-02R     | 6                   | 6                 | 07/22/21     | ND(0.059)                      | ND(0.03)                                | 0.24                        | 0.17                          | ND(0.3)                             | 0.94                                | 0.28                                | 0.68                   | 1.2                        |
|              | 18                  | 18                | 07/22/21     | ND(0.071)                      | ND(0.036)                               | ND(0.036)                   | ND(0.036)                     | ND(0.36)                            | ND(0.14)                            | ND(0.14)                            | ND(0.071)              | ND(0.036)                  |
| MKTf-04R     | 8.2                 | 8.7               | 08/16/21     | ND(0.054)                      | ND(0.027)                               | 0.63                        | 0.2                           | ND(0.27)                            | 0.75                                | 1.5                                 | 1.5                    | 3.5                        |
|              | 19.5                | 20                | 08/16/21     | ND(0.054)                      | ND(0.027)                               | ND(0.027)                   | ND(0.027)                     | ND(0.27)                            | ND(0.11)                            | ND(0.11)                            | ND(0.054)              | ND(0.027)                  |
| MKTf-17R     | 6.5                 | 7                 | 08/14/21     | 0.036                          | ND(0.13)                                | 1.7                         | 0.18                          | ND(1.3)                             | 0.97                                | 2.2                                 | 3.6                    | 6.2                        |
| MKTf-17R Dup | 20.5                | 21                | 08/14/21     | ND(0.051)                      | ND(0.026)                               | ND(0.026)                   | ND(0.026)                     | ND(0.26)                            | ND(0.1)                             | ND(0.1)                             | ND(0.051)              | ND(0.026)                  |
| MKTf-17R     | 20.5                | 21                | 08/14/21     | ND(0.052)                      | ND(0.026)                               | ND(0.026)                   | ND(0.026)                     | ND(0.26)                            | ND(0.1)                             | ND(0.1)                             | ND(0.052)              | ND(0.026)                  |
| MKTf-18R     | 9.5                 | 10                | 08/14/21     | ND(0.3)                        | ND(0.15)                                | 3                           | 0.74                          | ND(1.5)                             | 7.3                                 | 12                                  | 9.4                    | 12                         |
|              | 25.5                | 26                | 08/14/21     | ND(0.098)                      | ND(0.049)                               | ND(0.049)                   | ND(0.049)                     | 0.065                               | 0.59                                | 0.5                                 | ND(0.098)              | 0.0084                     |
| OW-13A       | 14                  | 14                | 07/19/21     | ND(0.082)                      | ND(0.041)                               | ND(0.041)                   | ND(0.041)                     | ND(0.41)                            | ND(0.16)                            | ND(0.16)                            | ND(0.082)              | ND(0.041)                  |
|              | 25.5                | 25.5              | 07/19/21     | ND(0.076)                      | ND(0.038)                               | ND(0.038)                   | ND(0.038)                     | ND(0.38)                            | ND(0.15)                            | ND(0.15)                            | ND(0.076)              | ND(0.038)                  |
| OW-66        | 18                  | 18                | 07/19/21     | ND(0.22)                       | ND(0.11)                                | 0.49                        | 0.23                          | ND(1.1)                             | 1.2 J                               | 2.3 J                               | 2.4 J                  | 2.6                        |
|              | 26                  | 26                | 07/19/21     | ND(0.048)                      | ND(0.024)                               | ND(0.024)                   | ND(0.024)                     | ND(0.24)                            | ND(0.096)                           | ND(0.096)                           | 0.013 J                | 0.022 J                    |
| OW-67        | 17                  | 17                | 07/20/21     | ND(0.057)                      | ND(0.029)                               | ND(0.029)                   | ND(0.029)                     | ND(0.29)                            | ND(0.11)                            | ND(0.11)                            | ND(0.057)              | ND(0.029)                  |
|              | 26                  | 26                | 07/20/21     | ND(0.046)                      | ND(0.023)                               | ND(0.023)                   | ND(0.023)                     | ND(0.23)                            | ND(0.092)                           | ND(0.092)                           | ND(0.046)              | ND(0.023)                  |
| OW-68        | 22                  | 22                | 07/20/21     | ND(0.051)                      | ND(0.026)                               | ND(0.026)                   | ND(0.026)                     | ND(0.26)                            | ND(0.1)                             | ND(0.1)                             | ND(0.051)              | ND(0.026)                  |
|              | 26                  | 26                | 07/20/21     | ND(0.056)                      | ND(0.028)                               | ND(0.028)                   | ND(0.028)                     | ND(0.28)                            | ND(0.11)                            | ND(0.11)                            | ND(0.056)              | ND(0.028)                  |
| OW-69        | 6                   | 6                 | 07/21/21     | ND(0.068)                      | ND(0.034)                               | ND(0.034)                   | ND(0.034)                     | ND(0.34)                            | ND(0.14)                            | ND(0.14)                            | ND(0.068)              | ND(0.034)                  |
|              | 26                  | 26                | 07/21/21     | ND(0.071)                      | ND(0.035)                               | ND(0.035)                   | ND(0.035)                     | ND(0.35)                            | ND(0.14)                            | ND(0.14)                            | ND(0.071)              | ND(0.035)                  |
| RW-2R Dup    | 16.5                | 17                | 08/13/21     | ND(0.23)                       | ND(0.12)                                | 3.1                         | 1.2                           | ND(1.2)                             | 0.44                                | 0.79                                | 1                      | 5                          |
| RW-2R        | 16.5                | 17                | 08/13/21     | ND(0.24)                       | ND(0.12)                                | 3.5                         | 1.2                           | ND(1.2)                             | 0.42                                | 0.72                                | 1                      | 5.3                        |
|              | 32.5                | 33                | 08/13/21     | ND(0.061)                      | ND(0.031)                               | 0.0068                      | ND(0.031)                     | ND(0.31)                            | ND(0.12)                            | ND(0.12)                            | 0.018                  | 0.017                      |

|                      |    |    |        |    |        |     |       |      |    |
|----------------------|----|----|--------|----|--------|-----|-------|------|----|
| NMED Residential SSL | NA | NA | 2,360  | NA | 5,810  | 172 | 232   | 49.7 | NA |
| NMED Industrial SSL  | NA | NA | 14,220 | NA | 81,650 | 813 | 3,368 | 241  | NA |

Notes:  
ND - Not detected  
ft - feet  
mg/kg - milligrams per kilogram  
Dup - duplicate sample  
NA - Not applicable  
VOC - volatile organic compounds  
All Other VOCs - VOCs analyzed that were non-detect are included in the lab reports  
NMED Residential SSL - New Mexico Environment Department Residential Soil Screening Level, June 2019  
NMED Industrial SSL - New Mexico Environment Department Industrial Soil Screening Level, June 2019  
J - Estimated concentration  
U - Evaluated to be undetected at the reported concentration  
JB - Estimated concentration due to blank contamination  
\* - The first result represents the laboratory reported concentration. The second result was evaluated to be undetected at the reported concentration by the data validator. The result was determined to be a false positive.

TABLE 3-2. VOC ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location ID  | Start Depth<br>(ft) | End Depth<br>(ft) | Date Sampled | Tetrachloroethene<br>(mg/kg) | 1,2,4-Trimethyl-<br>benzene<br>(mg/kg) | 1,3,5-Trimethyl-<br>benzene<br>(mg/kg) | All Other VOCs |
|--------------|---------------------|-------------------|--------------|------------------------------|----------------------------------------|----------------------------------------|----------------|
| MKTf-01R     | 6                   | 6                 | 07/22/21     | 0.0069 J                     | 21                                     | 4.1                                    | ND             |
|              | 18                  | 18                | 07/22/21     | ND(0.027)                    | 0.11 JB                                | 0.017 J                                | ND             |
| MKTf-02R     | 6                   | 6                 | 07/22/21     | ND(0.03)                     | 12                                     | 0.022 J                                | ND             |
|              | 18                  | 18                | 07/22/21     | ND(0.036)                    | 0.026J/ND(0.036)U*                     | ND(0.036)                              | ND             |
| MKTf-04R     | 8.2                 | 8.7               | 08/16/21     | ND(0.027)                    | 17                                     | 5.6                                    | ND             |
|              | 19.5                | 20                | 08/16/21     | ND(0.027)                    | ND(0.027)                              | ND(0.027)                              | ND             |
| MKTf-17R     | 6.5                 | 7                 | 08/14/21     | ND(0.13)                     | 29                                     | 8.2                                    | ND             |
| MKTf-17R Dup | 20.5                | 21                | 08/14/21     | ND(0.026)                    | ND(0.026)                              | ND(0.026)                              | ND             |
| MKTf-17R     | 20.5                | 21                | 08/14/21     | ND(0.026)                    | ND(0.026)                              | ND(0.026)                              | ND             |
| MKTf-18R     | 9.5                 | 10                | 08/14/21     | ND(0.15)                     | 52                                     | 16                                     | ND             |
|              | 25.5                | 26                | 08/14/21     | ND(0.049)                    | ND(0.049)                              | ND(0.049)                              | ND             |
| OW-13A       | 14                  | 14                | 07/19/21     | ND(0.041)                    | ND(0.041)                              | ND(0.041)                              | ND             |
|              | 25.5                | 25.5              | 07/19/21     | ND(0.038)                    | ND(0.038)                              | ND(0.038)                              | ND             |
| OW-66        | 18                  | 18                | 07/19/21     | ND(0.11)                     | 39                                     | 13                                     | ND             |
|              | 26                  | 26                | 07/19/21     | ND(0.024)                    | 0.18                                   | 0.059                                  | ND             |
| OW-67        | 17                  | 17                | 07/20/21     | ND(0.029)                    | ND(0.029)                              | ND(0.029)                              | ND             |
|              | 26                  | 26                | 07/20/21     | ND(0.023)                    | ND(0.023)                              | ND(0.023)                              | ND             |
| OW-68        | 22                  | 22                | 07/20/21     | ND(0.026)                    | ND(0.026)                              | ND(0.026)                              | ND             |
|              | 26                  | 26                | 07/20/21     | ND(0.028)                    | ND(0.028)                              | ND(0.028)                              | ND             |
| OW-69        | 6                   | 6                 | 07/21/21     | ND(0.034)                    | ND(0.034)                              | ND(0.034)                              | ND             |
|              | 26                  | 26                | 07/21/21     | ND(0.035)                    | ND(0.035)                              | ND(0.035)                              | ND             |
| RW-2R Dup    | 16.5                | 17                | 08/13/21     | ND(0.12)                     | 18                                     | 7.4                                    | ND             |
| RW-2R        | 16.5                | 17                | 08/13/21     | ND(0.12)                     | 20                                     | 7.6                                    | ND             |
|              | 32.5                | 33                | 08/13/21     | ND(0.031)                    | 0.067                                  | 0.019                                  | ND             |

|                      |       |    |    |    |
|----------------------|-------|----|----|----|
| NMED Residential SSL | 337   | NA | NA | NA |
| NMED Industrial SSL  | 628.8 | NA | NA | NA |

Notes:  
ND - Not detected  
ft - feet  
mg/kg - milligrams per kilogram  
Dup - duplicate sample  
NA - Not applicable  
VOC - volatile organic compounds  
All Other VOCs - VOCs analyzed that were non-detect are included in the lab reports  
NMED Residential SSL - New Mexico Environment Department Residential Soil Screening Level, June 2019  
NMED Industrial SSL - New Mexico Environment Department Industrial Soil Screening Level, June 2019  
J - Estimated concentration  
U - Evaluated to be undetected at the reported concentration  
JB - Estimated concentration due to blank contamination  
\* - The first result represents the laboratory reported concentration. The second result was evaluated to be undetected at the reported concentration by the data validator. The result was determined to be a false positive.

TABLE 3-3. SVOC ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location ID  | Start Depth<br>(ft) | End Depth<br>(ft) | Date Sampled | Bis(2-ethyl hexyl)-<br>phthalate<br>(mg/kg) | Benzyl Butyl<br>Phthalate<br>(mg/kg) | Diethylphthalate<br>(mg/kg) | Di-n-butylphthalate<br>(mg/kg) | Fluoranthene<br>(mg/kg) | Fluorene<br>(mg/kg) | 2-Methyl phenol<br>(mg/kg) | 3,4- Methyl phenol<br>(mg/kg) | Phenanthrene<br>(mg/kg) |
|--------------|---------------------|-------------------|--------------|---------------------------------------------|--------------------------------------|-----------------------------|--------------------------------|-------------------------|---------------------|----------------------------|-------------------------------|-------------------------|
| MKTf-01R     | 6                   | 6                 | 07/22/21     | ND(0.49)                                    | 0.075 J                              | 1.7B/ND(1.7)U*              | 0.41B/ND(0.41)U*               | ND(0.2)                 | ND(0.2)             | ND(0.39)                   | ND(0.2)                       | ND(0.2)                 |
|              | 18                  | 18                | 07/22/21     | ND(0.5)                                     | 0.08 J                               | 1.6B/ND(1.6)U*              | ND(0.4)                        | ND(0.2)                 | ND(0.2)             | ND(0.4)                    | ND(0.2)                       | ND(0.2)                 |
| MKTf-02R     | 6                   | 6                 | 07/22/21     | ND(0.5)                                     | ND(0.2)                              | 1.3B/ND(1.3)U*              | 0.29J/ND(0.4)U*                | ND(0.2)                 | ND(0.2)             | ND(0.4)                    | ND(0.2)                       | ND(0.2)                 |
|              | 18                  | 18                | 07/22/21     | ND(0.48)                                    | ND(0.19)                             | 1.6B/ND(1.6)U*              | 0.38J/ND(0.39)U*               | ND(0.19)                | ND(0.19)            | ND(0.39)                   | ND(0.19)                      | ND(0.19)                |
| MKTf-04R     | 8.2                 | 8.7               | 08/16/21     | ND(0.49)                                    | ND(0.2)                              | ND(0.49)                    | ND(0.39)                       | ND(0.2)                 | ND(0.2)             | ND(0.39)                   | ND(0.2)                       | ND(0.2)                 |
|              | 19.5                | 20                | 08/16/21     | ND(0.48)                                    | ND(0.19)                             | ND(0.48)                    | ND(0.38)                       | ND(0.19)                | ND(0.19)            | ND(0.38)                   | ND(0.19)                      | ND(0.19)                |
| MKTf-17R     | 6.5                 | 7                 | 08/14/21     | ND(4.9)                                     | ND(2)                                | ND(4.9)                     | ND(3.9)                        | ND(2)                   | ND(2)               | ND(3.9)                    | ND(2)                         | ND(2)                   |
| MKTf-17R Dup | 20.5                | 21                | 08/14/21     | ND(0.48)                                    | ND(0.19)                             | ND(0.48)                    | ND(0.39)                       | ND(0.19)                | ND(0.19)            | ND(0.39)                   | ND(0.19)                      | ND(0.19)                |
| MKTf-17R     | 20.5                | 21                | 08/14/21     | ND(0.49)                                    | ND(0.2)                              | ND(0.49)                    | 0.39                           | ND(0.2)                 | ND(0.2)             | ND(0.39)                   | ND(0.2)                       | ND(0.2)                 |
| MKTf-18R     | 9.5                 | 10                | 08/14/21     | 0.41                                        | ND(0.19)                             | ND(0.47)                    | 0.28                           | ND(0.19)                | 0.48                | ND(0.38)                   | ND(0.19)                      | 1.2                     |
|              | 25.5                | 26                | 08/14/21     | ND(0.49)                                    | ND(0.2)                              | ND(0.49)                    | ND(0.39)                       | ND(0.2)                 | 0.088               | ND(0.39)                   | ND(0.2)                       | 0.34                    |
| OW-13A       | 14                  | 14                | 07/19/21     | ND(0.49)                                    | ND(0.2)                              | 0.95 JB                     | 0.28 J                         | ND(0.2)                 | ND(0.2)             | ND(0.39)                   | ND(0.2)                       | ND(0.2)                 |
|              | 25.5                | 25.5              | 07/19/21     | ND(0.49)                                    | ND(0.2)                              | 0.81 JB                     | ND(0.39)                       | ND(0.2)                 | ND(0.2)             | ND(0.39)                   | ND(0.2)                       | ND(0.2)                 |
| OW-66        | 18                  | 18                | 07/19/21     | ND(0.49)                                    | ND(0.2)                              | 1 JB                        | 0.33 J                         | 0.08 J                  | ND(0.2)             | 0.097 J                    | 0.12 J                        | 0.12 J                  |
|              | 26                  | 26                | 07/19/21     | ND(0.49)                                    | ND(0.2)                              | 1.1 JB                      | 0.29 J                         | ND(0.2)                 | ND(0.2)             | ND(0.39)                   | ND(0.2)                       | ND(0.2)                 |
| OW-67        | 17                  | 17                | 07/20/21     | ND(0.49)                                    | ND(0.2)                              | 0.8 JB                      | ND(0.39)                       | ND(0.2)                 | ND(0.2)             | ND(0.39)                   | ND(0.2)                       | ND(0.2)                 |
|              | 26                  | 26                | 07/20/21     | 0.22 J                                      | ND(0.2)                              | 0.92 JB                     | 0.3 J                          | ND(0.2)                 | ND(0.2)             | ND(0.39)                   | ND(0.2)                       | ND(0.2)                 |
| OW-68        | 22                  | 22                | 07/20/21     | 0.22 J                                      | ND(0.2)                              | 1.1 JB                      | 0.36 J                         | ND(0.2)                 | ND(0.2)             | ND(0.4)                    | ND(0.2)                       | ND(0.2)                 |
|              | 26                  | 26                | 07/20/21     | 0.22 J                                      | ND(0.19)                             | 1 JB                        | 0.39                           | ND(0.19)                | ND(0.19)            | ND(0.38)                   | ND(0.19)                      | ND(0.19)                |
| OW-69        | 6                   | 6                 | 07/21/21     | ND(0.48)                                    | ND(0.19)                             | 0.69B/ND(0.69)U*            | ND(0.38)                       | ND(0.19)                | ND(0.19)            | ND(0.38)                   | ND(0.19)                      | ND(0.19)                |
|              | 26                  | 26                | 07/21/21     | 0.31 J                                      | ND(0.19)                             | 0.88 JB                     | 0.35 J                         | ND(0.19)                | ND(0.19)            | ND(0.38)                   | ND(0.19)                      | ND(0.19)                |
| RW-2R Dup    | 16.5                | 17                | 08/13/21     | ND(0.47)                                    | ND(0.19)                             | ND(0.47)                    | ND(0.38)                       | ND(0.19)                | ND(0.19)            | 0.11                       | ND(0.19)                      | ND(0.19)                |
| RW-2R        | 16.5                | 17                | 08/13/21     | ND(0.49)                                    | ND(0.19)                             | ND(0.49)                    | 0.34                           | ND(0.19)                | ND(0.19)            | 0.25                       | ND(0.19)                      | ND(0.19)                |
|              | 32.5                | 33                | 08/13/21     | ND(0.48)                                    | ND(0.19)                             | ND(0.48)                    | ND(0.38)                       | ND(0.19)                | ND(0.19)            | ND(0.38)                   | ND(0.19)                      | ND(0.19)                |

|                      |       |    |         |        |        |        |    |    |        |
|----------------------|-------|----|---------|--------|--------|--------|----|----|--------|
| NMED Residential SSL | 380   | NA | 49,300  | 6,160  | 2,320  | 2,320  | NA | NA | 1,740  |
| NMED Industrial SSL  | 1,832 | NA | 733,000 | 91,630 | 33,680 | 33,680 | NA | NA | 25,260 |

Notes:  
ND - Not detected  
ft - feet  
mg/kg - milligrams per kilogram  
Dup - duplicate sample  
NA - Not applicable  
SVOC - semi-volatile organic compounds  
All Other SVOCs - SVOCs analyzed that were non-detect are included in the lab reports  
NMED Residential SSL - New Mexico Environment Department Residential Soil Screening Level, June 2019  
NMED Industrial SSL - New Mexico Environment Department Industrial Soil Screening Level, June 2019  
J - Estimated concentration  
U - Evaluated to be undetected at the reported concentration  
JB - Estimated concentration due to blank contamination  
\* - The first result represents the laboratory reported concentration. The second result was evaluated to be undetected at the reported concentration by the data validator. The result was determined to be a false positive.

TABLE 3-3. SVOC ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location ID  | Start Depth<br>(ft) | End Depth<br>(ft) | Date Sampled | Phenol<br>(mg/kg) | 1-Methyl-<br>naphthalene<br>(mg/kg) | 2-Methyl-<br>naphthalene<br>(mg/kg) | Naphthalene<br>(mg/kg) | All Other SVOCs |
|--------------|---------------------|-------------------|--------------|-------------------|-------------------------------------|-------------------------------------|------------------------|-----------------|
| MKTf-01R     | 6                   | 6                 | 07/22/21     | 0.093 J           | 0.38                                | 0.66                                | 0.28                   | ND              |
|              | 18                  | 18                | 07/22/21     | ND(0.2)           | ND(0.2)                             | ND(0.2)                             | ND(0.2)                | ND              |
| MKTf-02R     | 6                   | 6                 | 07/22/21     | ND(0.2)           | 0.19 J                              | ND(0.2)                             | 0.19 J                 | ND              |
|              | 18                  | 18                | 07/22/21     | ND(0.19)          | ND(0.19)                            | ND(0.19)                            | ND(0.19)               | ND              |
| MKTf-04R     | 8.2                 | 8.7               | 08/16/21     | ND(0.2)           | 0.18                                | 0.33                                | 0.25                   | ND              |
|              | 19.5                | 20                | 08/16/21     | ND(0.19)          | ND(0.19)                            | ND(0.19)                            | ND(0.19)               | ND              |
| MKTf-17R     | 6.5                 | 7                 | 08/14/21     | ND(2)             | 1.3                                 | 2.5                                 | 3.4                    | ND              |
| MKTf-17R Dup | 20.5                | 21                | 08/14/21     | ND(0.19)          | ND(0.19)                            | ND(0.19)                            | ND(0.19)               | ND              |
| MKTf-17R     | 20.5                | 21                | 08/14/21     | ND(0.2)           | ND(0.2)                             | ND(0.2)                             | ND(0.2)                | ND              |
| MKTf-18R     | 9.5                 | 10                | 08/14/21     | 0.13              | 3                                   | 4.4                                 | 3.2                    | ND              |
|              | 25.5                | 26                | 08/14/21     | ND(0.2)           | 0.49                                | 0.53                                | ND(0.2)                | ND              |
| OW-13A       | 14                  | 14                | 07/19/21     | ND(0.2)           | ND(0.2)                             | ND(0.2)                             | ND(0.2)                | ND              |
|              | 25.5                | 25.5              | 07/19/21     | ND(0.2)           | ND(0.2)                             | ND(0.2)                             | ND(0.2)                | ND              |
| OW-66        | 18                  | 18                | 07/19/21     | 0.15 J            | 0.59 J                              | 1.1 J                               | 1.4 J                  | ND              |
|              | 26                  | 26                | 07/19/21     | ND(0.2)           | ND(0.2)                             | ND(0.2)                             | ND(0.2)                | ND              |
| OW-67        | 17                  | 17                | 07/20/21     | ND(0.2)           | ND(0.2)                             | ND(0.2)                             | ND(0.2)                | ND              |
|              | 26                  | 26                | 07/20/21     | ND(0.2)           | ND(0.2)                             | ND(0.2)                             | ND(0.2)                | ND              |
| OW-68        | 22                  | 22                | 07/20/21     | ND(0.2)           | ND(0.2)                             | ND(0.2)                             | ND(0.2)                | ND              |
|              | 26                  | 26                | 07/20/21     | ND(0.19)          | ND(0.19)                            | ND(0.19)                            | ND(0.19)               | ND              |
| OW-69        | 6                   | 6                 | 07/21/21     | ND(0.19)          | ND(0.19)                            | ND(0.19)                            | ND(0.19)               | ND              |
|              | 26                  | 26                | 07/21/21     | ND(0.19)          | ND(0.19)                            | ND(0.19)                            | ND(0.19)               | ND              |
| RW-2R Dup    | 16.5                | 17                | 08/13/21     | 0.12              | 0.12                                | 0.21                                | 0.22                   | ND              |
| RW-2R        | 16.5                | 17                | 08/13/21     | 0.27              | 0.2                                 | 0.34                                | 0.4                    | ND              |
|              | 32.5                | 33                | 08/13/21     | ND(0.19)          | ND(0.19)                            | ND(0.19)                            | ND(0.19)               | ND              |

|                      |         |     |       |      |    |
|----------------------|---------|-----|-------|------|----|
| NMED Residential SSL | 18,500  | 172 | 232   | 49.7 | NA |
| NMED Industrial SSL  | 274,900 | 813 | 3,368 | 241  | NA |

Notes:  
ND - Not detected  
ft - feet  
mg/kg - milligrams per kilogram  
Dup - duplicate sample  
NA - Not applicable  
SVOC - semi-volatile organic compounds  
All Other SVOCs - SVOCs analyzed that were non-detect are included in the lab reports  
NMED Residential SSL - New Mexico Environment Department Residential Soil Screening Level, June 2019  
NMED Industrial SSL - New Mexico Environment Department Industrial Soil Screening Level, June 2019  
J - Estimated concentration  
U - Evaluated to be undetected at the reported concentration  
JB - Estimated concentration due to blank contamination  
\* - The first result represents the laboratory reported concentration. The second result was evaluated to be undetected at the reported concentration by the data validator. The result was determined to be a false positive.



TABLE 3-4. METALS ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location ID                       | Start Depth<br>(ft) | End Depth<br>(ft) | Date Sampled | Arsenic, Total<br>(mg/kg) | Barium, Total<br>(mg/kg) | Cadmium, Total<br>(mg/kg) | Chromium, Total<br>(mg/kg) | Iron, Total<br>(mg/kg) | Lead, Total<br>(mg/kg) | Manganese, Total<br>(mg/kg) | Mercury, Total<br>(mg/kg) | Selenium, Total<br>(mg/kg) | Silver, Total<br>(mg/kg) |
|-----------------------------------|---------------------|-------------------|--------------|---------------------------|--------------------------|---------------------------|----------------------------|------------------------|------------------------|-----------------------------|---------------------------|----------------------------|--------------------------|
| MKTF-01R                          | 6                   | 6                 | 07/22/21     | ND(4.8)                   | 350                      | ND(0.19)                  | 9.7                        | 14000                  | 2.6 JB                 | 310                         | 0.0041 J                  | ND(4.8)                    | ND(0.48)                 |
| MKTF-01R                          | 18                  | 18                | 07/22/21     | ND(4.9)                   | 390                      | ND(0.2)                   | 11                         | 19000                  | ND(0.59)               | 1600                        | ND(0.034)                 | ND(4.9)                    | ND(0.49)                 |
| MKTF-02R                          | 6                   | 6                 | 07/22/21     | ND(4.9)                   | 410                      | ND(0.19)                  | 9.9                        | 16000                  | 1.9 JB                 | 270                         | 0.0069 J                  | ND(4.9)                    | ND(0.49)                 |
| MKTF-02R                          | 18                  | 18                | 07/22/21     | ND(5)                     | 230                      | ND(0.2)                   | 11                         | 22000                  | 1.3 JB                 | 950                         | ND(0.031)                 | ND(5)                      | ND(0.5)                  |
| MKTF-04R                          | 8.2                 | 8.7               | 08/16/21     | ND(4.8)                   | 1500                     | ND(0.19)                  | 8.6                        | 15000                  | 1.8                    | 320                         | ND(0.034)                 | ND(4.8)                    | ND(0.48)                 |
| MKTF-04R                          | 19.5                | 20                | 08/16/21     | ND(5)                     | 820                      | ND(0.2)                   | 8.5                        | 11000                  | 2.1                    | 770                         | 0.016 J                   | ND(5)                      | ND(0.5)                  |
| MKTF-17R                          | 6.5                 | 7                 | 08/14/21     | ND(13)                    | 810                      | ND(0.51)                  | 7.8                        | 11000                  | 2.7                    | 880                         | 0.023 J                   | ND(13)                     | 0.95 J                   |
| MKTF-17R Dup                      | 20.5                | 21                | 08/14/21     | ND(4.8)                   | 210                      | ND(0.19)                  | 12                         | 19000                  | 2.5                    | 370                         | ND(0.034)                 | ND(4.8)                    | ND(0.48)                 |
| MKTF-17R                          | 20.5                | 21                | 08/14/21     | ND(13)                    | 170                      | ND(0.51)                  | 12                         | 18000                  | 3.3                    | 300                         | ND(0.035)                 | ND(13)                     | ND(1.3)                  |
| MKTF-18R                          | 9.5                 | 10                | 08/14/21     | ND(24)                    | 1200                     | ND(0.95)                  | 3.8                        | 7700                   | 3.5                    | 7200                        | 0.0090 J                  | ND(24)                     | 1.8 J                    |
| MKTF-18R                          | 25.5                | 26                | 08/14/21     | ND(4.9)                   | 280                      | ND(0.2)                   | 8.1                        | 12000                  | ND(0.59)               | 560                         | 0.0030 J                  | ND(4.9)                    | ND(0.49)                 |
| OW-13A                            | 14                  | 14                | 07/19/21     | ND(4.8)                   | 1000                     | ND(0.19)                  | 11                         | 15000                  | ND(0.57)               | 960                         | 0.0028 J                  | ND(4.8)                    | ND(0.48)                 |
| OW-13A                            | 25.5                | 25.5              | 07/19/21     | ND(5.1)                   | 250                      | ND(0.2)                   | 12                         | 16000                  | ND(0.61)               | 330                         | ND(0.031)                 | ND(5.1)                    | ND(0.51)                 |
| OW-66                             | 18                  | 18                | 07/19/21     | 2.9 J                     | 340                      | ND(0.19)                  | 4.3                        | 7100                   | 1.2                    | 480                         | ND(0.032)                 | ND(4.8)                    | ND(0.48)                 |
| OW-66                             | 26                  | 26                | 07/19/21     | ND(5.2)                   | 580                      | ND(0.21)                  | 6.6                        | 9200                   | 0.69                   | 180                         | 0.0033 J                  | ND(5.2)                    | ND(0.52)                 |
| OW-67                             | 17                  | 17                | 07/20/21     | ND(4.8)                   | 650                      | ND(0.19)                  | 5.4                        | 8400                   | 1.7                    | 420                         | ND(0.16)                  | ND(4.8)                    | ND(0.48)                 |
| OW-67                             | 26                  | 26                | 07/20/21     | ND(4.8)                   | 340                      | ND(0.19)                  | 7.1                        | 10000                  | 1.3                    | 450                         | ND(0.033)                 | ND(4.8)                    | ND(0.48)                 |
| OW-68                             | 22                  | 22                | 07/20/21     | ND(5.2)                   | 400                      | ND(0.21)                  | 9.1                        | 11000                  | 1.2                    | 420                         | ND(0.035)                 | ND(5.2)                    | ND(0.52)                 |
| OW-68                             | 26                  | 26                | 07/20/21     | ND(5)                     | 800                      | ND(0.2)                   | 10                         | 14000                  | ND(0.61)               | 710                         | ND(0.035)                 | ND(5)                      | ND(0.5)                  |
| OW-69                             | 6                   | 6                 | 07/21/21     | ND(4.9)                   | 290                      | ND(0.2)                   | 5.5                        | 9800                   | 4.5                    | 220                         | 0.0051 J                  | ND(4.9)                    | ND(0.49)                 |
| OW-69                             | 26                  | 26                | 07/21/21     | ND(5.1)                   | 160                      | ND(0.2)                   | 18                         | 19000                  | ND(0.61)               | 250                         | ND(0.032)                 | ND(5.1)                    | ND(0.51)                 |
| RW-2R Dup                         | 16.5                | 17                | 08/13/21     | ND(2.4)                   | 220                      | ND(0.098)                 | 7.2                        | 11000                  | 1.5                    | 370                         | ND(0.031)                 | ND(2.4)                    | ND(0.24)                 |
| RW-2R                             | 16.5                | 17                | 08/13/21     | 1.7 J                     | 190                      | ND(0.096)                 | 8.1                        | 13000                  | 1                      | 560                         | ND(0.032)                 | ND(2.4)                    | ND(0.24)                 |
| RW-2R                             | 32.5                | 33                | 08/13/21     | ND(26)                    | 1700                     | ND(1)                     | 7.9                        | 14000                  | 8.1                    | 1300                        | 0.0049 J                  | ND(26)                     | ND(2.6)                  |
| <sup>a</sup> NMED Residential SSL |                     |                   |              | 7.07                      | 15,600                   | 85,900                    | 96.6                       | 54,800                 | 400                    | 10,500                      | NA                        | 391                        | 391                      |
| <sup>b</sup> NMED Industrial SSL  |                     |                   |              | 35.88                     | 254,700                  | 417,000                   | 504.6                      | 908,400                | 800                    | 160,200                     | NA                        | 6,489                      | 6,489                    |

Notes:  
ND - Not detected  
NM - Not measured  
ft - feet  
mg/kg - Milligrams per kilogram  
Dup - Duplicate sample  
NA - Not applicable  
a. NMED Residential SSL - New Mexico Environmental Department Residential Soil Screening Level, June 2019  
b. NMED Industrial SSL- New Mexico Environmental Department Industrial Soil Screening Level, June 2019  
J - Estimated concentration  
JB - Estimated concentration due to blank contamination

TABLE 3-5. VOLATILE ORGANIC COMPOUNDS ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location                                     | Date Sampled | 1,1,1,2-Tetrachloroethane (ug/L) | 1,1,1-Trichloroethane (ug/L) | 1,1,2,2-Tetrachloroethane (ug/L) | 1,1,2-Trichloroethane (ug/L) | 1,1-Dichloroethane (ug/L) | 1,1-Dichloroethene (ug/L) | 1,1-Dichloropropene (ug/L) | 1,2,3-Trichlorobenzene (ug/L) | 1,2,3-Trichloropropane (ug/L) | 1,2,4-Trichlorobenzene (ug/L) | 1,2,4-Trimethylbenzene (ug/L) |
|----------------------------------------------|--------------|----------------------------------|------------------------------|----------------------------------|------------------------------|---------------------------|---------------------------|----------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| MKTF-01R                                     | 9/17/2021    | ND(1.3)                          | ND(1.5)                      | ND(1.4)                          | ND(0.99)                     | 3 J                       | ND(1)                     | ND(0.9)                    | ND(1.2)                       | ND(2.2)                       | ND(1.2)                       | 310 J                         |
| MKTF-02R                                     | 9/17/2021    | ND(1.3)                          | ND(1.5)                      | ND(1.4)                          | 7.9                          | 110                       | 280                       | ND(0.9)                    | ND(1.2)                       | ND(2.2)                       | ND(1.2)                       | ND(0.61)                      |
| MKTF-04R                                     | 9/17/2021    | ND(1.3)                          | ND(1.5)                      | ND(1.4)                          | ND(0.99)                     | 35                        | 45                        | ND(0.9)                    | ND(1.2)                       | ND(2.2)                       | ND(1.2)                       | 160 J                         |
| MKTF-17R                                     | 9/17/2021    | ND(1.3)                          | ND(1.5)                      | ND(1.4)                          | ND(0.99)                     | 3.3 J                     | ND(1)                     | ND(0.9)                    | ND(1.2)                       | ND(2.2)                       | ND(1.2)                       | 430 J                         |
| MKTF-18R                                     | 9/17/2021    | ND(0.27)                         | ND(0.3)                      | ND(0.27)                         | ND(0.2)                      | 32 J                      | ND(1)                     | ND(0.9)                    | ND(1.2)                       | ND(0.44)                      | ND(1.2)                       | 780 J                         |
| OW-66                                        | 9/17/2021    | ND(2.7)                          | ND(3)                        | ND(2.7)                          | ND(2)                        | ND(2.7)                   | ND(2)                     | ND(1.8)                    | ND(2.5)                       | ND(4.4)                       | ND(2.4)                       | 1,300 J                       |
| OW-67                                        | 9/17/2021    | ND(0.27)                         | ND(0.3)                      | ND(0.27)                         | ND(0.2)                      | ND(0.27)                  | ND(0.2)                   | ND(0.18)                   | ND(0.25)                      | ND(0.44)                      | ND(0.24)                      | ND(0.12)                      |
| OW-68                                        | 9/17/2021    | ND(0.27)                         | ND(0.3)                      | ND(0.27)                         | ND(0.2)                      | ND(0.27)                  | ND(0.2)                   | ND(0.18)                   | 0.37 J                        | ND(0.44)                      | ND(0.24)                      | 0.58J/ND(1)U                  |
| <sup>a</sup> NMED Groundwater Cleanup Levels |              | NA                               | 200                          | 10                               | 5                            | 25                        | 7                         | NA                         | NA                            | NA                            | 70                            | NA                            |
| <sup>b</sup> 40 CFR 141.62                   |              | NA                               | NA                           | NA                               | NA                           | NA                        | NA                        | NA                         | NA                            | NA                            | NA                            | NA                            |
| <sup>c</sup> NMED Tap Water                  |              | 5.74                             | 8,000                        | 0.757                            | 2.75                         | 27.5                      | 284                       | NA                         | NA                            | 0.00835                       | 11.5                          | NA                            |
| <sup>d</sup> USEPA RSL Tap Water HQ 1.0      |              | 5.7                              | 8000                         | 0.76                             | 0.41                         | 28                        | 280                       | NA                         | 7                             | 0.0075                        | 4                             | 56                            |

Notes:

<sup>a</sup> NMED GW Cleanup Levels - New Mexico Environment Department Groundwater Cleanup Levels, New Mexico Administrative Code 20.6.2.3103.

<sup>b</sup> 40 CFR 141.62 - Code of Federal Regulations, Chapter 40, Section 141.62 Maximum Contaminant Levels.

<sup>c</sup> NMED Tap Water - New Mexico Environment Department, Risk Assessment Guidance, Table A-1, Tap Water, March 2017.

<sup>d</sup> USEPA RSL Tap Water HQ 1.0 - United States Environmental Protection Agency Regional Screening Levels, Hazardous Quotient 1.0, November 2019.

- Bolded values indicate exceedences

J - estimated concentration  
ug/L - micrograms per Liter  
NA - not applicable  
ND - non-detect  
U - Evaluated to be undetected at the reported concentration

TABLE 3-5. VOLATILE ORGANIC COMPOUNDS ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location                                     | Date Sampled | 1,2-Dibromo-3-Chloropropane (ug/L) | 1,2-Dibromoethane (ug/L) | 1,2-Dichlorobenzene (ug/L) | 1,2-Dichloroethane (ug/L) | 1,2-Dichloropropane (ug/L) | 1,3,5-Trimethylbenzene (ug/L) | 1,3-Dichlorobenzene (ug/L) | 1,3-Dichloropropane (ug/L) | 1,4-Dichlorobenzene (ug/L) | 1-Methylnaphthalene (ug/L) | 2,2-Dichloropropane (ug/L) |
|----------------------------------------------|--------------|------------------------------------|--------------------------|----------------------------|---------------------------|----------------------------|-------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| MKTF-01R                                     | 9/17/2021    | ND(2.9)                            | ND(1.5)                  | ND(0.77)                   | 2.4 J                     | ND(1)                      | 28 J                          | ND(0.81)                   | ND(0.9)                    | ND(1)                      | 28 J                       | ND(1.3)                    |
| MKTF-02R                                     | 9/17/2021    | ND(2.9)                            | ND(1.5)                  | ND(0.77)                   | 67                        | ND(1)                      | ND(0.91)                      | ND(0.81)                   | ND(0.9)                    | ND(1)                      | ND(4.2)                    | ND(1.3)                    |
| MKTF-04R                                     | 9/17/2021    | ND(2.9)                            | ND(1.5)                  | ND(0.77)                   | 2.3 J                     | 1.3 J                      | 29 J                          | ND(0.81)                   | ND(0.9)                    | ND(1)                      | 48 J                       | ND(1.3)                    |
| MKTF-17R                                     | 9/17/2021    | ND(2.9)                            | ND(1.5)                  | ND(0.77)                   | ND(1.3)                   | ND(1)                      | 120 J                         | ND(0.81)                   | ND(0.9)                    | ND(1)                      | 27 J                       | ND(1.3)                    |
| MKTF-18R                                     | 9/17/2021    | ND(0.59)                           | ND(0.3)                  | 0.57 J                     | 1.5 J                     | 0.54 J                     | 30 J                          | ND(0.81)                   | ND(0.9)                    | ND(0.21)                   | 200 J                      | ND(1.3)                    |
| OW-66                                        | 9/17/2021    | ND(5.9)                            | ND(3)                    | ND(1.5)                    | 4.4 J                     | ND(2)                      | 350 J                         | ND(1.6)                    | ND(1.8)                    | ND(2.1)                    | 35J/ND(40)U                | ND(2.6)                    |
| OW-67                                        | 9/17/2021    | ND(0.59)                           | ND(0.3)                  | ND(0.15)                   | ND(0.25)                  | ND(0.2)                    | ND(0.18)                      | ND(0.16)                   | ND(0.18)                   | ND(0.21)                   | ND(0.84)                   | ND(0.26)                   |
| OW-68                                        | 9/17/2021    | ND(0.59)                           | ND(0.3)                  | ND(0.15)                   | 0.3 J                     | ND(0.2)                    | ND(0.18)                      | ND(0.16)                   | ND(0.18)                   | ND(0.21)                   | ND(0.84)                   | ND(0.26)                   |
| <sup>a</sup> NMED Groundwater Cleanup Levels |              | NA                                 | 0.05                     | 600                        | 5                         | 5                          | NA                            | NA                         | NA                         | 75                         | NA                         | NA                         |
| <sup>b</sup> 40 CFR 141.62                   |              | NA                                 | NA                       | NA                         | NA                        | NA                         | NA                            | NA                         | NA                         | NA                         | NA                         | NA                         |
| <sup>c</sup> NMED Tap Water                  |              | 0.00334                            | 0.0747                   | 302                        | 1.71                      | 4.38                       | NA                            | NA                         | NA                         | 4.82                       | 11.4                       | NA                         |
| <sup>d</sup> USEPA RSL Tap Water HQ 1.0      |              | 0.0033                             | 0.075                    | 300                        | 1.7                       | 8.2                        | 60                            | NA                         | 370                        | 4.8                        | 11                         | NA                         |

Notes:

<sup>a</sup> NMED GW Cleanup Levels - New Mexico Environment Department Groundwater Cleanup Levels, New Mexico Administrative Code 20.6.2.3103.

<sup>b</sup> 40 CFR 141.62 - Code of Federal Regulations, Chapter 40, Section 141.62 Maximum Contaminant Levels.

<sup>c</sup> NMED Tap Water - New Mexico Environment Department, Risk Assessment Guidance, Table A-1, Tap Water, March 2017.

<sup>d</sup> USEPA RSL Tap Water HQ 1.0 - United States Environmental Protection Agency Regional Screening Levels, Hazardous Quotient 1.0, November 2019.

- Bolded values indicate exceedences

J - estimated concentration  
ug/L - micrograms per Liter  
NA - not applicable  
ND - non-detect  
U - Evaluated to be undetected at the reported concentration

TABLE 3-5. VOLATILE ORGANIC COMPOUNDS ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location                                     | Date Sampled | 2-Butanone<br>(ug/L) | 2-Chlorotoluene<br>(ug/L) | 2-Hexanone<br>(ug/L) | 2-Methylnaphthalene<br>(ug/L) | 4-Chlorotoluene<br>(ug/L) | 4-Methyl-2-Pentanone<br>(ug/L) | Acetone<br>(ug/L) | Benzene<br>(ug/L) | Bromobenzene<br>(ug/L) | Bromodichloro-<br>methane<br>(ug/L) | Bromoform<br>(ug/L) |
|----------------------------------------------|--------------|----------------------|---------------------------|----------------------|-------------------------------|---------------------------|--------------------------------|-------------------|-------------------|------------------------|-------------------------------------|---------------------|
| MKTF-01R                                     | 9/17/2021    | 22J/ND(50)U          | ND(0.66)                  | ND(9)                | 25 J                          | ND(1.7)                   | ND(4.4)                        | 47J/ND(50)U       | 7,100 J           | ND(1.4)                | ND(1)                               | ND(1.6)             |
| MKTF-02R                                     | 9/17/2021    | ND(10)               | ND(0.66)                  | ND(9)                | ND(3.5)                       | ND(1.7)                   | ND(4.4)                        | ND(13)            | 29 J              | ND(1.4)                | ND(1)                               | ND(1.6)             |
| MKTF-04R                                     | 9/17/2021    | 17J/ND(50)U          | ND(0.66)                  | ND(9)                | 59 J                          | ND(1.7)                   | ND(4.4)                        | 26J/ND(50)U       | 1,100 J           | ND(1.4)                | ND(1)                               | ND(1.6)             |
| MKTF-17R                                     | 9/17/2021    | 11J/ND(50)U          | ND(0.66)                  | ND(9)                | 34 J                          | ND(1.7)                   | ND(4.4)                        | 16J/ND(50)U       | 1,600 J           | ND(1.4)                | ND(1)                               | ND(1.6)             |
| MKTF-18R                                     | 9/17/2021    | 8J/ND(10)U           | ND(0.13)                  | ND(1.8)              | 300 J                         | ND(1.7)                   | ND(0.88)                       | 20J/ND(50)U       | 3,700 J           | ND(0.28)               | 0.49 J                              | ND(1.6)             |
| OW-66                                        | 9/17/2021    | 32J/ND(100)U         | ND(1.3)                   | ND(18)               | 61 J                          | ND(3.4)                   | ND(8.8)                        | 32J/ND(100)U      | 12,000 J          | ND(2.8)                | 2.1 J                               | ND(3.1)             |
| OW-67                                        | 9/17/2021    | ND(2)                | ND(0.13)                  | ND(1.8)              | ND(0.69)                      | ND(0.34)                  | ND(0.88)                       | 4.7J/ND(10)U      | ND(0.23)          | ND(0.28)               | ND(0.2)                             | ND(0.31)            |
| OW-68                                        | 9/17/2021    | 2J/ND(10)U           | ND(0.13)                  | ND(1.8)              | ND(0.69)                      | ND(0.34)                  | ND(0.88)                       | 5.2J/ND(10)U      | 0.78J/ND(1)U      | ND(0.28)               | ND(0.2)                             | ND(0.31)            |
| <sup>a</sup> NMED Groundwater Cleanup Levels |              | NA                   | NA                        | NA                   | NA                            | NA                        | NA                             | NA                | 5                 | NA                     | NA                                  | NA                  |
| <sup>b</sup> 40 CFR 141.62                   |              | NA                   | NA                        | NA                   | NA                            | NA                        | NA                             | NA                | NA                | NA                     | NA                                  | NA                  |
| <sup>c</sup> NMED Tap Water                  |              | 5,560                | NA                        | NA                   | 35.1                          | NA                        | 1,240                          | 14,100            | 4.55              | NA                     | 1.34                                | 32.9                |
| <sup>d</sup> USEPA RSL Tap Water HQ 1.0      |              | 5,600                | 240                       | 38                   | 36                            | 250                       | 6,300                          | 14,000            | 4.6               | 62                     | 1.3                                 | 33                  |

Notes:

<sup>a</sup> NMED GW Cleanup Levels - New Mexico Environment Department Groundwater Cleanup Levels, New Mexico Administrative Code 20.6.2.3103.

<sup>b</sup> 40 CFR 141.62 - Code of Federal Regulations, Chapter 40, Section 141.62 Maximum Contaminant Levels.

<sup>c</sup> NMED Tap Water - New Mexico Environment Department, Risk Assessment Guidance, Table A-1, Tap Water, March 2017.

<sup>d</sup> USEPA RSL Tap Water HQ 1.0 - United States Environmental Protection Agency Regional Screening Levels, Hazardous Quotient 1.0, November 2019.

- Bolded values indicate exceedences

J - estimated concentration  
ug/L - micrograms per Liter  
NA - not applicable  
ND - non-detect  
U - Evaluated to be undetected at the reported concentration



TABLE 3-5. VOLATILE ORGANIC COMPOUNDS ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location                                     | Date Sampled | Bromomethane<br>(ug/L) | Carbon Disulfide<br>(ug/L) | Carbon<br>tetrachloride<br>(ug/L) | Chlorobenzene<br>(ug/L) | Chloroethane<br>(ug/L) | Chloroform<br>(ug/L) | Chloromethane<br>(ug/L) | cis-1,2-<br>Dichloroethene<br>(ug/L) | cis-1,3-<br>Dichloropropene<br>(ug/L) | Dibromochloro-<br>methane<br>(ug/L) | Dibromomethane<br>(ug/L) |
|----------------------------------------------|--------------|------------------------|----------------------------|-----------------------------------|-------------------------|------------------------|----------------------|-------------------------|--------------------------------------|---------------------------------------|-------------------------------------|--------------------------|
| MKTF-01R                                     | 9/17/2021    | ND(4.3)                | ND(3)                      | ND(0.88)                          | ND(0.78)                | ND(1.9)                | ND(0.67)             | ND(2.1)                 | ND(1.9)                              | ND(1.8)                               | ND(1.4)                             | ND(1.5)                  |
| MKTF-02R                                     | 9/17/2021    | ND(4.3)                | ND(3)                      | ND(0.88)                          | ND(0.78)                | 4.5 J                  | 1.3 J                | 3.2 J                   | 3.1 J                                | ND(1.8)                               | ND(1.4)                             | ND(1.5)                  |
| MKTF-04R                                     | 9/17/2021    | ND(4.3)                | ND(3)                      | ND(0.88)                          | ND(0.78)                | ND(1.9)                | 1.2 J                | 2.6 J                   | 18                                   | ND(1.8)                               | ND(1.4)                             | ND(1.5)                  |
| MKTF-17R                                     | 9/17/2021    | ND(4.3)                | ND(3)                      | ND(0.88)                          | ND(0.78)                | ND(1.9)                | ND(0.67)             | ND(2.1)                 | ND(1.9)                              | ND(1.8)                               | ND(1.4)                             | ND(1.5)                  |
| MKTF-18R                                     | 9/17/2021    | ND(0.85)               | ND(0.59)                   | ND(0.18)                          | ND(0.16)                | ND(1.9)                | ND(0.13)             | ND(2.1)                 | 17 J                                 | ND(0.36)                              | 0.49 J                              | ND(0.31)                 |
| OW-66                                        | 9/17/2021    | ND(8.5)                | ND(5.9)                    | ND(1.8)                           | ND(1.6)                 | ND(3.8)                | ND(1.3)              | <b>28 J</b>             | ND(3.9)                              | ND(3.6)                               | <b>6.2 J</b>                        | ND(3.1)                  |
| OW-67                                        | 9/17/2021    | ND(0.85)               | ND(0.59)                   | ND(0.18)                          | ND(0.16)                | ND(0.38)               | ND(0.13)             | ND(0.41)                | ND(0.39)                             | ND(0.36)                              | ND(0.28)                            | ND(0.31)                 |
| OW-68                                        | 9/17/2021    | ND(0.85)               | ND(0.59)                   | ND(0.18)                          | ND(0.16)                | ND(0.38)               | ND(0.13)             | 2.3 J                   | ND(0.39)                             | ND(0.36)                              | ND(0.28)                            | ND(0.31)                 |
| <sup>a</sup> NMED Groundwater Cleanup Levels |              | NA                     | NA                         | <b>5</b>                          | NA                      | NA                     | <b>100</b>           | NA                      | <b>70</b>                            | NA                                    | NA                                  | NA                       |
| <sup>b</sup> 40 CFR 141.62                   |              | NA                     | NA                         | NA                                | NA                      | NA                     | NA                   | NA                      | NA                                   | NA                                    | NA                                  | NA                       |
| <sup>c</sup> NMED Tap Water                  |              | <b>7.54</b>            | <b>810</b>                 | 4.55                              | <b>77.6</b>             | <b>20,900</b>          | 2.29                 | <b>20.3</b>             | 36.5                                 | NA                                    | <b>1.68</b>                         | <b>8</b>                 |
| <sup>d</sup> USEPA RSL Tap Water HQ 1.0      |              | 7.5                    | 810                        | 4.6                               | 78                      | 21,000                 | 2.2                  | 190                     | 36                                   | NA                                    | 8.7                                 | 8.3                      |

Notes:

<sup>a</sup> NMED GW Cleanup Levels - New Mexico  
Environment Department Groundwater Cleanup  
Levels, New Mexico Administrative Code  
20.6.2.3103.

<sup>b</sup> 40 CFR 141.62 - Code of Federal Regulations,  
Chapter 40, Section 141.62 Maximum Contaminant  
Levels.

<sup>c</sup> NMED Tap Water - New Mexico Environment  
Department, Risk Assessment Guidance, Table A-1,  
Tap Water, March 2017.

<sup>d</sup> USEPA RSL Tap Water HQ 1.0 - United States  
Environmental Protection Agency Regional  
Screening Levels, Hazardous Quotient 1.0,  
November 2019.

- Bolded values indicate exceedences

J - estimated concentration  
ug/L - micrograms per Liter  
NA - not applicable  
ND - non-detect  
U - Evaluated to be undetected at the reported  
concentration

TABLE 3-5. VOLATILE ORGANIC COMPOUNDS ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location                                     | Date Sampled | Dichlorodifluoro-methane (ug/L) | Ethylbenzene (ug/L) | Hexachlorobutadiene (ug/L) | Isopropylbenzene (ug/L) | Methylene Chloride (ug/L) | MTBE (ug/L) | Naphthalene (ug/L) | n-Butylbenzene (ug/L) | n-Propylbenzene (ug/L) | p-Isopropyltoluene (ug/L) |
|----------------------------------------------|--------------|---------------------------------|---------------------|----------------------------|-------------------------|---------------------------|-------------|--------------------|-----------------------|------------------------|---------------------------|
| MKTF-01R                                     | 9/17/2021    | ND(2)                           | 370 J               | ND(2.8)                    | 20                      | ND(2.5)                   | 86 J        | 52 J               | 6.9 J                 | 52 J                   | 2.4 J                     |
| MKTF-02R                                     | 9/17/2021    | ND(2)                           | ND(1.1)             | ND(2.8)                    | ND(0.91)                | ND(2.5)                   | 45 J        | ND(2.5)            | ND(1.3)               | ND(0.91)               | ND(1)                     |
| MKTF-04R                                     | 9/17/2021    | ND(2)                           | 200 J               | ND(2.8)                    | 11                      | ND(2.5)                   | 1,600 J     | 81 J               | 3.6 J                 | 28 J                   | 2.2 J                     |
| MKTF-17R                                     | 9/17/2021    | ND(2)                           | 280 J               | ND(2.8)                    | 18                      | ND(2.5)                   | 3,900 J     | 72 J               | 4.9 J                 | 28 J                   | 3.4 J                     |
| MKTF-18R                                     | 9/17/2021    | ND(2)                           | 39 J                | ND(0.56)                   | 4.3 J                   | ND(2.5)                   | 200 J       | 77 J               | 4                     | 6.6 J                  | 2.5                       |
| OW-66                                        | 9/17/2021    | ND(4)                           | 720 J               | ND(5.6)                    | 26                      | ND(5)                     | 680 J       | 130                | 20 J                  | 140 J                  | 4.4 J                     |
| OW-67                                        | 9/17/2021    | ND(0.4)                         | ND(0.21)            | ND(0.56)                   | ND(0.18)                | ND(0.5)                   | 34 J        | ND(0.5)            | ND(0.25)              | ND(0.18)               | ND(0.2)                   |
| OW-68                                        | 9/17/2021    | ND(0.4)                         | 0.85 J              | ND(0.56)                   | ND(0.18)                | ND(0.5)                   | 1.3 J       | ND(0.5)            | ND(0.25)              | 0.3 J                  | ND(0.2)                   |
| <sup>a</sup> NMED Groundwater Cleanup Levels |              | NA                              | 700                 | NA                         | NA                      | 5                         | NA          | 30                 | NA                    | NA                     | NA                        |
| <sup>b</sup> 40 CFR 141.62                   |              | NA                              | NA                  | NA                         | NA                      | NA                        | NA          | NA                 | NA                    | NA                     | NA                        |
| <sup>c</sup> NMED Tap Water                  |              | 197                             | 15                  | 1.39                       | 447                     | 118                       | 143         | 1.65               | NA                    | NA                     | NA                        |
| <sup>d</sup> USEPA RSL Tap Water HQ 1.0      |              | 200                             | 15                  | 1.4                        | 450                     | 110                       | 140         | 1.7                | 1,000                 | 660                    | NA                        |

Notes:

<sup>a</sup> NMED GW Cleanup Levels - New Mexico Environment Department Groundwater Cleanup Levels, New Mexico Administrative Code 20.6.2.3103.

<sup>b</sup> 40 CFR 141.62 - Code of Federal Regulations, Chapter 40, Section 141.62 Maximum Contaminant Levels.

<sup>c</sup> NMED Tap Water - New Mexico Environment Department, Risk Assessment Guidance, Table A-1, Tap Water, March 2017.

<sup>d</sup> USEPA RSL Tap Water HQ 1.0 - United States Environmental Protection Agency Regional Screening Levels, Hazardous Quotient 1.0, November 2019.

- Bolded values indicate exceedences

J - estimated concentration  
ug/L - micrograms per Liter  
NA - not applicable  
ND - non-detect  
U - Evaluated to be undetected at the reported concentration

TABLE 3-5. VOLATILE ORGANIC COMPOUNDS ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location                                     | Date Sampled | sec-Butylbenzene<br>(ug/L) | Styrene<br>(ug/L) | tert-Butylbenzene<br>(ug/L) | Tetrachloroethene<br>(ug/L) | Toluene<br>(ug/L) | trans-1,2-<br>Dichloroethene<br>(ug/L) | trans-1,3-<br>Dichloropropene<br>(ug/L) | Trichloroethene<br>(ug/L) | Trichlorofluoro-<br>methane<br>(ug/L) | Vinyl Chloride<br>(ug/L) | Xylenes, Total<br>(ug/L) |
|----------------------------------------------|--------------|----------------------------|-------------------|-----------------------------|-----------------------------|-------------------|----------------------------------------|-----------------------------------------|---------------------------|---------------------------------------|--------------------------|--------------------------|
| MKTF-01R                                     | 9/17/2021    | 3.2 J                      | ND(0.68)          | ND(1.2)                     | ND(1.8)                     | 170 J             | ND(0.97)                               | ND(1.7)                                 | ND(1)                     | ND(0.79)                              | 22                       | 850                      |
| MKTF-02R                                     | 9/17/2021    | ND(0.72)                   | ND(0.68)          | ND(1.2)                     | ND(1.8)                     | ND(1)             | ND(0.97)                               | ND(1.7)                                 | 23                        | ND(0.79)                              | 1.9 J                    | ND(1.9)                  |
| MKTF-04R                                     | 9/17/2021    | 1.8 J                      | ND(0.68)          | ND(1.2)                     | ND(1.8)                     | 13 J              | ND(0.97)                               | ND(1.7)                                 | 2.1 J                     | ND(0.79)                              | ND(1.6)                  | 250                      |
| MKTF-17R                                     | 9/17/2021    | 2.8 J                      | ND(0.68)          | ND(1.2)                     | ND(1.8)                     | 5,400 J           | ND(0.97)                               | ND(1.7)                                 | ND(1)                     | ND(0.79)                              | ND(1.6)                  | 2,700                    |
| MKTF-18R                                     | 9/17/2021    | 1.9                        | 0.21 J            | ND(0.24)                    | ND(1.8)                     | 1,800 J           | ND(0.97)                               | ND(1.7)                                 | ND(0.2)                   | ND(0.16)                              | 0.41 J                   | 260 J                    |
| OW-66                                        | 9/17/2021    | 5.6 J                      | 1.4 J             | ND(2.4)                     | ND(3.6)                     | 9,200 J           | 2.7 J                                  | 6.5 J                                   | ND(2)                     | ND(1.6)                               | ND(3.2)                  | 6,200                    |
| OW-67                                        | 9/17/2021    | ND(0.14)                   | ND(0.14)          | ND(0.24)                    | ND(0.36)                    | ND(0.2)           | ND(0.19)                               | ND(0.34)                                | ND(0.2)                   | ND(0.16)                              | ND(0.32)                 | ND(0.37)                 |
| OW-68                                        | 9/17/2021    | ND(0.14)                   | ND(0.14)          | ND(0.24)                    | ND(0.36)                    | ND(0.2)           | ND(0.19)                               | ND(0.34)                                | ND(0.2)                   | ND(0.16)                              | ND(0.32)                 | 0.87 J                   |
| <sup>a</sup> NMED Groundwater Cleanup Levels |              | NA                         | 100               | NA                          | 5                           | 1,000             | 100                                    | NA                                      | 5                         | NA                                    | 2                        | 620                      |
| <sup>b</sup> 40 CFR 141.62                   |              | NA                         | NA                | NA                          | NA                          | NA                | NA                                     | NA                                      | NA                        | NA                                    | NA                       | NA                       |
| <sup>c</sup> NMED Tap Water                  |              | NA                         | 1,210             | NA                          | 113                         | 1,090             | 93.2                                   | NA                                      | 2.59                      | 1,140                                 | 0.324                    | 193                      |
| <sup>d</sup> USEPA RSL Tap Water HQ 1.0      |              | 2,000                      | 1,200             | 690                         | 41                          | 1,100             | 360                                    | NA                                      | 2.8                       | 5,200                                 | 0.19                     | 190                      |

Notes:

<sup>a</sup> NMED GW Cleanup Levels - New Mexico  
Environment Department Groundwater Cleanup  
Levels, New Mexico Administrative Code  
20.6.2.3103.

<sup>b</sup> 40 CFR 141.62 - Code of Federal Regulations,  
Chapter 40, Section 141.62 Maximum Contaminant  
Levels.

<sup>c</sup> NMED Tap Water - New Mexico Environment  
Department, Risk Assessment Guidance, Table A-1,  
Tap Water, March 2017.

<sup>d</sup> USEPA RSL Tap Water HQ 1.0 - United States  
Environmental Protection Agency Regional  
Screening Levels, Hazardous Quotient 1.0,  
November 2019.

- Bolded values indicate exceedences

J - estimated concentration  
ug/L - micrograms per Liter  
NA - not applicable  
ND - non-detect  
U - Evaluated to be undetected at the reported  
concentration

TABLE 3-6. SEMI-VOLATILE ORGANIC COMPOUNDS ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location                                     | Date Sampled | 1,2,4-Trichlorobenzene (ug/L) | 1,2-Dichlorobenzene (ug/L) | 1,3-Dichlorobenzene (ug/L) | 1,4-Dichlorobenzene (ug/L) | 1,4-Dioxane (ug/L) | 1-Methylnaphthalene (ug/L) | 2,4,5-Trichlorophenol (ug/L) | 2,4,6-Trichlorophenol (ug/L) | 2,4-Dichlorophenol (ug/L) | 2,4-Dimethylphenol (ug/L) |
|----------------------------------------------|--------------|-------------------------------|----------------------------|----------------------------|----------------------------|--------------------|----------------------------|------------------------------|------------------------------|---------------------------|---------------------------|
| MKTF-01R                                     | 9/17/2021    | ND(0.58)                      | ND(0.75)                   | ND(0.64)                   | ND(0.7)                    | --                 | 11 J                       | ND(0.62)                     | ND(0.43)                     | ND(0.58)                  | 19 J                      |
| MKTF-02R                                     | 9/17/2021    | ND(0.58)                      | ND(0.75)                   | ND(0.64)                   | ND(0.7)                    | --                 | ND(0.024)                  | ND(0.62)                     | ND(0.43)                     | ND(0.58)                  | ND(0.97)                  |
| MKTF-04R                                     | 9/17/2021    | ND(0.58)                      | ND(0.75)                   | ND(0.64)                   | ND(0.7)                    | --                 | 9 J                        | ND(0.62)                     | ND(0.43)                     | ND(0.58)                  | 3.9 J                     |
| MKTF-17R                                     | 9/17/2021    | ND(0.58)                      | ND(0.75)                   | ND(0.64)                   | ND(0.7)                    | --                 | <b>15 J</b>                | ND(0.62)                     | ND(0.43)                     | ND(0.58)                  | 13 J                      |
| MKTF-18R                                     | 9/17/2021    | ND(0.58)                      | ND(0.75)                   | ND(0.64)                   | ND(0.7)                    | --                 | <b>27 J</b>                | ND(0.62)                     | ND(0.43)                     | ND(0.58)                  | 3.9 J                     |
| OW-66                                        | 9/17/2021    | ND(0.58)                      | ND(0.75)                   | ND(0.64)                   | ND(0.7)                    | ND(0.48)           | <b>33 J</b>                | ND(0.62)                     | ND(0.43)                     | ND(0.58)                  | 5.4 J                     |
| OW-67                                        | 9/17/2021    | ND(0.58)                      | ND(0.75)                   | ND(0.64)                   | ND(0.7)                    | --                 | ND(0.024)                  | ND(0.62)                     | ND(0.43)                     | ND(0.58)                  | ND(0.97)                  |
| OW-68                                        | 9/17/2021    | ND(0.58)                      | ND(0.75)                   | ND(0.64)                   | ND(0.7)                    | --                 | ND(0.024)                  | ND(0.62)                     | ND(0.43)                     | ND(0.58)                  | ND(0.97)                  |
| <sup>a</sup> NMED Groundwater Cleanup Levels |              | <b>70</b>                     | <b>600</b>                 | NA                         | <b>75</b>                  | NA                 | NA                         | NA                           | NA                           | NA                        | NA                        |
| <sup>b</sup> 40 CFR 141.62                   |              | NA                            | NA                         | NA                         | NA                         | NA                 | NA                         | NA                           | NA                           | NA                        | NA                        |
| <sup>c</sup> NMED Tap Water                  |              | 11.5                          | 302                        | NA                         | 4.82                       | <b>4.59</b>        | <b>11.4</b>                | <b>1,170</b>                 | <b>41.1</b>                  | <b>45.3</b>               | <b>354</b>                |
| <sup>d</sup> USEPA RSL Tap Water HQ 1.0      |              | 4                             | 300                        | NA                         | 4.8                        | 4.6                | 11                         | 1,200                        | 12                           | 46                        | 360                       |

Notes:  
<sup>a</sup> NMED GW Cleanup Levels - New Mexico Environment Department Groundwater Cleanup Levels, New Mexico Administrative Code 20.6.2.3103.  
  
<sup>b</sup> 40 CFR 141.62 - Code of Federal Regulations, Chapter 40, Section 141.62 Maximum Contaminant Levels.  
<sup>c</sup> NMED Tap Water - New Mexico Environment Department, Risk Assessment Guidance, Table A-1, Tap Water, March 2017.  
<sup>d</sup> USEPA RSL Tap Water HQ 1.0 - United States Environmental Protection Agency Regional Screening Levels, Hazardous Quotient 1.0, November 2019.  
- Bolded values indicate exceedences.

J - estimated concentration  
ug/L - micrograms per Liter  
NA - not applicable  
ND - non-detect  
U - Evaluated to be undetected at the reported concentration  
-- not sampled

TABLE 3-6. SEMI-VOLATILE ORGANIC COMPOUNDS ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location                                     | Date Sampled | 2,4-Dinitrophenol<br>(ug/L) | 2,4-Dinitrotoluene<br>(ug/L) | 2,6-Dinitrotoluene<br>(ug/L) | 2-Chloronaphthalene<br>(ug/L) | 2-Chlorophenol<br>(ug/L) | 2-Methylnaphthalene<br>(ug/L) | 2-Methylphenol<br>(ug/L) | 2-Nitroaniline<br>(ug/L) | 2-Nitrophenol<br>(ug/L) |
|----------------------------------------------|--------------|-----------------------------|------------------------------|------------------------------|-------------------------------|--------------------------|-------------------------------|--------------------------|--------------------------|-------------------------|
| MKTF-01R                                     | 9/17/2021    | ND(0.5)                     | ND(0.62)                     | <b>ND(0.58)</b>              | ND(0.59)                      | ND(0.62)                 | 8.2 J                         | 2.1 J                    | ND(0.31)                 | ND(0.47)                |
| MKTF-02R                                     | 9/17/2021    | ND(0.5)                     | ND(0.62)                     | <b>ND(0.58)</b>              | ND(0.59)                      | ND(0.62)                 | ND(0.034)                     | ND(0.51)                 | ND(0.31)                 | ND(0.47)                |
| MKTF-04R                                     | 9/17/2021    | ND(0.5)                     | ND(0.62)                     | <b>ND(0.58)</b>              | ND(0.59)                      | ND(0.62)                 | 6.2 J                         | ND(0.51)                 | ND(0.31)                 | ND(0.47)                |
| MKTF-17R                                     | 9/17/2021    | ND(0.5)                     | ND(0.62)                     | <b>ND(0.58)</b>              | ND(0.59)                      | ND(0.62)                 | 16 J                          | 280                      | ND(0.31)                 | ND(0.47)                |
| MKTF-18R                                     | 9/17/2021    | ND(0.5)                     | ND(0.62)                     | <b>ND(0.58)</b>              | ND(0.59)                      | ND(0.62)                 | 19 J                          | 130 J                    | ND(0.31)                 | ND(0.47)                |
| OW-66                                        | 9/17/2021    | ND(0.5)                     | ND(0.62)                     | <b>ND(0.58)</b>              | ND(0.59)                      | ND(0.62)                 | <b>51 J</b>                   | 14                       | ND(0.31)                 | ND(0.47)                |
| OW-67                                        | 9/17/2021    | ND(0.5)                     | ND(0.62)                     | <b>ND(0.58)</b>              | ND(0.59)                      | ND(0.62)                 | ND(0.034)                     | ND(0.51)                 | ND(0.31)                 | ND(0.47)                |
| OW-68                                        | 9/17/2021    | ND(0.5)                     | ND(0.62)                     | <b>ND(0.58)</b>              | ND(0.59)                      | ND(0.62)                 | ND(0.034)                     | ND(0.51)                 | ND(0.31)                 | ND(0.47)                |
| <sup>a</sup> NMED Groundwater Cleanup Levels |              | NA                          | NA                           | NA                           | NA                            | NA                       | NA                            | NA                       | NA                       | NA                      |
| <sup>b</sup> 40 CFR 141.62                   |              | NA                          | NA                           | NA                           | NA                            | NA                       | NA                            | NA                       | NA                       | NA                      |
| <sup>c</sup> NMED Tap Water                  |              | <b>38.7</b>                 | <b>2.37</b>                  | <b>0.485</b>                 | <b>733</b>                    | <b>91</b>                | <b>35.1</b>                   | NA                       | NA                       | NA                      |
| <sup>d</sup> USEPA RSL Tap Water HQ 1.0      |              | 39                          | 2.4                          | 0.49                         | 750                           | 91                       | 36                            | <b>930</b>               | <b>190</b>               | NA                      |

Notes:

<sup>a</sup> NMED GW Cleanup Levels - New Mexico  
Environment Department Groundwater Cleanup  
Levels, New Mexico Administrative Code 20.6.2.3103.

<sup>b</sup> 40 CFR 141.62 - Code of Federal Regulations,  
Chapter 40, Section 141.62 Maximum Contaminant  
Levels.

<sup>c</sup> NMED Tap Water - New Mexico Environment  
Department, Risk Assessment Guidance, Table A-1,  
Tap Water, March 2017.

<sup>d</sup> USEPA RSL Tap Water HQ 1.0 - United States  
Environmental Protection Agency Regional Screening  
Levels, Hazardous Quotient 1.0, November 2019.  
- Bolded values indicate exceedences.

J - estimated concentration  
ug/L - micrograms per Liter  
NA - not applicable  
ND - non-detect  
U - Evaluated to be undetected at the reported  
concentration  
-- not sampled



TABLE 3-6. SEMI-VOLATILE ORGANIC COMPOUNDS ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location                                     | Date Sampled | 3,3-Dichlorobenzidine (ug/L) | 3,4-Methylphenol (ug/L) | 3-Nitroaniline (ug/L) | 4,6-Dinitro-2-methylphenol (ug/L) | 4-Bromophenyl-phenylether (ug/L) | 4-Chloro-3-Methylphenol (ug/L) | 4-Chloroaniline (ug/L) | 4-Chlorophenyl-phenylether (ug/L) | 4-Nitroaniline (ug/L) | 4-Nitrophenol (ug/L) |
|----------------------------------------------|--------------|------------------------------|-------------------------|-----------------------|-----------------------------------|----------------------------------|--------------------------------|------------------------|-----------------------------------|-----------------------|----------------------|
| MKTF-01R                                     | 9/17/2021    | ND(0.51)                     | 5.3                     | ND(1.6)               | ND(0.53)                          | ND(0.77)                         | ND(0.41)                       | ND(0.53)               | ND(0.57)                          | ND(0.47)              | ND(0.28)             |
| MKTF-02R                                     | 9/17/2021    | ND(0.51)                     | ND(0.45)                | ND(1.6)               | ND(0.53)                          | ND(0.77)                         | ND(0.41)                       | ND(0.53)               | ND(0.57)                          | ND(0.47)              | ND(0.28)             |
| MKTF-04R                                     | 9/17/2021    | ND(0.51)                     | ND(0.45)                | ND(1.6)               | ND(0.53)                          | ND(0.77)                         | ND(0.41)                       | ND(0.53)               | ND(0.57)                          | ND(0.47)              | ND(0.28)             |
| MKTF-17R                                     | 9/17/2021    | ND(0.51)                     | 29                      | ND(1.6)               | ND(0.53)                          | ND(0.77)                         | ND(0.41)                       | ND(0.53)               | ND(0.57)                          | ND(0.47)              | ND(0.28)             |
| MKTF-18R                                     | 9/17/2021    | ND(0.51)                     | ND(0.45)                | ND(1.6)               | ND(0.53)                          | ND(0.77)                         | ND(0.41)                       | ND(0.53)               | ND(0.57)                          | ND(0.47)              | ND(0.28)             |
| OW-66                                        | 9/17/2021    | ND(0.51)                     | 17                      | ND(1.6)               | ND(0.53)                          | ND(0.77)                         | ND(0.41)                       | ND(0.53)               | ND(0.57)                          | ND(0.47)              | ND(0.28)             |
| OW-67                                        | 9/17/2021    | ND(0.51)                     | ND(0.45)                | ND(1.6)               | ND(0.53)                          | ND(0.77)                         | ND(0.41)                       | ND(0.53)               | ND(0.57)                          | ND(0.47)              | ND(0.28)             |
| OW-68                                        | 9/17/2021    | ND(0.51)                     | ND(0.45)                | ND(1.6)               | ND(0.53)                          | ND(0.77)                         | ND(0.41)                       | ND(0.53)               | ND(0.57)                          | ND(0.47)              | ND(0.28)             |
| <sup>a</sup> NMED Groundwater Cleanup Levels |              | NA                           | NA                      | NA                    | NA                                | NA                               | NA                             | NA                     | NA                                | NA                    | NA                   |
| <sup>b</sup> 40 CFR 141.62                   |              | NA                           | NA                      | NA                    | NA                                | NA                               | NA                             | NA                     | NA                                | NA                    | NA                   |
| <sup>c</sup> NMED Tap Water                  |              | <b>1.25</b>                  | NA                      | NA                    | <b>1.52</b>                       | NA                               | NA                             | NA                     | NA                                | NA                    | NA                   |
| <sup>d</sup> USEPA RSL Tap Water HQ 1.0      |              | 1.3                          | NA                      | NA                    | 1.5                               | NA                               | <b>1,400</b>                   | <b>3.7</b>             | NA                                | <b>38</b>             | NA                   |

Notes:  
<sup>a</sup> NMED GW Cleanup Levels - New Mexico Environment Department Groundwater Cleanup Levels, New Mexico Administrative Code 20.6.2.3103.  
  
<sup>b</sup> 40 CFR 141.62 - Code of Federal Regulations, Chapter 40, Section 141.62 Maximum Contaminant Levels.  
  
<sup>c</sup> NMED Tap Water - New Mexico Environment Department, Risk Assessment Guidance, Table A-1, Tap Water, March 2017.  
  
<sup>d</sup> USEPA RSL Tap Water HQ 1.0 - United States Environmental Protection Agency Regional Screening Levels, Hazardous Quotient 1.0, November 2019.  
- Bolded values indicate exceedences.

J - estimated concentration  
ug/L - micrograms per Liter  
NA - not applicable  
ND - non-detect  
U - Evaluated to be undetected at the reported concentration  
-- not sampled

TABLE 3-6. SEMI-VOLATILE ORGANIC COMPOUNDS ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location                                     | Date Sampled | Acenaphthene<br>(ug/L) | Acenaphthylene<br>(ug/L) | Aniline<br>(ug/L) | Anthracene<br>(ug/L) | Azobenzene<br>(ug/L) | Benzo(a)anthracene<br>(ug/L) | Benzo(a)pyrene<br>(ug/L) | Benzo(b)fluoranthene<br>(ug/L) | Benzo(g,h,i)perylene<br>(ug/L) |
|----------------------------------------------|--------------|------------------------|--------------------------|-------------------|----------------------|----------------------|------------------------------|--------------------------|--------------------------------|--------------------------------|
| MKTF-01R                                     | 9/17/2021    | ND(0.31)               | ND(0.43)                 | ND(0.5)           | ND(0.34)             | ND(0.55)             | <b>ND(0.36)</b>              | <b>ND(0.34)</b>          | <b>ND(0.57)</b>                | ND(0.34)                       |
| MKTF-02R                                     | 9/17/2021    | ND(0.031)              | ND(0.043)                | ND(0.5)           | ND(0.034)            | ND(0.55)             | ND(0.036)                    | ND(0.034)                | ND(0.057)                      | ND(0.034)                      |
| MKTF-04R                                     | 9/17/2021    | 1.6                    | ND(0.43)                 | ND(0.5)           | ND(0.34)             | ND(0.55)             | <b>ND(0.36)</b>              | <b>ND(0.34)</b>          | <b>ND(0.57)</b>                | ND(0.34)                       |
| MKTF-17R                                     | 9/17/2021    | 1.2                    | ND(0.43)                 | ND(0.5)           | ND(0.75)             | ND(0.55)             | <b>ND(0.36)</b>              | <b>ND(0.34)</b>          | <b>ND(0.57)</b>                | ND(0.34)                       |
| MKTF-18R                                     | 9/17/2021    | 3 J                    | ND(0.43)                 | ND(0.5)           | ND(0.34)             | ND(0.55)             | <b>ND(0.36)</b>              | <b>ND(0.34)</b>          | <b>ND(0.57)</b>                | ND(0.34)                       |
| OW-66                                        | 9/17/2021    | 1                      | ND(0.43)                 | ND(0.5)           | ND(0.34)             | ND(0.55)             | <b>ND(0.36)</b>              | <b>ND(0.34)</b>          | <b>ND(0.57)</b>                | ND(0.34)                       |
| OW-67                                        | 9/17/2021    | ND(0.031)              | ND(0.043)                | ND(0.5)           | ND(0.034)            | ND(0.55)             | ND(0.036)                    | ND(0.034)                | ND(0.057)                      | ND(0.034)                      |
| OW-68                                        | 9/17/2021    | 0.2                    | ND(0.043)                | ND(0.5)           | ND(0.034)            | ND(0.55)             | ND(0.036)                    | ND(0.034)                | ND(0.057)                      | ND(0.034)                      |
| <sup>a</sup> NMED Groundwater Cleanup Levels |              | NA                     | NA                       | NA                | NA                   | NA                   | NA                           | <b>0.2</b>               | NA                             | NA                             |
| <sup>b</sup> 40 CFR 141.62                   |              | NA                     | NA                       | NA                | NA                   | NA                   | NA                           | NA                       | NA                             | NA                             |
| <sup>c</sup> NMED Tap Water                  |              | <b>535</b>             | NA                       | NA                | <b>1,720</b>         | NA                   | <b>0.12</b>                  | 0.251                    | <b>0.343</b>                   | NA                             |
| <sup>d</sup> USEPA RSL Tap Water HQ 1.0      |              | 530                    | NA                       | <b>130</b>        | 1,800                | <b>1.2</b>           | 0.3                          | 0.25                     | 2.5                            | NA                             |

Notes:

<sup>a</sup> NMED GW Cleanup Levels - New Mexico  
Environment Department Groundwater Cleanup  
Levels, New Mexico Administrative Code 20.6.2.3103.

<sup>b</sup> 40 CFR 141.62 - Code of Federal Regulations,  
Chapter 40, Section 141.62 Maximum Contaminant  
Levels.

<sup>c</sup> NMED Tap Water - New Mexico Environment  
Department, Risk Assessment Guidance, Table A-1,  
Tap Water, March 2017.

<sup>d</sup> USEPA RSL Tap Water HQ 1.0 - United States  
Environmental Protection Agency Regional Screening  
Levels, Hazardous Quotient 1.0, November 2019.  
- Bolded values indicate exceedences.

J - estimated concentration  
ug/L - micrograms per Liter  
NA - not applicable  
ND - non-detect  
U - Evaluated to be undetected at the reported  
concentration  
-- not sampled

TABLE 3-6. SEMI-VOLATILE ORGANIC COMPOUNDS ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location                                     | Date Sampled | Benzo(k)fluoranthene<br>(ug/L) | Benzoic Acid<br>(ug/L) | Benzyl Alcohol<br>(ug/L) | Bis(2-chloroethoxy)<br>methane<br>(ug/L) | Bis(2-<br>chloroethyl)ether<br>(ug/L) | Bis(2-<br>chloroisopropyl)ether<br>(ug/L) | Bis(2-<br>ethylhexyl)phthalate<br>(ug/L) | Butylbenzylphthalate<br>(ug/L) | Carbazole<br>(ug/L) |
|----------------------------------------------|--------------|--------------------------------|------------------------|--------------------------|------------------------------------------|---------------------------------------|-------------------------------------------|------------------------------------------|--------------------------------|---------------------|
| MKTF-01R                                     | 9/17/2021    | ND(0.36)                       | ND(1.1)                | ND(0.68)                 | ND(0.41)                                 | <b>ND(0.63)</b>                       | ND(0.54)                                  | ND(4.5)                                  | ND(0.74)                       | ND(0.56)            |
| MKTF-02R                                     | 9/17/2021    | ND(0.036)                      | ND(1.1)                | ND(0.68)                 | ND(0.41)                                 | <b>ND(0.63)</b>                       | ND(0.54)                                  | ND(4.5)                                  | ND(0.74)                       | ND(0.56)            |
| MKTF-04R                                     | 9/17/2021    | ND(0.36)                       | ND(1.1)                | ND(0.68)                 | ND(0.41)                                 | <b>ND(0.63)</b>                       | ND(0.54)                                  | ND(4.5)                                  | ND(0.74)                       | ND(0.56)            |
| MKTF-17R                                     | 9/17/2021    | ND(0.36)                       | ND(1.1)                | ND(0.68)                 | ND(0.41)                                 | <b>ND(0.63)</b>                       | ND(0.54)                                  | ND(4.5)                                  | ND(0.74)                       | ND(0.56)            |
| MKTF-18R                                     | 9/17/2021    | ND(0.36)                       | ND(1.1)                | ND(0.68)                 | ND(0.41)                                 | <b>ND(0.63)</b>                       | ND(0.54)                                  | ND(4.5)                                  | ND(0.74)                       | ND(0.56)            |
| OW-66                                        | 9/17/2021    | ND(0.36)                       | ND(1.1)                | ND(0.68)                 | ND(0.41)                                 | <b>ND(0.63)</b>                       | ND(0.54)                                  | ND(4.5)                                  | ND(0.74)                       | 3.7 J               |
| OW-67                                        | 9/17/2021    | ND(0.036)                      | ND(1.1)                | ND(0.68)                 | ND(0.41)                                 | <b>ND(0.63)</b>                       | ND(0.54)                                  | ND(4.5)                                  | ND(0.74)                       | ND(0.56)            |
| OW-68                                        | 9/17/2021    | ND(0.036)                      | ND(1.1)                | ND(0.68)                 | ND(0.41)                                 | <b>ND(0.63)</b>                       | ND(0.54)                                  | ND(4.5)                                  | ND(0.74)                       | ND(0.56)            |
| <sup>a</sup> NMED Groundwater Cleanup Levels |              | NA                             | NA                     | NA                       | NA                                       | NA                                    | NA                                        | NA                                       | NA                             | NA                  |
| <sup>b</sup> 40 CFR 141.62                   |              | NA                             | NA                     | NA                       | NA                                       | NA                                    | NA                                        | NA                                       | NA                             | NA                  |
| <sup>c</sup> NMED Tap Water                  |              | <b>3.43</b>                    | NA                     | NA                       | NA                                       | <b>0.137</b>                          | <b>9.81</b>                               | <b>55.6</b>                              | NA                             | NA                  |
| <sup>d</sup> USEPA RSL Tap Water HQ 1.0      |              | 25                             | <b>75,000</b>          | <b>2,000</b>             | <b>59</b>                                | 0.14                                  | NA                                        | 56                                       | <b>160</b>                     | NA                  |

Notes:  
<sup>a</sup> NMED GW Cleanup Levels - New Mexico  
Environment Department Groundwater Cleanup  
Levels, New Mexico Administrative Code 20.6.2.3103.  
  
<sup>b</sup> 40 CFR 141.62 - Code of Federal Regulations,  
Chapter 40, Section 141.62 Maximum Contaminant  
Levels.  
  
<sup>c</sup> NMED Tap Water - New Mexico Environment  
Department, Risk Assessment Guidance, Table A-1,  
Tap Water, March 2017.  
  
<sup>d</sup> USEPA RSL Tap Water HQ 1.0 - United States  
Environmental Protection Agency Regional Screening  
Levels, Hazardous Quotient 1.0, November 2019.  
- Bolded values indicate exceedences.

J - estimated concentration  
ug/L - micrograms per Liter  
NA - not applicable  
ND - non-detect  
U - Evaluated to be undetected at the reported  
concentration  
-- not sampled

TABLE 3-6. SEMI-VOLATILE ORGANIC COMPOUNDS ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location                                     | Date Sampled | Chrysene<br>(ug/L) | Dibenzo(a,h)<br>anthracene<br>(ug/L) | Dibenzofuran<br>(ug/L) | Diethylphthalate<br>(ug/L) | Dimethylphthalate<br>(ug/L) | Di-n-butylphthalate<br>(ug/L) | Di-n-octylphthalate<br>(ug/L) | Fluoranthene<br>(ug/L) | Fluorene<br>(ug/L) | Hexachlorobenzene<br>(ug/L) |
|----------------------------------------------|--------------|--------------------|--------------------------------------|------------------------|----------------------------|-----------------------------|-------------------------------|-------------------------------|------------------------|--------------------|-----------------------------|
| MKTF-01R                                     | 9/17/2021    | ND(0.24)           | <b>ND(0.34)</b>                      | ND(0.38)               | ND(3.9)                    | ND(2)                       | ND(6.5)                       | ND(3.1)                       | ND(1)                  | ND(0.31)           | <b>ND(0.66)</b>             |
| MKTF-02R                                     | 9/17/2021    | ND(0.024)          | ND(0.034)                            | ND(0.38)               | ND(3.9)                    | ND(2)                       | ND(6.5)                       | ND(3.1)                       | ND(0.1)                | ND(0.031)          | <b>ND(0.66)</b>             |
| MKTF-04R                                     | 9/17/2021    | ND(0.24)           | <b>ND(0.34)</b>                      | ND(0.38)               | ND(3.9)                    | ND(2)                       | ND(6.5)                       | ND(3.1)                       | ND(1)                  | 1.8                | <b>ND(0.66)</b>             |
| MKTF-17R                                     | 9/17/2021    | ND(0.24)           | <b>ND(0.34)</b>                      | ND(0.38)               | ND(3.9)                    | ND(2)                       | ND(6.5)                       | ND(3.1)                       | ND(1)                  | 2.4                | <b>ND(0.66)</b>             |
| MKTF-18R                                     | 9/17/2021    | ND(0.24)           | <b>ND(0.34)</b>                      | ND(0.38)               | ND(3.9)                    | ND(2)                       | ND(6.5)                       | ND(3.1)                       | ND(1)                  | 3.4 J              | <b>ND(0.66)</b>             |
| OW-66                                        | 9/17/2021    | ND(0.24)           | <b>ND(0.34)</b>                      | ND(0.38)               | ND(3.9)                    | ND(2)                       | ND(6.5)                       | ND(3.1)                       | ND(1)                  | 2.2                | <b>ND(0.66)</b>             |
| OW-67                                        | 9/17/2021    | ND(0.024)          | ND(0.034)                            | ND(0.38)               | ND(3.9)                    | ND(2)                       | ND(6.5)                       | ND(3.1)                       | ND(0.1)                | ND(0.031)          | <b>ND(0.66)</b>             |
| OW-68                                        | 9/17/2021    | ND(0.024)          | ND(0.034)                            | ND(0.38)               | ND(3.9)                    | ND(2)                       | ND(6.5)                       | ND(3.1)                       | ND(0.1)                | ND(0.031)          | <b>ND(0.66)</b>             |
| <sup>a</sup> NMED Groundwater Cleanup Levels |              | NA                 | NA                                   | NA                     | NA                         | NA                          | NA                            | NA                            | NA                     | NA                 | NA                          |
| <sup>b</sup> 40 CFR 141.62                   |              | NA                 | NA                                   | NA                     | NA                         | NA                          | NA                            | NA                            | NA                     | NA                 | NA                          |
| <sup>c</sup> NMED Tap Water                  |              | <b>34.3</b>        | <b>0.0343</b>                        | NA                     | <b>14,800</b>              | <b>612</b>                  | <b>885</b>                    | NA                            | <b>802</b>             | <b>288</b>         | <b>0.0976</b>               |
| <sup>d</sup> USEPA RSL Tap Water HQ 1.0      |              | 250                | 0.25                                 | <b>7.9</b>             | 15,000                     | NA                          | 900                           | <b>200</b>                    | 800                    | 290                | 0.098                       |

Notes:  
<sup>a</sup> NMED GW Cleanup Levels - New Mexico  
Environment Department Groundwater Cleanup  
Levels, New Mexico Administrative Code 20.6.2.3103.  
  
<sup>b</sup> 40 CFR 141.62 - Code of Federal Regulations,  
Chapter 40, Section 141.62 Maximum Contaminant  
Levels.  
<sup>c</sup> NMED Tap Water - New Mexico Environment  
Department, Risk Assessment Guidance, Table A-1,  
Tap Water, March 2017.  
<sup>d</sup> USEPA RSL Tap Water HQ 1.0 - United States  
Environmental Protection Agency Regional Screening  
Levels, Hazardous Quotient 1.0, November 2019.  
- Bolded values indicate exceedences.

J - estimated concentration  
ug/L - micrograms per Liter  
NA - not applicable  
ND - non-detect  
U - Evaluated to be undetected at the reported  
concentration  
-- not sampled

TABLE 3-6. SEMI-VOLATILE ORGANIC COMPOUNDS ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location                                     | Date Sampled | Hexachlorobutadiene (ug/L) | Hexachlorocyclopentadiene (ug/L) | Hexachloroethane (ug/L) | Indeno(1,2,3-cd)pyrene (ug/L) | Isophorone (ug/L) | Naphthalene (ug/L) | Nitrobenzene (ug/L) | N-Nitrosodimethylamine (ug/L) | N-Nitrosodi-n-propylamine (ug/L) |
|----------------------------------------------|--------------|----------------------------|----------------------------------|-------------------------|-------------------------------|-------------------|--------------------|---------------------|-------------------------------|----------------------------------|
| MKTF-01R                                     | 9/17/2021    | ND(0.82)                   | ND(0.65)                         | ND(0.45)                | ND(0.43)                      | ND(0.4)           | 21 J               | ND(0.51)            | ND(0.36)                      | ND(0.48)                         |
| MKTF-02R                                     | 9/17/2021    | ND(0.82)                   | ND(0.65)                         | ND(0.45)                | ND(0.043)                     | ND(0.4)           | ND(0.034)          | ND(0.51)            | ND(0.36)                      | ND(0.48)                         |
| MKTF-04R                                     | 9/17/2021    | ND(0.82)                   | ND(0.65)                         | ND(0.45)                | ND(0.43)                      | ND(0.4)           | 15 J               | ND(0.51)            | ND(0.36)                      | ND(0.48)                         |
| MKTF-17R                                     | 9/17/2021    | ND(0.82)                   | ND(0.65)                         | ND(0.45)                | ND(0.43)                      | ND(0.4)           | 38 J               | ND(0.51)            | ND(0.36)                      | ND(0.48)                         |
| MKTF-18R                                     | 9/17/2021    | ND(0.82)                   | ND(0.65)                         | ND(0.45)                | ND(0.43)                      | ND(0.4)           | 87 J               | ND(0.51)            | ND(0.36)                      | ND(0.48)                         |
| OW-66                                        | 9/17/2021    | ND(0.82)                   | ND(0.65)                         | ND(0.45)                | ND(0.43)                      | ND(0.4)           | 110                | ND(0.51)            | ND(0.36)                      | ND(0.48)                         |
| OW-67                                        | 9/17/2021    | ND(0.82)                   | ND(0.65)                         | ND(0.45)                | ND(0.043)                     | ND(0.4)           | ND(0.034)          | ND(0.51)            | ND(0.36)                      | ND(0.48)                         |
| OW-68                                        | 9/17/2021    | ND(0.82)                   | ND(0.65)                         | ND(0.45)                | ND(0.043)                     | ND(0.4)           | ND(0.034)          | ND(0.51)            | ND(0.36)                      | ND(0.48)                         |
| <sup>a</sup> NMED Groundwater Cleanup Levels |              | NA                         | NA                               | NA                      | NA                            | NA                | 30                 | NA                  | NA                            | NA                               |
| <sup>b</sup> 40 CFR 141.62                   |              | NA                         | NA                               | NA                      | NA                            | NA                | NA                 | NA                  | NA                            | NA                               |
| <sup>c</sup> NMED Tap Water                  |              | 1.39                       | 0.411                            | 3.28                    | 0.343                         | 781               | 1.65               | 1.4                 | 0.00491                       | NA                               |
| <sup>d</sup> USEPA RSL Tap Water HQ 1.0      |              | 1.4                        | 0.41                             | 3.3                     | 2.5                           | 780               | 1.7                | 1.4                 | 0.0011                        | 0.11                             |

Notes:

<sup>a</sup> NMED GW Cleanup Levels - New Mexico Environment Department Groundwater Cleanup Levels, New Mexico Administrative Code 20.6.2.3103.

<sup>b</sup> 40 CFR 141.62 - Code of Federal Regulations, Chapter 40, Section 141.62 Maximum Contaminant Levels.

<sup>c</sup> NMED Tap Water - New Mexico Environment Department, Risk Assessment Guidance, Table A-1, Tap Water, March 2017.

<sup>d</sup> USEPA RSL Tap Water HQ 1.0 - United States Environmental Protection Agency Regional Screening Levels, Hazardous Quotient 1.0, November 2019.

- Bolded values indicate exceedences.

J - estimated concentration  
ug/L - micrograms per Liter  
NA - not applicable  
ND - non-detect  
U - Evaluated to be undetected at the reported concentration  
-- not sampled



TABLE 3-6. SEMI-VOLATILE ORGANIC COMPOUNDS ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location                                     | Date Sampled | N-Nitro-sodiphenylamine (ug/L) | Pentachlorophenol (ug/L) | Phenanthrene (ug/L) | Phenol (ug/L) | Pyrene (ug/L)  | Pyridine (ug/L) |
|----------------------------------------------|--------------|--------------------------------|--------------------------|---------------------|---------------|----------------|-----------------|
| MKTF-01R                                     | 9/17/2021    | ND(1)                          | ND(0.59)                 | ND(0.57)            | 92 J          | ND(1.6)        | ND(0.93)        |
| MKTF-02R                                     | 9/17/2021    | ND(1)                          | ND(0.59)                 | ND(0.057)           | 0.76 J        | ND(0.16)       | ND(0.93)        |
| MKTF-04R                                     | 9/17/2021    | ND(1)                          | ND(0.59)                 | ND(0.57)            | 8.3 J         | ND(1.6)        | ND(0.93)        |
| MKTF-17R                                     | 9/17/2021    | ND(1)                          | ND(0.59)                 | 0.8 J               | 150 J         | ND(1.6)        | ND(0.93)        |
| MKTF-18R                                     | 9/17/2021    | ND(1)                          | ND(0.59)                 | 6.2 J               | 8.2 J         | ND(1.6)        | ND(0.93)        |
| OW-66                                        | 9/17/2021    | ND(1)                          | ND(0.59)                 | 2.6 J               | 18 J          | ND(1.6)        | ND(0.93)        |
| OW-67                                        | 9/17/2021    | ND(1)                          | ND(0.59)                 | ND(0.057)           | ND(0.33)      | ND(0.16)       | ND(0.93)        |
| OW-68                                        | 9/17/2021    | ND(1)                          | ND(0.59)                 | ND(0.057)           | ND(0.33)      | 0.18J/ND(0.2)U | ND(0.93)        |
| <sup>a</sup> NMED Groundwater Cleanup Levels |              | NA                             | 1                        | NA                  | NA            | NA             | NA              |
| <sup>b</sup> 40 CFR 141.62                   |              | NA                             | NA                       | NA                  | NA            | NA             | NA              |
| <sup>c</sup> NMED Tap Water                  |              | 122                            | 0.413                    | 170                 | 5,760         | 117            | NA              |
| <sup>d</sup> USEPA RSL Tap Water HQ 1.0      |              | 120                            | 0.41                     | NA                  | 5,800         | 120            | 20              |

Notes:

<sup>a</sup> NMED GW Cleanup Levels - New Mexico Environment Department Groundwater Cleanup Levels, New Mexico Administrative Code 20.6.2.3103.

<sup>b</sup> 40 CFR 141.62 - Code of Federal Regulations, Chapter 40, Section 141.62 Maximum Contaminant Levels.

<sup>c</sup> NMED Tap Water - New Mexico Environment Department, Risk Assessment Guidance, Table A-1, Tap Water, March 2017.

<sup>d</sup> USEPA RSL Tap Water HQ 1.0 - United States Environmental Protection Agency Regional Screening Levels, Hazardous Quotient 1.0, November 2019.

- Bolded values indicate exceedences.

J - estimated concentration  
ug/L - micrograms per Liter  
NA - not applicable  
ND - non-detect  
U - Evaluated to be undetected at the reported concentration  
-- not sampled

TABLE 3-7. METALS (TOTAL) ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location                                     | Date Sampled | Antimony, Total<br>(ug/L) | Arsenic, Total<br>(ug/L) | Barium, Total<br>(ug/L) | Beryllium, Total<br>(ug/L) | Cadmium, Total<br>(ug/L) | Calcium, Total<br>(ug/L) | Chromium, Total<br>(ug/L) | Cobalt, Total<br>(ug/L) | Fluoride, Total<br>(ug/L) | Iron, Total<br>(ug/L) |
|----------------------------------------------|--------------|---------------------------|--------------------------|-------------------------|----------------------------|--------------------------|--------------------------|---------------------------|-------------------------|---------------------------|-----------------------|
| MKTF-01R                                     | 9/17/2021    | ND(2.2)                   | 7.6                      | <b>5,400</b>            | ND(0.88)                   | ND(1.5)                  | 230,000                  | ND(2.1)                   | <b>12</b>               | 430 J                     | 5,700 J               |
| MKTF-02R                                     | 9/17/2021    | ND(2.2)                   | 1 J                      | 56                      | ND(0.88)                   | ND(1.5)                  | 310,000                  | ND(2.1)                   | 5.3 J                   | ND(200)                   | 47 J                  |
| MKTF-04R                                     | 9/17/2021    | ND(2.2)                   | 5.2                      | 1,600                   | ND(0.88)                   | ND(1.5)                  | 120,000                  | 8.2                       | <b>9</b>                | ND(200)                   | 9,300 J               |
| MKTF-17R                                     | 9/17/2021    | ND(2.2)                   | 5.5                      | 320                     | ND(0.88)                   | ND(1.5)                  | 110,000                  | ND(2.1)                   | 4.5 J                   | 790                       | 1,400 J               |
| MKTF-18R                                     | 9/17/2021    | ND(2.2)                   | 6.3                      | <b>2,000</b>            | 1.9 J                      | ND(1.5)                  | 140,000                  | 20 J                      | <b>15</b>               | 650                       | <b>17,000 J</b>       |
| OW-66                                        | 9/17/2021    | ND(2.2)                   | 4.8 J                    | 1,400                   | ND(0.88)                   | ND(1.5)                  | 87,000                   | 2.7 J                     | <b>10</b>               | ND(200)                   | 6,900 J               |
| OW-67                                        | 9/17/2021    | ND(2.2)                   | 2.5 J                    | 80                      | ND(4.4)                    | ND(7.4)                  | 1,000,000                | ND(11)                    | <b>29 J</b>             | ND(200)                   | 230 J                 |
| OW-68                                        | 9/17/2021    | ND(2.2)                   | 5.8                      | 130                     | ND(4.4)                    | ND(7.4)                  | 790,000                  | ND(11)                    | <b>100</b>              | <b>6,400</b>              | 2,900 J               |
| <sup>a</sup> NMED Groundwater Cleanup Levels |              | <b>6</b>                  | <b>10</b>                | <b>2,000</b>            | <b>4</b>                   | <b>5</b>                 | NA                       | <b>50</b>                 | NA                      | <b>1,600</b>              | NA                    |
| <sup>b</sup> 40 CFR 141.62                   |              | 6                         | 10                       | 2,000                   | 4                          | 5                        | NA                       | 100                       | NA                      | 4,000                     | NA                    |
| <sup>c</sup> NMED Tap Water                  |              | 7.26                      | 0.855                    | 3,280                   | 12.4                       | 6.24                     | NA                       | 5.7                       | <b>5.98</b>             | 1,180                     | <b>13,800</b>         |
| <sup>d</sup> USEPA RSL Tap Water HQ 1.0      |              | 7.8                       | 0.052                    | 3,800                   | 25                         | 9.2                      | NA                       | 100                       | 6                       | 800                       | 14,000                |

Notes:

<sup>a</sup> NMED GW Cleanup Levels - New Mexico Environment Department Groundwater Cleanup Levels, New Mexico Administrative Code 20.6.2.3103.

<sup>b</sup> 40 CFR 141.62 - Code of Federal Regulations, Chapter 40, Section 141.62 Maximum Contaminant Levels.

<sup>c</sup> NMED Tap Water - New Mexico Environment Department, Risk Assessment Guidance, Table A-1, Tap Water, March 2017.

<sup>d</sup> USEPA RSL Tap Water HQ 1.0 - United States Environmental Protection Agency Regional Screening Levels, Hazardous Quotient 1.0, November 2019.

- Bolded values indicate exceedences.

J - estimated concentration  
ug/L - micrograms per Liter  
NA - not applicable  
ND - non-detect  
U - Evaluated to be undetected at the reported

TABLE 3-7. METALS (TOTAL) ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location                                     | Date Sampled | Lead, Total<br>(ug/L) | Magnesium, Total<br>(ug/L) | Manganese, Total<br>(ug/L) | Mercury, Total<br>(ug/L) | Nickel, Total<br>(ug/L) | Potassium, Total<br>(ug/L) | Selenium, Total<br>(ug/L) | Silver, Total<br>(ug/L) | Sodium, Total<br>(ug/L) | Vanadium, Total<br>(ug/L) | Zinc, Total<br>(ug/L) |
|----------------------------------------------|--------------|-----------------------|----------------------------|----------------------------|--------------------------|-------------------------|----------------------------|---------------------------|-------------------------|-------------------------|---------------------------|-----------------------|
| MKTF-01R                                     | 9/17/2021    | 9.5 J                 | 55,000                     | <b>3,400</b>               | ND(0.12)                 | 35 J                    | 2,900                      | ND(1.9)                   | ND(1.3)                 | 720,000                 | ND(2.4)                   | ND(6.4)               |
| MKTF-02R                                     | 9/17/2021    | ND(0.31)              | 48,000                     | 95                         | ND(0.12)                 | 6.3 J                   | 13,000                     | ND(1.9)                   | 1.4 J                   | 1,100,000               | ND(2.4)                   | 19                    |
| MKTF-04R                                     | 9/17/2021    | 7.5 J                 | 31,000                     | <b>2,700</b>               | ND(0.12)                 | 16 J                    | 3,400                      | 2.8 J                     | ND(1.3)                 | 330,000                 | 16 J                      | 16                    |
| MKTF-17R                                     | 9/17/2021    | 0.39J/ND(2.5)U        | 21,000                     | <b>3,400</b>               | ND(0.12)                 | 6.2 J                   | 880 J                      | ND(1.9)                   | ND(1.3)                 | 310,000                 | ND(2.4)                   | ND(6.4)               |
| MKTF-18R                                     | 9/17/2021    | <b>46 J</b>           | 36,000                     | <b>2,900 J</b>             | ND(0.12)                 | 26 J                    | 5,100 J                    | 6.3                       | ND(1.3)                 | 320,000                 | 33 J                      | 36 J                  |
| OW-66                                        | 9/17/2021    | 9 J                   | 22,000                     | <b>2,600</b>               | ND(0.12)                 | <b>380 J</b>            | 970 J                      | ND(1.9)                   | ND(1.3)                 | 470,000                 | 8.3 J                     | 9.5 J                 |
| OW-67                                        | 9/17/2021    | ND(0.31)              | 180,000                    | <b>8,000</b>               | ND(0.12)                 | 110 J                   | 4,600                      | 2.8 J                     | ND(6.3)                 | 2,300,000               | ND(12)                    | ND(32)                |
| OW-68                                        | 9/17/2021    | 2J/ND(2.5)U           | 130,000                    | <b>11,000</b>              | ND(0.12)                 | 170 J                   | 15,000                     | 7.6                       | ND(6.3)                 | 2,500,000               | ND(12)                    | ND(32)                |
| <sup>a</sup> NMED Groundwater Cleanup Levels |              | <b>15</b>             | NA                         | NA                         | <b>2</b>                 | NA                      | NA                         | <b>50</b>                 | <b>50</b>               | NA                      | NA                        | NA                    |
| <sup>b</sup> 40 CFR 141.62                   |              | NA                    | NA                         | NA                         | 2                        | NA                      | NA                         | 50                        | NA                      | NA                      | NA                        | NA                    |
| <sup>c</sup> NMED Tap Water                  |              | NA                    | NA                         | <b>2,020</b>               | NA                       | <b>372</b>              | NA                         | 98.7                      | 81.2                    | NA                      | <b>63.1</b>               | <b>5,960</b>          |
| <sup>d</sup> USEPA RSL Tap Water HQ 1.0      |              | 15                    | NA                         | 430                        | 0.63                     | 390                     | NA                         | 100                       | 94                      | NA                      | 86                        | 6,000                 |

Notes:

<sup>a</sup> NMED GW Cleanup Levels - New Mexico Environment Department Groundwater Cleanup Levels, New Mexico Administrative Code 20.6.2.3103.

<sup>b</sup> 40 CFR 141.62 - Code of Federal Regulations, Chapter 40, Section 141.62 Maximum Contaminant Levels.

<sup>c</sup> NMED Tap Water - New Mexico Environment Department, Risk Assessment Guidance, Table A-1, Tap Water, March 2017.

<sup>d</sup> USEPA RSL Tap Water HQ 1.0 - United States Environmental Protection Agency Regional Screening Levels, Hazardous Quotient 1.0, November 2019.

- Bolded values indicate exceedences.

J - estimated concentration  
ug/L - micrograms per Liter  
NA - not applicable  
ND - non-detect  
U - Evaluated to be undetected at the reported

TABLE 3-8. METALS (DISSOLVED) ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location                                | Date Sampled | Antimony, Dissolved<br>(mg/L) | Arsenic, Dissolved<br>(mg/L) | Barium, Dissolved<br>(mg/L) | Beryllium, Dissolved<br>(mg/L) | Cadmium, Dissolved<br>(mg/L) | Chromium,<br>Dissolved<br>(mg/L) | Cobalt, Dissolved<br>(mg/L) | Iron, Dissolved<br>(mg/L) | Lead, Dissolved<br>(mg/L) |
|-----------------------------------------|--------------|-------------------------------|------------------------------|-----------------------------|--------------------------------|------------------------------|----------------------------------|-----------------------------|---------------------------|---------------------------|
| MKTF-01R                                | 9/17/2021    | ND(4.4)                       | 6.6 J                        | <b>4,700</b>                | ND(0.88)                       | ND(1.2)                      | ND(2)                            | <b>8</b>                    | 4500                      | ND(0.57)                  |
| MKTF-02R                                | 9/17/2021    | ND(4.4)                       | ND(1.2)                      | 48                          | ND(0.88)                       | ND(1.2)                      | ND(2)                            | 5 J                         | ND(10)                    | ND(0.57)                  |
| MKTF-04R                                | 9/17/2021    | ND(4.4)                       | 3.6 J                        | 1,200                       | ND(0.88)                       | ND(1.2)                      | ND(2)                            | 4.3 J                       | 1,500                     | ND(0.57)                  |
| MKTF-17R                                | 9/17/2021    | ND(4.4)                       | 4.6 J                        | 230                         | ND(0.88)                       | ND(1.2)                      | ND(2)                            | 2.8 J                       | 160                       | ND(0.57)                  |
| MKTF-18R                                | 9/17/2021    | ND(4.4)                       | 2.6 J                        | 1,600                       | ND(0.88)                       | ND(1.2)                      | ND(2)                            | <b>8.8</b>                  | 1,500 J                   | ND(0.57)                  |
| OW-66                                   | 9/17/2021    | ND(4.4)                       | 3.7 J                        | 1,100                       | ND(0.88)                       | ND(1.2)                      | ND(2)                            | <b>8.4</b>                  | 3,700                     | ND(0.57)                  |
| OW-67                                   | 9/17/2021    | ND(4.4)                       | 2.3 J                        | 74                          | ND(0.88)                       | ND(1.2)                      | ND(2)                            | <b>11</b>                   | 15 J                      | ND(0.57)                  |
| OW-68                                   | 9/17/2021    | ND(4.4)                       | 5.5 J                        | 85                          | ND(0.88)                       | ND(1.2)                      | ND(2)                            | <b>79</b>                   | 950                       | 1.2 J                     |
| <sup>a</sup> NMED GW Cleanup Levels     |              | NA                            | NA                           | NA                          | NA                             | NA                           | NA                               | NA                          | NA                        | NA                        |
| <sup>b</sup> 40 CFR 141.62              |              | <b>6</b>                      | <b>10</b>                    | <b>2,000</b>                | <b>4</b>                       | <b>5</b>                     | <b>100</b>                       | NA                          | NA                        | NA                        |
| <sup>c</sup> NMED Tap Water             |              | 7.26                          | 0.855                        | 3,280                       | 12.4                           | 6.24                         | NA                               | <b>5.98</b>                 | <b>13,800</b>             | NA                        |
| <sup>d</sup> USEPA RSL Tap Water HQ 1.0 |              | NA                            | NA                           | NA                          | NA                             | NA                           | NA                               | NA                          | NA                        | NA                        |

Notes:

<sup>a</sup> NMED GW Cleanup Levels - New Mexico  
Environment Department Groundwater Cleanup  
Levels, New Mexico Administrative Code  
20.6.2.3103.

<sup>b</sup> 40 CFR 141.62 - Code of Federal Regulations,  
Chapter 40, Section 141.62 Maximum Contaminant  
Levels.

<sup>c</sup> NMED Tap Water - New Mexico Environment  
Department, Risk Assessment Guidance, Table A-1,  
Tap Water, March 2017.

<sup>d</sup> USEPA RSL Tap Water HQ 1.0 - United States  
Environmental Protection Agency Regional  
Screening Levels, Hazardous Quotient 1.0,  
November 2019.

- Bolded values indicate exceedences.

J - estimated concentration  
ug/L - micrograms per Liter  
NA - not applicable  
ND - non-detect  
U - Evaluated to be undetected at the reported

TABLE 3-8. METALS (DISSOLVED) ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location                                | Date Sampled | Manganese,<br>Dissolved<br>(mg/L) | Mercury,<br>Dissolved<br>(mg/L) | Nickel, Dissolved<br>(mg/L) | Selenium,<br>Dissolved<br>(mg/L) | Silver, Dissolved<br>(mg/L) | Vanadium,<br>Dissolved<br>(mg/L) | Zinc, Dissolved<br>(mg/L) |
|-----------------------------------------|--------------|-----------------------------------|---------------------------------|-----------------------------|----------------------------------|-----------------------------|----------------------------------|---------------------------|
| MKTF-01R                                | 9/17/2021    | <b>3,100</b>                      | ND(0.12)                        | 29                          | ND(3.4)                          | ND(1.3)                     | ND(2)                            | 11 JB                     |
| MKTF-02R                                | 9/17/2021    | 87                                | ND(0.12)                        | ND(3.3)                     | ND(3.4)                          | ND(1.3)                     | 2.2 J                            | 34 JB                     |
| MKTF-04R                                | 9/17/2021    | <b>2,400</b>                      | ND(0.12)                        | 6.6 J                       | ND(3.4)                          | ND(1.3)                     | ND(2)                            | 11 JB                     |
| MKTF-17R                                | 9/17/2021    | <b>2,800</b>                      | ND(0.12)                        | ND(3.3)                     | ND(3.4)                          | ND(1.3)                     | ND(2)                            | 9.6J/ND(10)U              |
| MKTF-18R                                | 9/17/2021    | 1,700 J                           | ND(0.12)                        | 4.8 J                       | ND(3.4)                          | ND(1.3)                     | ND(2)                            | 11 JB                     |
| OW-66                                   | 9/17/2021    | <b>2,400</b>                      | ND(0.12)                        | 350                         | ND(3.4)                          | ND(1.3)                     | 2.3 J                            | ND(6)                     |
| OW-67                                   | 9/17/2021    | <b>7,400</b>                      | ND(0.12)                        | 98                          | ND(3.4)                          | 3.9 J                       | ND(2)                            | 16 JB                     |
| OW-68                                   | 9/17/2021    | <b>9,600</b>                      | ND(0.12)                        | 150                         | 5.8 J                            | 2.9 J                       | 2.3 J                            | 39 JB                     |
| <sup>a</sup> NMED GW Cleanup Levels     |              | NA                                | NA                              | NA                          | NA                               | NA                          | NA                               | NA                        |
| <sup>b</sup> 40 CFR 141.62              |              | NA                                | NA                              | NA                          | <b>50</b>                        | NA                          | NA                               | NA                        |
| <sup>c</sup> NMED Tap Water             |              | <b>2,020</b>                      | NA                              | <b>372</b>                  | 98.7                             | <b>81.2</b>                 | <b>63.1</b>                      | <b>5,960</b>              |
| <sup>d</sup> USEPA RSL Tap Water HQ 1.0 |              | NA                                | NA                              | NA                          | NA                               | NA                          | NA                               | NA                        |

Notes:

<sup>a</sup> NMED GW Cleanup Levels - New Mexico Environment Department Groundwater Cleanup Levels, New Mexico Administrative Code 20.6.2.3103.

<sup>b</sup> 40 CFR 141.62 - Code of Federal Regulations, Chapter 40, Section 141.62 Maximum Contaminant Levels.

<sup>c</sup> NMED Tap Water - New Mexico Environment Department, Risk Assessment Guidance, Table A-1, Tap Water, March 2017.

<sup>d</sup> USEPA RSL Tap Water HQ 1.0 - United States Environmental Protection Agency Regional Screening Levels, Hazardous Quotient 1.0, November 2019.

- Bolded values indicate exceedences.

J - estimated concentration  
ug/L - micrograms per Liter  
NA - not applicable  
ND - non-detect  
U - Evaluated to be undetected at the reported



TABLE 3-9. GENERAL CHEMISTRY ANALYTICAL DATA  
WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

| Location                                | Date Sampled | Alkalinity<br>(mg/L) | Bicarbonate as<br>CaCO3<br>(mg/L) | Carbonate<br>(mg/L) | Chloride<br>(ug/L) | Nitrogen, Nitrate<br>(ug/L) | Nitrogen, Nitrite<br>(ug/L) | Sulfate<br>(ug/L) | TPH DRO<br>(ug/L) | TPH GRO<br>(ug/L) | TPH ORO<br>(ug/L) |
|-----------------------------------------|--------------|----------------------|-----------------------------------|---------------------|--------------------|-----------------------------|-----------------------------|-------------------|-------------------|-------------------|-------------------|
| MKTF-01R                                | 9/17/2021    | 611.8                | 611.8                             | ND(2)               | 220,000            | ND(50)                      | ND(27)                      | 63,000 J          | 2,200             | 5,200             | 96                |
| MKTF-02R                                | 9/17/2021    | 146.6                | 146.6                             | ND(2)               | 1,800,000          | 200J/ND(500)U               | ND(27)                      | 710,000 J         | 220               | 560               | ND(52)            |
| MKTF-04R                                | 9/17/2021    | 691.9                | 691.9                             | ND(2)               | 1,200,000          | ND(50)                      | ND(27)                      | 13,000 JB         | 1,200             | 19,000            | ND(52)            |
| MKTF-17R                                | 9/17/2021    | 697.2                | 697.2                             | ND(2)               | 170,000            | 390J/ND(500)U               | ND(27)                      | 10,000 JB         | 1,800             | 29,000            | ND(520)           |
| MKTF-18R                                | 9/17/2021    | 623                  | 623                               | ND(2)               | 220,000            | ND(50)                      | ND(27)                      | 10,000 JB         | 2,600 J           | 5,000 J           | ND(520)           |
| OW-66                                   | 9/17/2021    | 782.3                | 782.3                             | ND(2)               | 320,000            | ND(50)                      | ND(27)                      | 1,400J/ND(2,500)U | 4,000             | 69,000            | ND(520)           |
| OW-67                                   | 9/17/2021    | 430.5                | 430.5                             | ND(2)               | 4,900,000          | 170J/ND(500)U               | ND(27)                      | 760,000 J         | 560               | 410               | 64 J              |
| OW-68                                   | 9/17/2021    | 704                  | 704                               | ND(2)               | 5,100,000          | 330J/ND(500)U               | 140 J                       | 800,000 J         | 1,100             | 1,700             | 120               |
| <sup>a</sup> NMED GW Cleanup Levels     |              | NA                   | NA                                | NA                  | 250,000            | 10,000                      | 1,000                       | 600,000           | NA                | NA                | NA                |
| <sup>b</sup> 40 CFR 141.62              |              | NA                   | NA                                | NA                  | NA                 | 10,000                      | 1,000                       | NA                | NA                | NA                | NA                |
| <sup>c</sup> NMED Tap Water             |              | NA                   | NA                                | NA                  | NA                 | NA                          | NA                          | NA                | NA                | NA                | NA                |
| <sup>d</sup> USEPA RSL Tap Water HQ 1.0 |              | NA                   | NA                                | NA                  | NA                 | 3,200                       | 200                         | NA                | NA                | NA                | NA                |
| <sup>e</sup> NMED TPH Levels            |              | NA                   | NA                                | NA                  | NA                 | 3,200                       | 200                         | NA                | 16.7              | 10.1              | 85.8              |

Notes:

<sup>a</sup> NMED GW Cleanup Levels - New Mexico Environment Department Groundwater Cleanup Levels, New Mexico Administrative Code 20.6.2.3103.

<sup>b</sup> 40 CFR 141.62 - Code of Federal Regulations, Chapter 40, Section 141.62 Maximum Contaminant Levels.

<sup>c</sup> NMED Tap Water - New Mexico Environment Department, Risk Assessment Guidance, Table A-1, Tap Water, March 2017.

<sup>d</sup> USEPA RSL Tap Water HQ 1.0 - United States Environmental Protection Agency Regional Screening Levels, Hazardous Quotient 1.0, November 2019.

<sup>e</sup> NMED TPH Levels - New Mexico Environment Department, Total Petroleum Hydrocarbon Screening Levels, Risk Assessment Guidance for Investigations and Remediation, Table 6-4, March 2017.

- Bolded values indicate exceedences.

J - estimated concentration  
ug/L - micrograms per Liter  
NA - not applicable  
ND - non-detect  
U - Evaluated to be undetected at the reported

**TABLE 3-10. FIELD PARAMETERS**  
**WESTERN REFINING SOUTHWEST LLC, MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO**

| Location | Date      | pH                                       | Temperature (°C) | Conductivity (mS) | Total Dissolved Solids (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | Oxygen Reduction Potential (mV) | Turbidity (NTU) |
|----------|-----------|------------------------------------------|------------------|-------------------|------------------------------|----------------|----------------------|---------------------------------|-----------------|
| MKTF-01R | 8/31/2021 | 6.8                                      | 20.1             | 4.09              | 2,658.5                      | 2.18           | 1.43                 | -41.8                           | 7               |
| MKTF-02R | 8/31/2021 | 7.04                                     | 14.1             | 6.08              | 3,952                        | 3.33           | 5.7                  | 110.1                           | 1.34            |
| MKTF-04R | 8/30/2021 | 6.84                                     | 16.1             | 1.79              | 1,124.5                      | 0.88           | 1.96                 | -25.8                           | 18.64           |
| MKTF-17R | 8/30/2021 | 6.96                                     | 16.6             | 1.57              | 1,020.5                      | 0.8            | 1.89                 | 132.2                           | 9.93            |
| MKTF-18R | 8/30/2021 | 6.79                                     | 18.2             | 1.69              | 1,098.5                      | 0.86           | 0.78                 | -14.7                           | 34.3            |
| OW-66    | 9/2/2021  | 6.86                                     | 15.4             | 2.26              | 1,462                        | 1.16           | 1.07                 | -14.6                           | 61.6            |
| OW-67    | 9/2/2021  | 6.6                                      | 16.9             | 15.56             | 10,107                       | 9.12           | 1.74                 | 159.4                           | 7.78            |
| OW-68    | 9/2/2021  | 6.91                                     | 14.2             | 14.39             | 9,453                        | 8.38           | 2.16                 | -9.2                            | 24.2            |
| RW-2R    | 8/31/2021 | Product in well, no parameters collected |                  |                   |                              |                |                      |                                 |                 |

°C - degrees Celsius

mS - milliSiemens

g/L - grams per Liter

ppt - parts per trillion

% - percent

mV - millivolt

NTU - nephelometric turbidity unit



Well Installation and Abandonment Report

## Appendix A - Boring Logs and Well Completion Diagrams

## WELL COMPLETION LOG

WELL ID: MKTF-01R

Client: Marathon

Contractor: Terracon

Date Started: July 22, 2021

Project Name: Additional Well Installation

Driller: JC, EJ

Date Completed: July 22, 2021

Field Geologist: Mackensie Swift, Will Glenn

Drilling Method: Hollow Stem Auger

Checked By: MS, WG

Well Location: Gallup Refinery, Gallup, NM

Borehole Diameter: 8"

Easting:

Ground Surface Elevation:

Total Depth Drilled: 19'

Northing:

Top of Casing Elevation:

Depth of Set Well: 18'

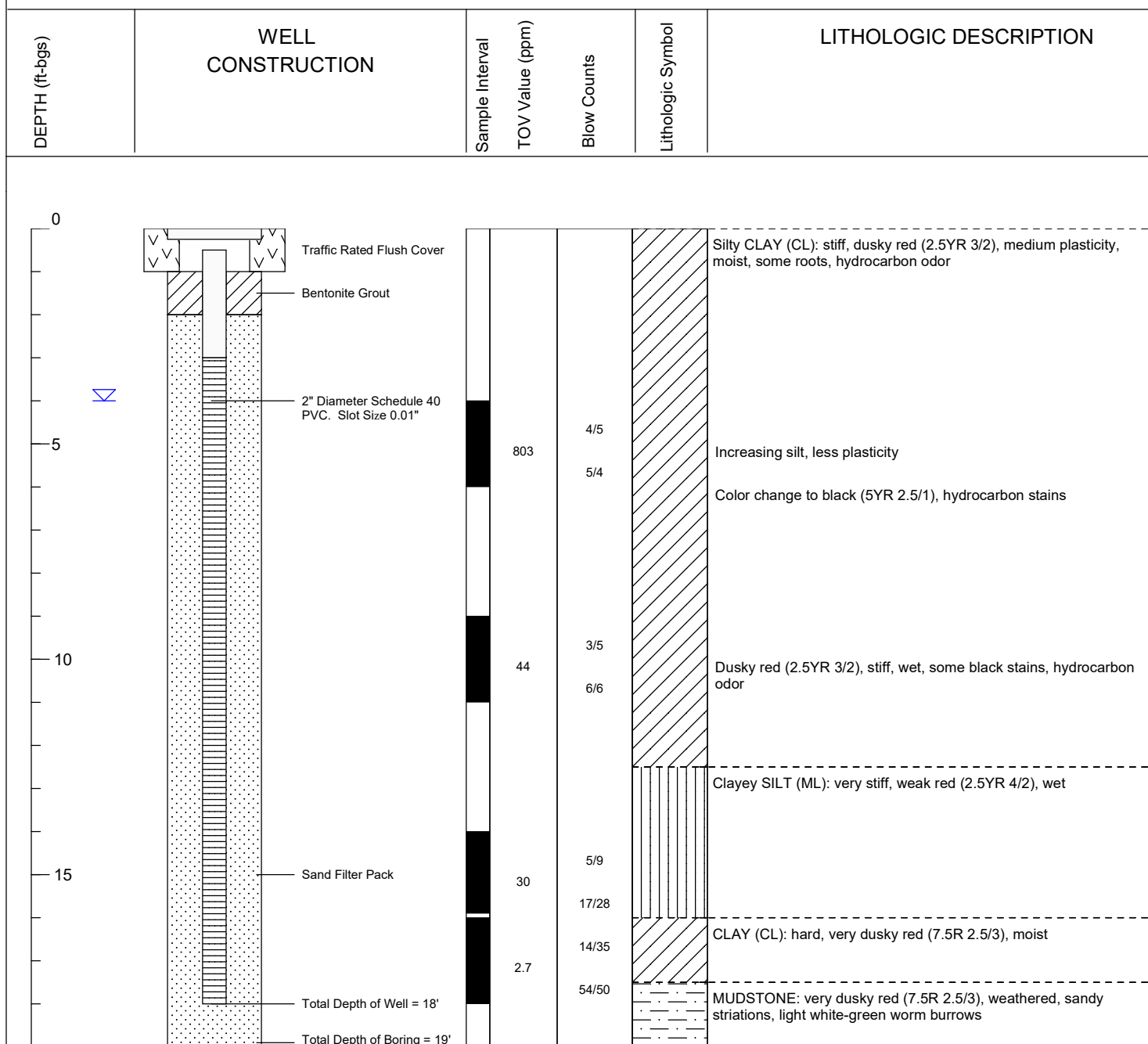
Sample Type: Split Spoon



Depth of First Encountered Water: 4'



Water Level in Completed Well:



**Trihydro Corporation**  
 2501 Cherry Ave. Suite  
 200, Signal Hill, CA  
 Phone (562) 453-3536  
 Fax (562) 453-3555

NOTES: OVA calibrated with 100 ppm isobutylene

DO NOT USE WELL LOG SEPARATE FROM THE ASSOCIATED REPORT

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## WELL COMPLETION LOG

WELL ID: MKTF-02R

Client: Marathon

Contractor: Terracon

Date Started: July 22, 2021

Project Name: Additional Well Installation

Driller: JC, EJ

Date Completed: July 22, 2021

Field Geologist: Mackensie Swift, Will Glenn

Drilling Method: Hollow Stem Auger

Checked By: MS, WG

Well Location: Gallup Refinery, Gallup, NM

Borehole Diameter: 8"

Easting:

Ground Surface Elevation:

Total Depth Drilled: 19'

Northing:

Top of Casing Elevation:

Depth of Set Well: 18'

Sample Type: Split Spoon

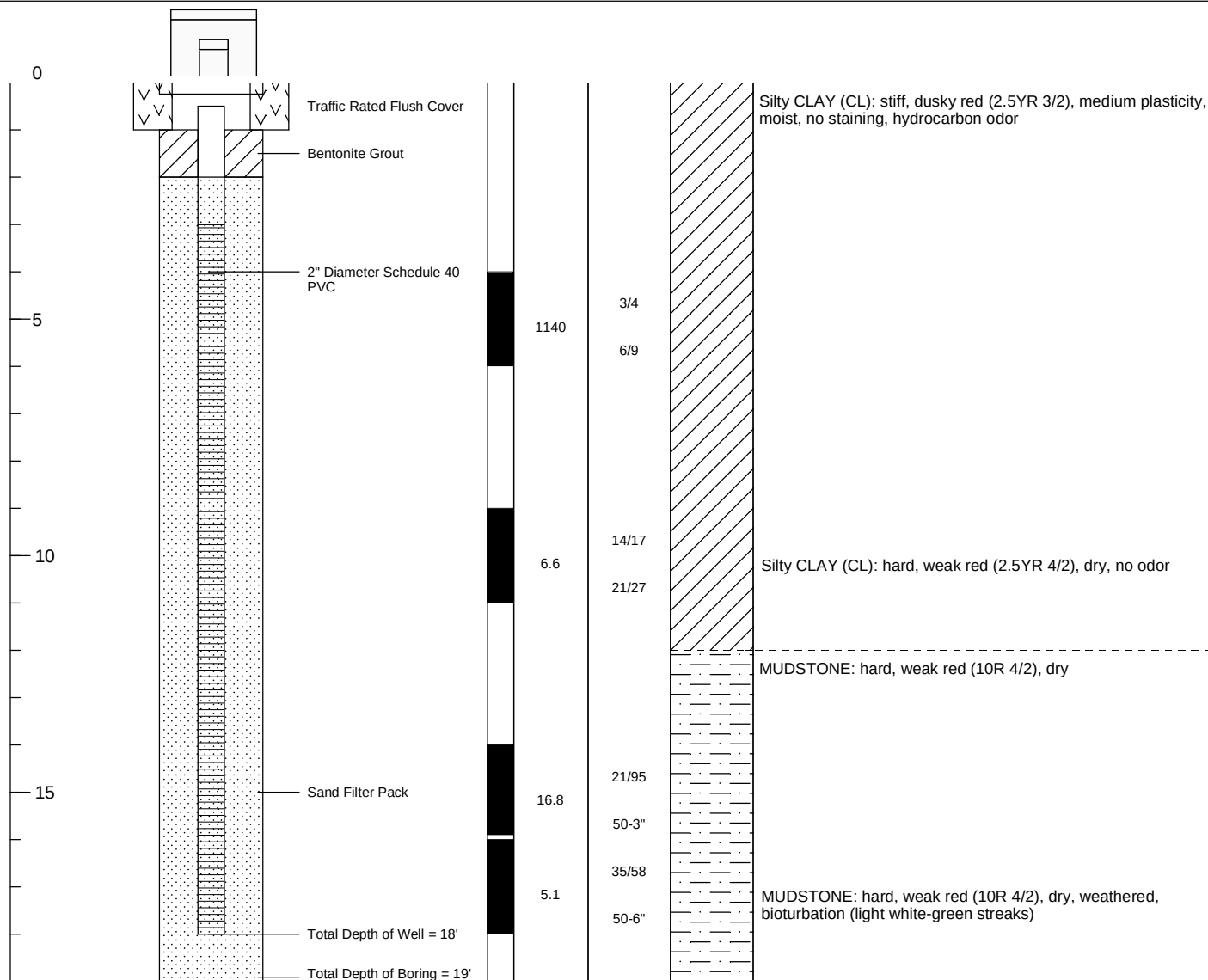


Depth of First Encountered Water:



Water Level in Completed Well:

| DEPTH (ft-bgs) | WELL<br>CONSTRUCTION | Sample Interval<br>TOV Value (ppm) | Blow Counts | Lithologic Symbol | LITHOLOGIC DESCRIPTION |
|----------------|----------------------|------------------------------------|-------------|-------------------|------------------------|
|----------------|----------------------|------------------------------------|-------------|-------------------|------------------------|



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 200, Signal Hill, CA  
 Phone (562) 453-3536  
 Fax (562) 453-3555

NOTES: OVA calibrated with 100 ppm isobutylene

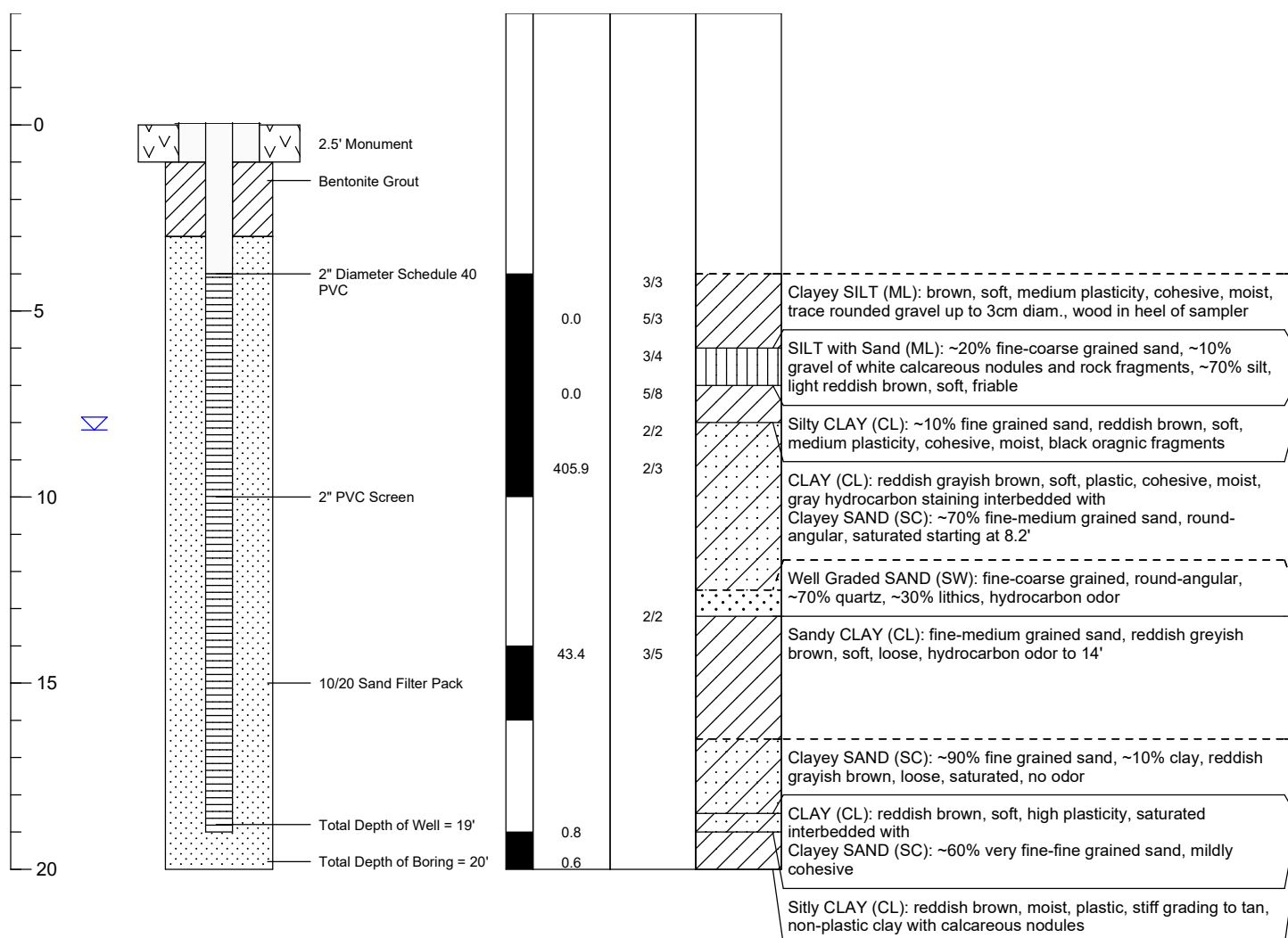
DO NOT USE WELL LOG SEPARATE FROM THE ASSOCIATED REPORT

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**WELL COMPLETION LOG****WELL ID:** MKTF-04R**Client:** Marathon**Contractor:** Terracon**Date Started:** August 16, 2021**Project Name:** Additional Well Installation**Driller:** JC**Date Completed:** August 16, 2021**Field Geologist:** Kara Hoppes**Drilling Method:** Hollow Stem Auger**Checked By:** MS, WG**Well Location:** Gallup Refinery, Gallup, NM**Borehole Diameter:** 8"**Easting:****Ground Surface Elevation:****Total Depth Drilled:** 20'**Northing:****Top of Casing Elevation:****Depth of Set Well:** 19'**Sample Type:** Split Spoon▽ **Depth of First Encountered Water:** 8.2'▽ **Water Level in Completed Well:**

| DEPTH (ft-bgs) | WELL CONSTRUCTION | Sample Interval | TOV Value (ppm) | Blow Counts | Lithologic Symbol | LITHOLOGIC DESCRIPTION |
|----------------|-------------------|-----------------|-----------------|-------------|-------------------|------------------------|
|----------------|-------------------|-----------------|-----------------|-------------|-------------------|------------------------|



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NOTES: OVA calibrated with 100 ppm isobutylene

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## WELL COMPLETION LOG

WELL ID: MKTF-17R

Client: Marathon

Contractor: Terracon

Date Started: August 14, 2021

Project Name: Additional Well Installation

Driller: JC

Date Completed: August 14, 2021

Field Geologist: Kara Hoppes

Drilling Method: Hollow Stem Auger

Checked By: MS, WG

Well Location: Gallup Refinery, Gallup, NM

Borehole Diameter: 8"

Easting:

Ground Surface Elevation:

Total Depth Drilled: 21'

Northing:

Top of Casing Elevation:

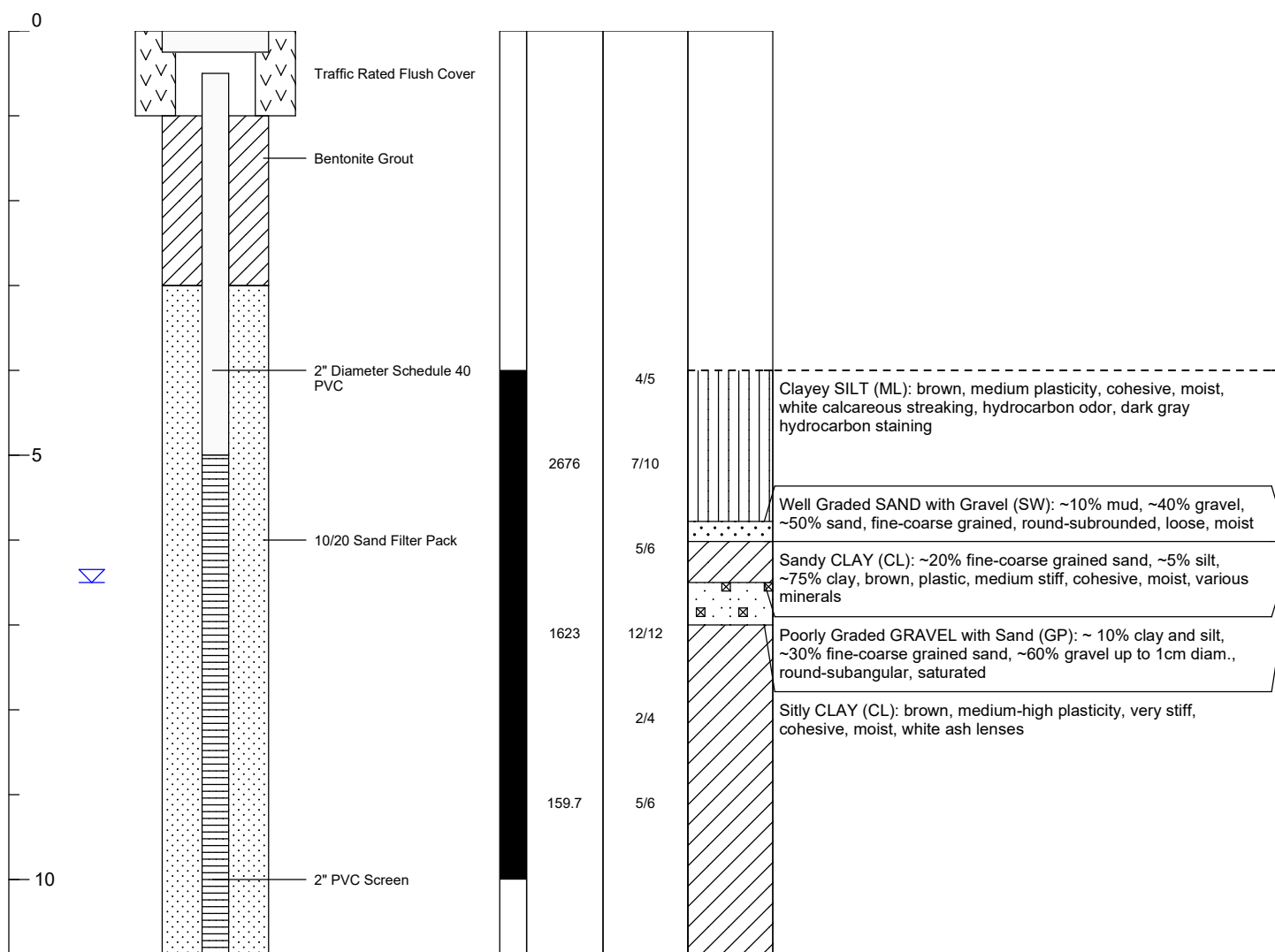
Depth of Set Well: 20'

Sample Type: Split Spoon

Depth of First Encountered Water: 6.5'

Water Level in Completed Well:

| DEPTH (ft-bgs) | WELL<br>CONSTRUCTION | Sample Interval<br>TOV Value (ppm) | Blow Counts | Lithologic Symbol | LITHOLOGIC DESCRIPTION |
|----------------|----------------------|------------------------------------|-------------|-------------------|------------------------|
|----------------|----------------------|------------------------------------|-------------|-------------------|------------------------|



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NOTES: OVA calibrated with 100 ppm isobutylene

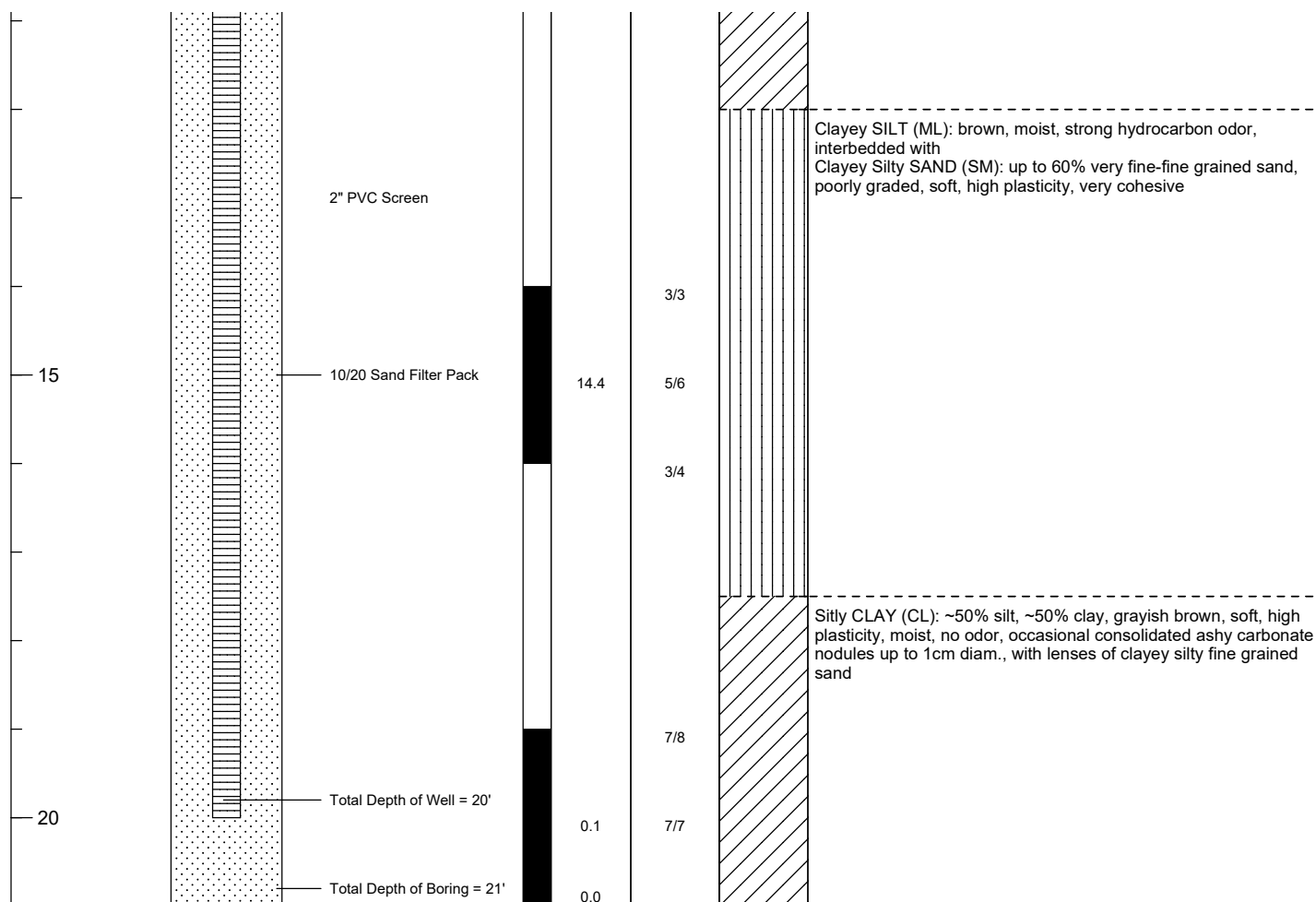
DO NOT USE WELL LOG SEPARATE FROM THE ASSOCIATED REPORT

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**WELL COMPLETION LOG****WELL ID:** MKTF-17R**Client:** Marathon**Contractor:** Terracon**Date Started:** August 14, 2021**Project Name:** Additional Well Installation**Driller:** JC**Date Completed:** August 14, 2021**Field Geologist:** Kara Hoppes**Drilling Method:** Hollow Stem Auger**Checked By:** MS, WG**Well Location:** Gallup Refinery, Gallup, NM**Borehole Diameter:** 8"**Easting:****Ground Surface Elevation:****Total Depth Drilled:** 21'**Northing:****Top of Casing Elevation:****Depth of Set Well:** 20'**Sample Type:** Split Spoon
 **Depth of First Encountered Water:** 6.5'

 **Water Level in Completed Well:**

| DEPTH (ft-bgs) | WELL<br>CONSTRUCTION | Sample Interval<br>TOV Value (ppm) | Blow Counts | Lithologic Symbol | LITHOLOGIC DESCRIPTION |
|----------------|----------------------|------------------------------------|-------------|-------------------|------------------------|
|----------------|----------------------|------------------------------------|-------------|-------------------|------------------------|



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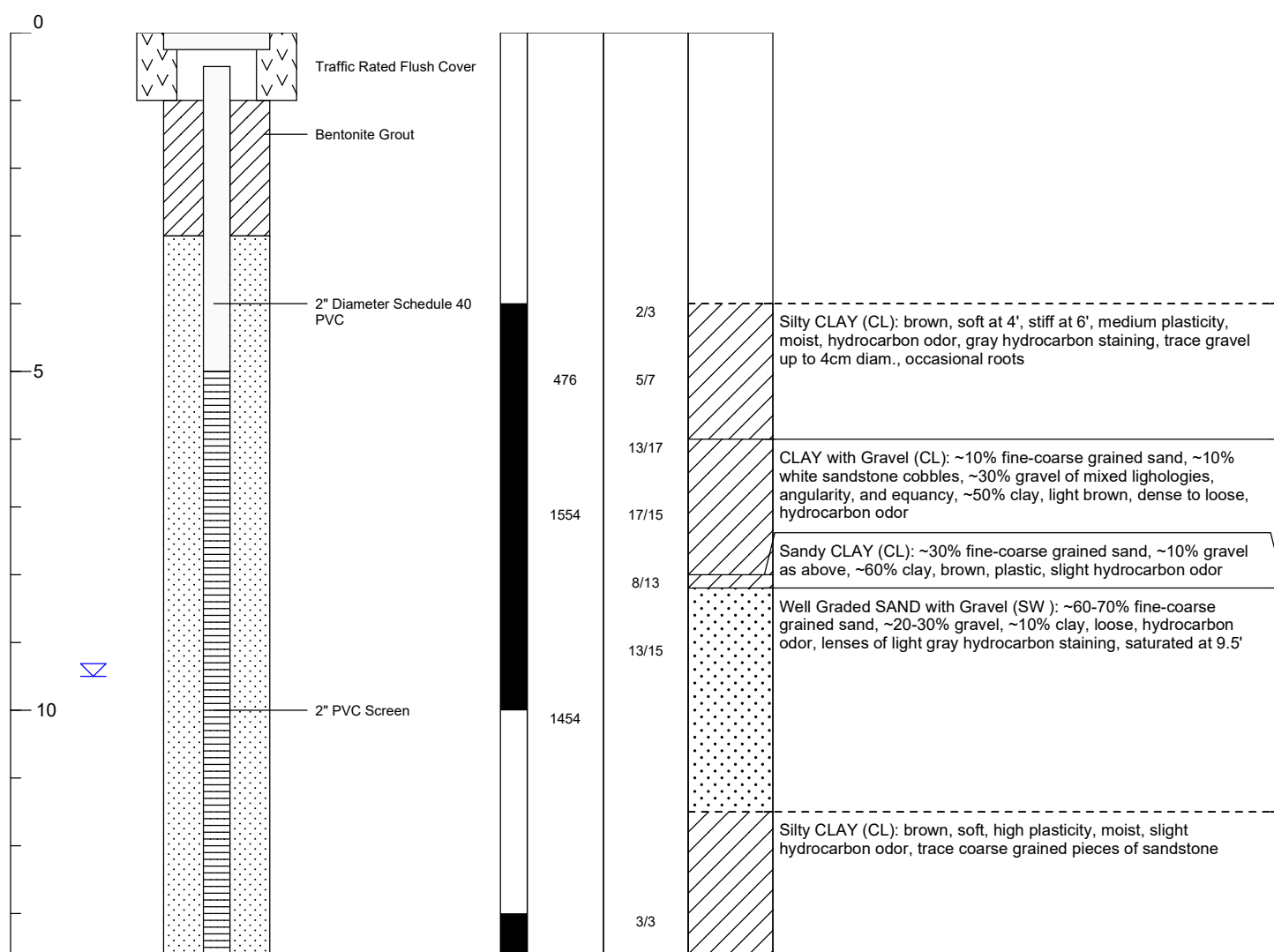
NOTES: OVA calibrated with 100 ppm isobutylene

DO NOT USE WELL LOG SEPARATE FROM THE ASSOCIATED REPORT

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**WELL COMPLETION LOG****WELL ID:** MKTF-18R**Client:** Marathon**Contractor:** Terracon**Date Started:** August 14, 2021**Project Name:** Additional Well Installation**Driller:** JC**Date Completed:** August 14, 2021**Field Geologist:** Kara Hoppes**Drilling Method:** Hollow Stem Auger**Checked By:** MS, WG**Well Location:** Gallup Refinery, Gallup, NM**Borehole Diameter:** 8"**Easting:****Ground Surface Elevation:****Total Depth Drilled:** 26'**Northing:****Top of Casing Elevation:****Depth of Set Well:** 25'**Sample Type:** Split Spoon▽ **Depth of First Encountered Water:** 9.5'▽ **Water Level in Completed Well:**

| DEPTH (ft-bgs) | WELL<br>CONSTRUCTION | Sample Interval<br>TOV Value (ppm) | Blow Counts | Lithologic Symbol | LITHOLOGIC DESCRIPTION |
|----------------|----------------------|------------------------------------|-------------|-------------------|------------------------|
|----------------|----------------------|------------------------------------|-------------|-------------------|------------------------|



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**WELL COMPLETION LOG****WELL ID:** MKTF-18R**Client:** Marathon**Contractor:** Terracon**Date Started:** August 14, 2021**Project Name:** Additional Well Installation**Driller:** JC**Date Completed:** August 14, 2021**Field Geologist:** Kara Hoppes**Drilling Method:** Hollow Stem Auger**Checked By:** MS, WG**Well Location:** Gallup Refinery, Gallup, NM**Borehole Diameter:** 8"**Easting:****Ground Surface Elevation:****Total Depth Drilled:** 26'**Northing:****Top of Casing Elevation:****Depth of Set Well:** 25'**Sample Type:** Split Spoon
 **Depth of First Encountered Water:** 9.5'

 **Water Level in Completed Well:**

| DEPTH (ft-bgs) | WELL CONSTRUCTION           | Sample Interval | TOV Value (ppm) | Blow Counts | Lithologic Symbol | LITHOLOGIC DESCRIPTION                                                                                                                                                                                         |
|----------------|-----------------------------|-----------------|-----------------|-------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15             | 10/20 Sand Filter Pack      | 14              | 6/3             |             |                   | Poorly Graded SAND (SP): ~90% sand, ~10% rounded gravel up to 1cm diam., light gray, moist, strong hydrocarbon odor, light gray hydrocarbon staining, lamination at top of section, trace sand pieces as above |
|                |                             |                 |                 | 3/4         |                   | Silty CLAY (CL): grayish reddish brown, soft increasing to firm with depth, high plasticity, cohesive, moist, occasional white ash streaks and 2mm nodules, 1cm lenses of blackish gray hydrocarbon staining   |
| 20             |                             | 3               | 9/9             |             |                   | Sandy CLAY (CL): reddish brown, soft, non-plastic, cohesive, saturated, no odor                                                                                                                                |
|                | 2" PVC Screen               |                 |                 | 4/5         |                   | Clayey SAND (SC): very fine-fine grained sand grading to fine grained with depth, reddish brown, loose, saturated                                                                                              |
| 25             | Total Depth of Well = 25'   | 202.9           | 9/10            |             |                   | CLAY (CL): ~10-20% sand, ~20% silt, ~60-70% clay, grayish reddish brown grading to grayish tan with depth, soft, high plasticity, cohesive, moist to saturated, hydrocarbon staining                           |
|                | Total Depth of Boring = 26' | 131.6           |                 |             |                   |                                                                                                                                                                                                                |



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## WELL COMPLETION LOG

WELL ID: OW-13A

Client: Marathon

Contractor: Terracon

Date Started: July 19, 2021

Project Name: Additional Well Installation

Driller: JC, EJ

Date Completed: July 19, 2021

Field Geologist: Will Glenn

Drilling Method: Hollow Stem Auger

Checked By: MS, WG

Well Location: Gallup Refinery, Gallup, NM

Borehole Diameter: 8"

Easting:

Ground Surface Elevation:

Total Depth Drilled: 25.5'

Northing:

Top of Casing Elevation:

Depth of Set Well: NA

Sample Type: Split Spoon



Depth of First Encountered Water:



Water Level in Completed Well:

| DEPTH (ft-bgs) | WELL<br>CONSTRUCTION | Sample Interval<br>TOV Value (ppm) | Blow Counts    | Lithologic Symbol | LITHOLOGIC DESCRIPTION                                                                                                               |
|----------------|----------------------|------------------------------------|----------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 0              |                      |                                    |                |                   | Sandy SILT (ML): hard, weak red (2.5YR 5/2), dry                                                                                     |
| 5              |                      | 0                                  | 13/14<br>16/22 |                   |                                                                                                                                      |
| 10             |                      | 0                                  | 14/17<br>20/24 |                   | 10'-10.5': 10-15% Coarse gravel (up to 1 inch dia.) and sands, rounded, dense, weak red (7.5YR 5/4), dry                             |
| 15             |                      | 4.1                                | 23/45<br>31/37 |                   | SILTSTONE: hard, weak red (7.5YR 5/4), dry, calcium carbonate veins (white, react with methanol), some gravel beds up to 2", rounded |
| 20             |                      | 0                                  | 20/64<br>50-2" |                   |                                                                                                                                      |
| 25             |                      | 0                                  | 30/47<br>90-5" |                   | Ring chatter at 22', less gravel, dark reddish brown (2.5YR 3/4), dry<br>No Gravel, hard                                             |



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**Sample Type:** Split Spoon

## WELL COMPLETION LOG

WELL ID: OW-66

Client: Marathon

Contractor: Terracon

Date Started: July 19, 2021

Project Name: Additional Well Installation

Driller: JC, EJ

Date Completed: July 19, 2021

Field Geologist: Will Glenn

Drilling Method: Hollow Stem Auger

Checked By: MS, WG

Well Location: Gallup Refinery, Gallup, NM

Borehole Diameter: 8"

Easting:

Ground Surface Elevation:

Total Depth Drilled: 26'

Northing:

Top of Casing Elevation:

Depth of Set Well: 25'

Sample Type: Split Spoon



Depth of First Encountered Water: 14'



Water Level in Completed Well:

| DEPTH (ft-bgs) | WELL CONSTRUCTION                                                                                                             | Sample Interval | TOV Value (ppm) | Blow Counts | Lithologic Symbol | LITHOLOGIC DESCRIPTION                                                                                                                                                                           |
|----------------|-------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------|-------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15             | <p>Sand Filter Pack</p> <p>2" PVC Screen, 0.010" Slot</p> <p>Total Depth of Well = 25'</p> <p>Total Depth of Boring = 26'</p> | 0               |                 | 2/3         |                   |                                                                                                                                                                                                  |
|                |                                                                                                                               |                 |                 | 3/2         |                   |                                                                                                                                                                                                  |
|                |                                                                                                                               |                 |                 | 2/2         |                   | Increasing fines, wet, hydrocarbon odor                                                                                                                                                          |
|                |                                                                                                                               | 1599            |                 | 3/4         |                   |                                                                                                                                                                                                  |
|                |                                                                                                                               |                 |                 | 3/4         |                   | Poorly Graded Clayey SAND (SC): ~2% gravel (up to 0.5" dia.)~90% fine to coarse sand, ~8% fines, subangular to subrounded, loose, dark red (2.5YR 3/6), wet, slightly cohesive, hydrocarbon odor |
|                |                                                                                                                               | 1891            |                 | 4/5         |                   |                                                                                                                                                                                                  |
|                |                                                                                                                               |                 |                 | 3/4         |                   | 18'-18.5': CLAY (CL): medium stiff, dark reddish gray (10R 3/1),medium plasticity, wet, hydrocarbon odor                                                                                         |
|                |                                                                                                                               | 1462            |                 | 3/5         |                   |                                                                                                                                                                                                  |
| 20             |                                                                                                                               |                 |                 | 4/6         |                   | Gravelly Clay (GC): very stiff, dark reddish gray (10R 3/1), wet, hydrocarbon odor                                                                                                               |
|                |                                                                                                                               | 1854            |                 | 8/13        |                   |                                                                                                                                                                                                  |
|                |                                                                                                                               |                 |                 | 9/10        |                   | SAND with GRAVEL (SP-GP): ~10% fine gravel (up to 0.25" in dia.), ~90% medium to coarse sand, subangular to subrounded, loose, dusky red (2.5YR 3/2), wet,                                       |
|                |                                                                                                                               | 1456            |                 | 10/12       |                   | CLAY (CL): very stiff, reddish brown (2.5YR 4/3), some yellowish spots, moist                                                                                                                    |
| 25             |                                                                                                                               |                 |                 | 5/6         |                   |                                                                                                                                                                                                  |
|                |                                                                                                                               | 1150            |                 | 7/9         |                   | Wet, hydrocarbon odor                                                                                                                                                                            |



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## WELL COMPLETION LOG

WELL ID: OW-67

Client: Marathon

Contractor: Terracon

Date Started: July 20, 2021

Project Name: Additional Well Installation

Driller: JC, EJ

Date Completed: July 20, 2021

Field Geologist: Mackensie Swift, Will Glenn

Drilling Method: Hollow Stem Auger

Checked By: MS, WG

Well Location: Gallup Refinery, Gallup, NM

Borehole Diameter: 8"

Easting:

Ground Surface Elevation:

Total Depth Drilled: 26'

Northing:

Top of Casing Elevation:

Depth of Set Well: 25'

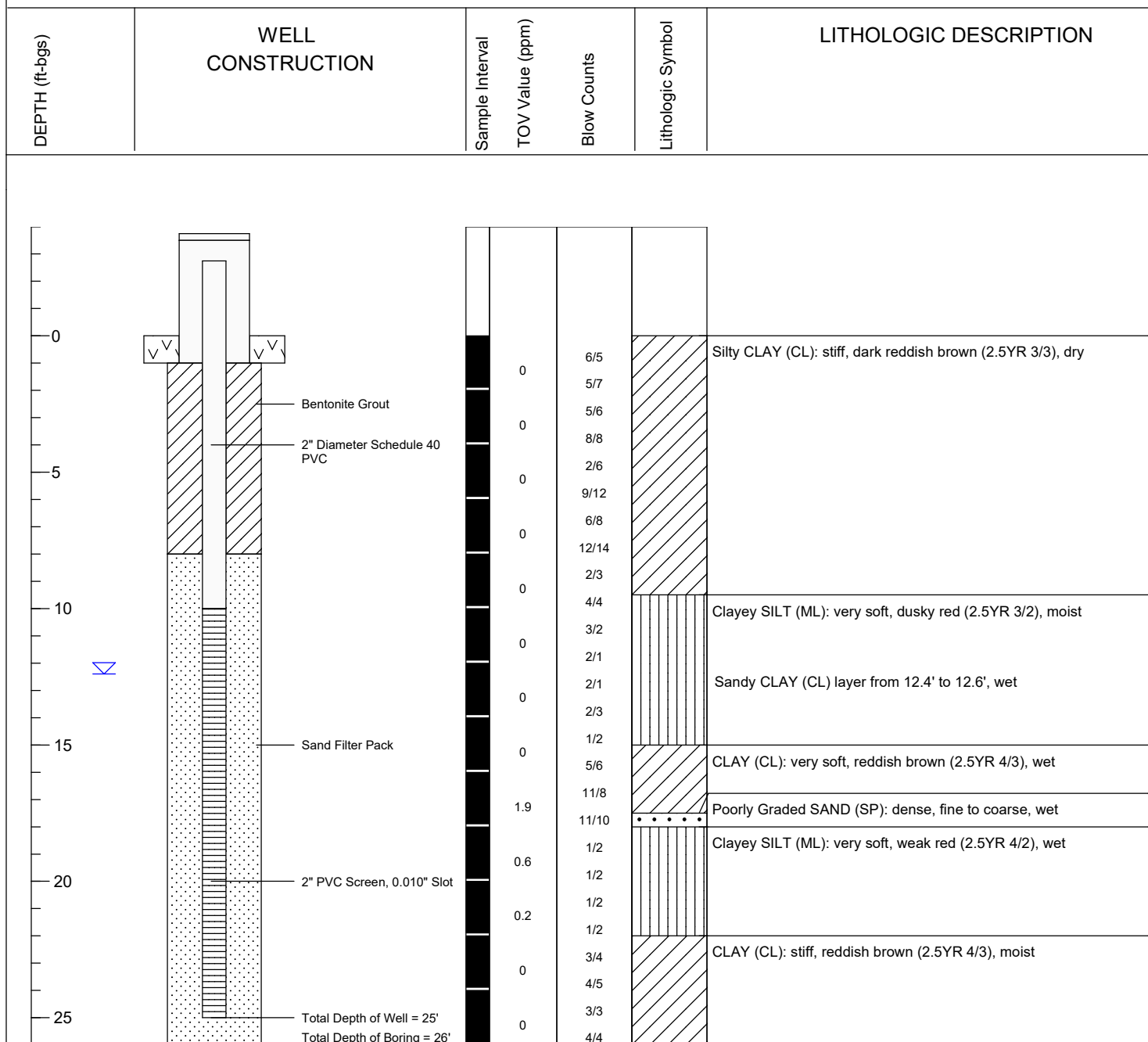
Sample Type: Split Spoon



Depth of First Encountered Water: 12.4'



Water Level in Completed Well:

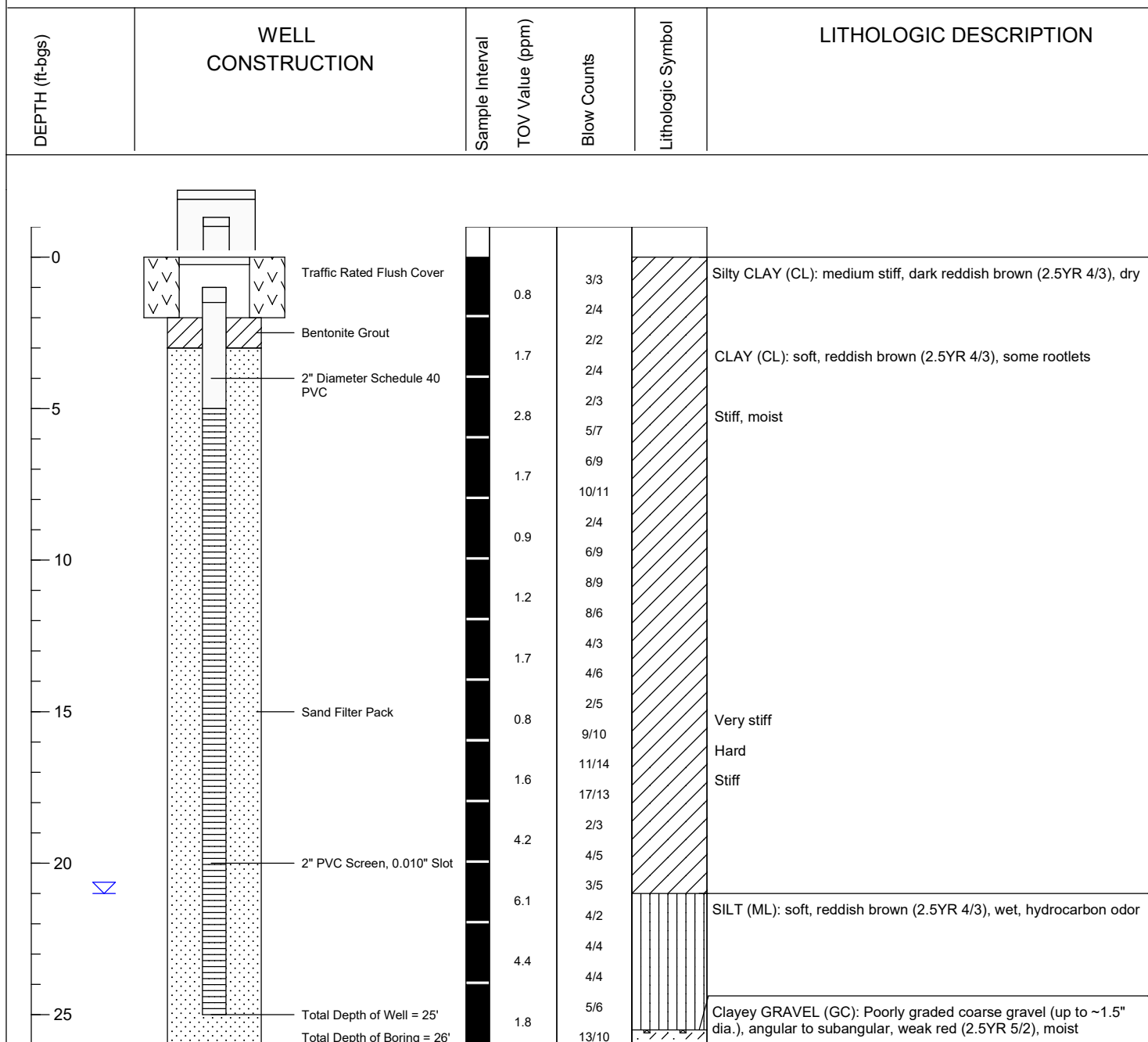


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**WELL COMPLETION LOG****WELL ID:** OW-68**Client:** Marathon**Contractor:** Terracon**Date Started:** July 20, 2021**Project Name:** Additional Well Installation**Driller:** JC, EJ**Date Completed:** July 21, 2021**Field Geologist:** Mackensie Swift, Will Glenn**Drilling Method:** Hollow Stem Auger**Checked By:** MS, WG**Well Location:** Gallup Refinery, Gallup, NM**Borehole Diameter:** 8"**Easting:****Ground Surface Elevation:****Total Depth Drilled:** 26'**Northing:****Top of Casing Elevation:****Depth of Set Well:** 25'**Sample Type:** Split Spoon**Depth of First Encountered Water:** 21'**Water Level in Completed Well:**

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## WELL COMPLETION LOG

WELL ID: OW-69

Client: Marathon

Contractor: Terracon

Date Started: July 21, 2021

Project Name: Additional Well Installation

Driller: JC, EJ

Date Completed: July 21, 2021

Field Geologist: Will Glenn

Drilling Method: Hollow Stem Auger

Checked By: MS, WG

Well Location: Gallup Refinery, Gallup, NM

Borehole Diameter: 8"

Easting:

Ground Surface Elevation:

Total Depth Drilled: 26'

Northing:

Top of Casing Elevation:

Depth of Set Well: NA

Sample Type: Split Spoon



Depth of First Encountered Water:



Water Level in Completed Well:

| DEPTH (ft-bgs) | WELL<br>CONSTRUCTION | Sample Interval | TOV Value (ppm) | Blow Counts | Lithologic Symbol | LITHOLOGIC DESCRIPTION                                                     |
|----------------|----------------------|-----------------|-----------------|-------------|-------------------|----------------------------------------------------------------------------|
| 0              |                      |                 |                 |             |                   |                                                                            |
|                |                      | 0.5             | 6/8             |             |                   | CLAY (CL): stiff, reddish brown (5YR 4/3), dry, some rootlets              |
|                |                      |                 | 8/11            |             |                   |                                                                            |
|                |                      |                 | 9/8             |             |                   |                                                                            |
|                |                      | 1.2             | 10/11           |             |                   |                                                                            |
|                |                      |                 | 9/9             |             |                   | 4'-5': sand, dense, reddish brown (2.5YR 4/3), dry                         |
|                |                      | 2.4             | 10/12           |             |                   | Silty CLAY (CL): very stiff, reddish brown (2.5YR 4/3), dry, some rootlets |
|                |                      |                 | 12/15           |             |                   |                                                                            |
|                |                      | 0.5             | 15/16           |             |                   |                                                                            |
|                |                      |                 | 9/17            |             |                   |                                                                            |
|                |                      | 0.9             | 25/24           |             |                   | MUDSTONE: hard, reddish brown (2.5YR 4/3), dry                             |
|                |                      |                 | 24/28           |             |                   |                                                                            |
|                |                      | 0.6             | 29/28           |             |                   |                                                                            |
|                |                      |                 | 15/23           |             |                   | Turns to dark reddish gray (10R 4/1)                                       |
|                |                      | 0.3             | 30/28           |             |                   |                                                                            |
|                |                      |                 | 35/24           |             |                   | Calcium carbonate veins                                                    |
|                |                      | 0.2             | 28/27           |             |                   |                                                                            |
|                |                      |                 | 24/24           |             |                   |                                                                            |
|                |                      | 1.0             | 38/42           |             |                   |                                                                            |
|                |                      |                 | 21/38           |             |                   | Green mineral veins (worm burrows)                                         |
|                |                      | 0.8             | 42/44           |             |                   |                                                                            |
|                |                      |                 | 10/15           |             |                   |                                                                            |
|                |                      | 0.5             | 20/29           |             |                   |                                                                            |
|                |                      |                 | 18/27           |             |                   | SANDSTONE: hard, light gray (5Y 3/1), dry                                  |
|                |                      | 0.4             | 50-6"           |             |                   | CLAY (CL): hard, weak red (2.5YR 5/2), dry                                 |
|                |                      |                 | 80-5"           |             |                   | Sandy SILTSTONE: hard, weak red (2.5YR 4/2), dry                           |
|                |                      | 0               | 80-5"           |             |                   |                                                                            |



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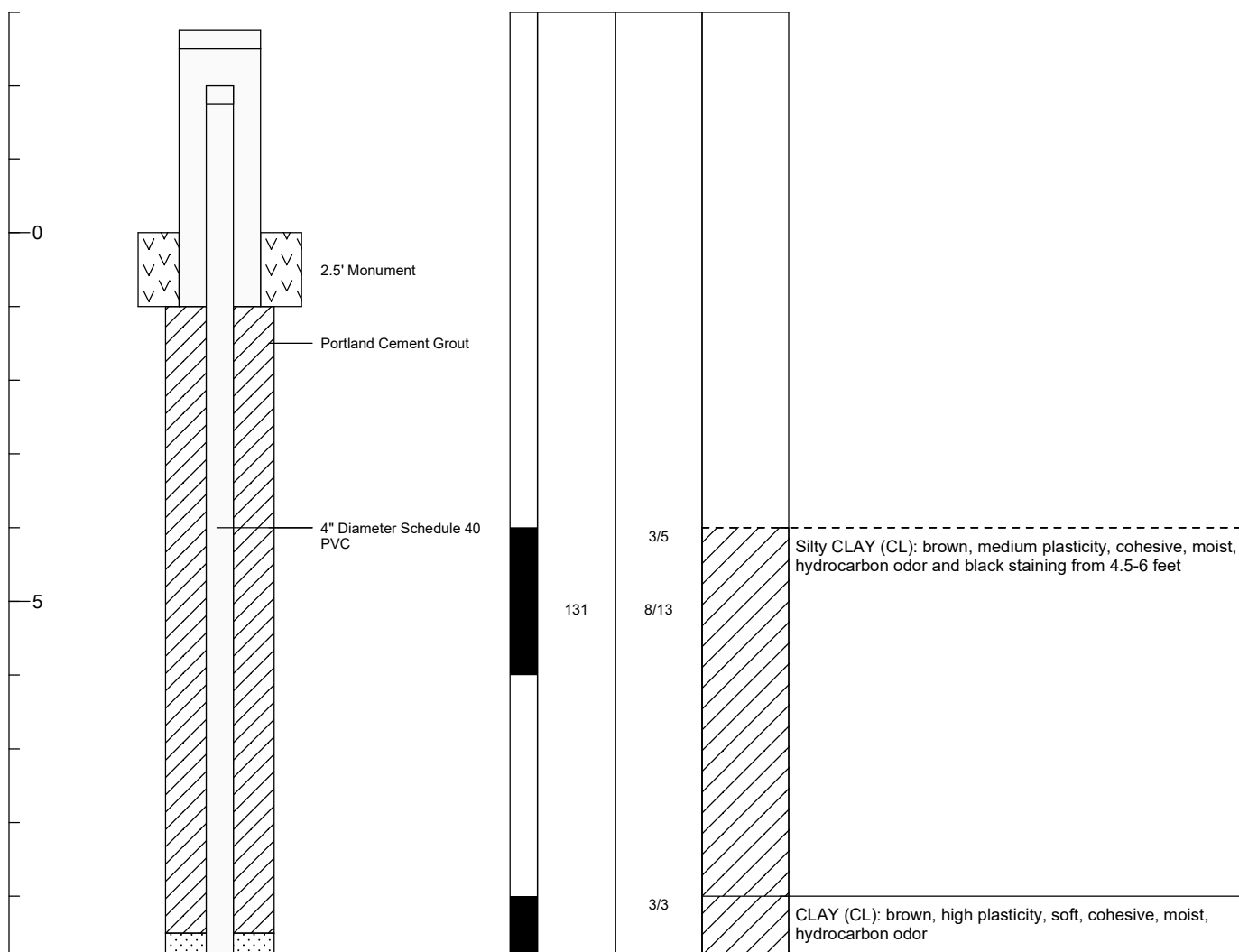
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**WELL COMPLETION LOG****WELL ID:** RW-2R**Client:** Marathon**Contractor:** Terracon**Date Started:** August 13, 2021**Project Name:** Additional Well Installation**Driller:** JC**Date Completed:** August 13, 2021**Field Geologist:** Kara Hoppes**Drilling Method:** Hollow Stem Auger**Checked By:** WG**Well Location:** Gallup Refinery, Gallup, NM**Borehole Diameter:** 8"**Easting:****Ground Surface Elevation:****Total Depth Drilled:** 33'**Northing:****Top of Casing Elevation:****Depth of Set Well:** 31.5'**Sample Type:** Split Spoon**Depth of First Encountered Water:** 16.5'**Water Level in Completed Well:**

| DEPTH (ft-bgs) | WELL<br>CONSTRUCTION | Sample Interval<br>TOV Value (ppm) | Blow Counts | Lithologic Symbol | LITHOLOGIC DESCRIPTION |
|----------------|----------------------|------------------------------------|-------------|-------------------|------------------------|
|----------------|----------------------|------------------------------------|-------------|-------------------|------------------------|



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## WELL COMPLETION LOG

WELL ID: RW-2R

Client: Marathon

Contractor: Terracon

Date Started: August 13, 2021

Project Name: Additional Well Installation

Driller: JC

Date Completed: August 13, 2021

Field Geologist: Kara Hoppes

Drilling Method: Hollow Stem Auger

Checked By: WG

Well Location: Gallup Refinery, Gallup, NM

Borehole Diameter: 8"

Easting:

Ground Surface Elevation:

Total Depth Drilled: 33'

Northing:

Top of Casing Elevation:

Depth of Set Well: 31.5'

Sample Type: Split Spoon

 Depth of First Encountered Water: 16.5'

 Water Level in Completed Well:

| DEPTH (ft-bgs) | WELL<br>CONSTRUCTION   | Sample Interval<br>TOV Value (ppm) | Blow Counts | Lithologic Symbol | LITHOLOGIC DESCRIPTION                                                                                                                                                                                         |
|----------------|------------------------|------------------------------------|-------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10             |                        | 51.1                               | 4/5         |                   | Silty SAND (SM): ~60% very fine-fine grained sand, ~40% silt, rusty brown, loose, moist, odor                                                                                                                  |
|                |                        |                                    |             |                   | SILT (ML): ~20% very fine grained sand, ~60% silt, ~20% clay, rusty brown, soft, moderately cohesive, moist, odor                                                                                              |
| 15             | 10/20 Sand Filter Pack | 473                                | 5/5         |                   | Sandy CLAY (CL): brown, low-medium plasticity, cohesive, moist, soft, hydrocarbon odor and black gray staining from 15-16'                                                                                     |
|                |                        |                                    | 6/6         |                   |                                                                                                                                                                                                                |
|                |                        | 1290                               | 3/4         |                   | Clayey SAND (SC): ~75% very fine-medium grained sand, ~20% clay, ~5% gravel, brown, medium gray hydrocarbon staining. Grades to very fine-fine grained clayey sand with no gravel with strong hydrocarbon odor |
|                |                        |                                    | 4/5         |                   | Silty CLAY (CL): brown, high plasticity, soft, cohesive, gray hydrocarbon staining                                                                                                                             |
|                |                        |                                    | 3/4         |                   | Sandy CLAY (CL): greyish brown, high plasticity, soft, cohesive, hydrocarbon staining                                                                                                                          |
| 20             | 4" PVC Screen          | 1345                               | 6/8         |                   | Silty CLAY (CL): brown to gray, high plasticity, soft, very cohesive, ashy white streaking, black hydrocarbon pockets ~1cm diam. from 19-19.5' and hard ashy nodules ~1cm diam. from 19.6-19.8'                |

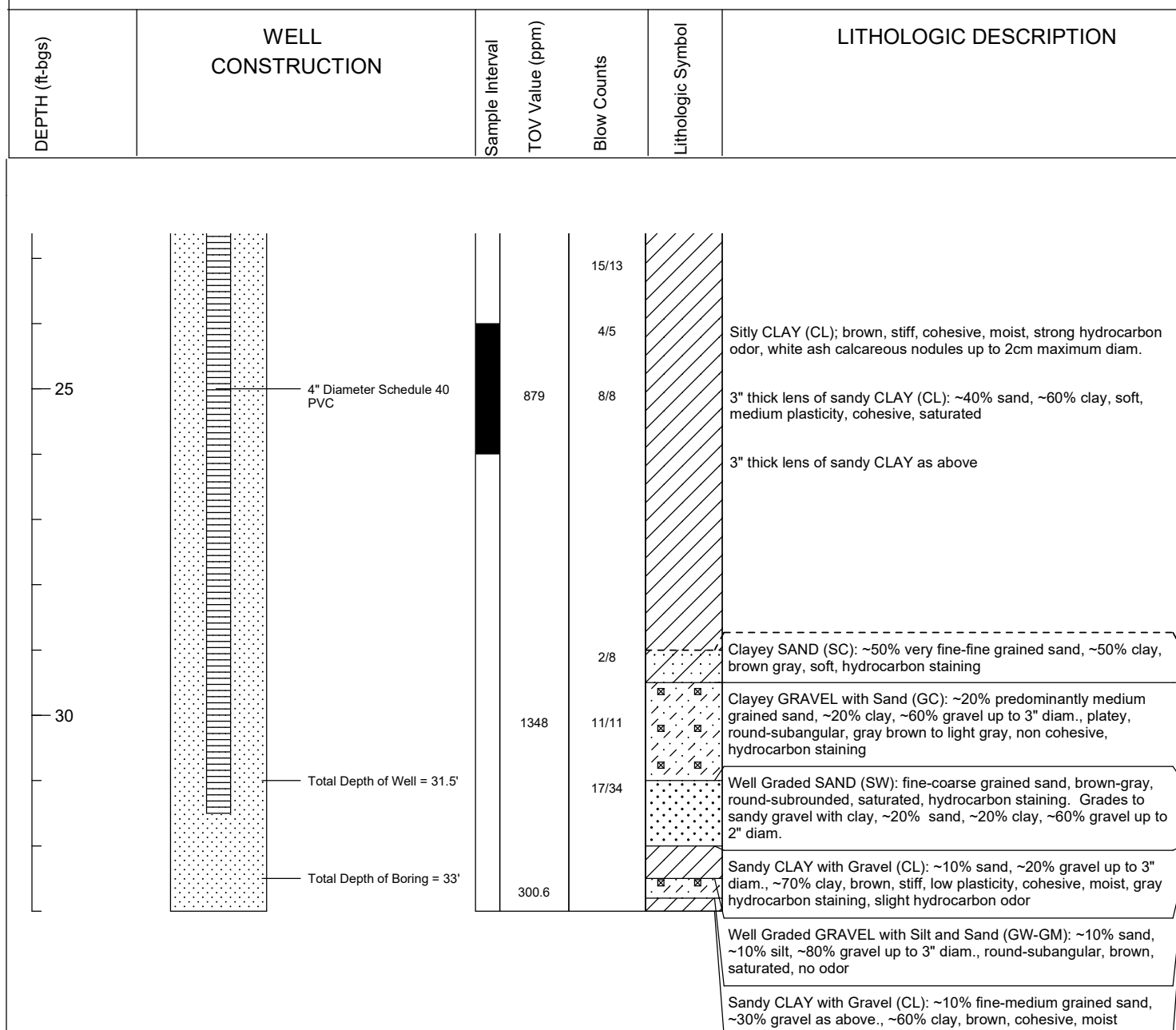


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**WELL COMPLETION LOG****WELL ID:** RW-2R**Client:** Marathon**Contractor:** Terracon**Date Started:** August 13, 2021**Project Name:** Additional Well Installation**Driller:** JC**Date Completed:** August 13, 2021**Field Geologist:** Kara Hoppes**Drilling Method:** Hollow Stem Auger**Checked By:** WG**Well Location:** Gallup Refinery, Gallup, NM**Borehole Diameter:** 8"**Easting:****Ground Surface Elevation:****Total Depth Drilled:** 33'**Northing:****Top of Casing Elevation:****Depth of Set Well:** 31.5'**Sample Type:** Split Spoon **Depth of First Encountered Water:** 16.5' **Water Level in Completed Well:**

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Well Installation and Abandonment Report

## Appendix B - Well Development Forms



## MONITORING WELL DEVELOPMENT LOG

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Well ID RW-02R

All Measurements taken from: ☒ Top of Casing ☐ Protective Casing ☐ Ground Level

Trihydro Personnel    Hilario Trejo

Date 9/6/2021

Project Additional Well Installations

Job Number 697-092-001

Installation Date 8/16/2021

|               |        |
|---------------|--------|
| Well Diameter | 4 inch |
|---------------|--------|

Borehole Diameter 10-in

Screen Length 20 ft

|                                  |       |
|----------------------------------|-------|
| Measured Depth (pre-development) | 35.71 |
|----------------------------------|-------|

Static Product Level (ft) 22.21

|                         |       |
|-------------------------|-------|
| Static Water Level (ft) | 24.88 |
|-------------------------|-------|

|                            |       |
|----------------------------|-------|
| Standing Fluid Column (ft) | 13.50 |
|----------------------------|-------|

|                       |      |
|-----------------------|------|
| One Well Volume (gal) | 8.82 |
|-----------------------|------|

One Annulus Volume (gal) \_\_\_\_\_

|                          |       |
|--------------------------|-------|
| Minimum Gallons to Purge | 88.16 |
|--------------------------|-------|

Measured Depth (post-development)

Water Level (ft) (post-development) Dry

|                            |     |
|----------------------------|-----|
| Qty of Drilling Fluid Lost | N/A |
|----------------------------|-----|

|                    |        |
|--------------------|--------|
| Development Method | bailer |
|--------------------|--------|

|                   |        |
|-------------------|--------|
| Purging Equipment | bailer |
|-------------------|--------|

|                       |                   |
|-----------------------|-------------------|
| Water Level Equipment | fluid level probe |
|-----------------------|-------------------|

pH/EC Meter YSI

Turbidity Meter LaMotte, 2020we

Other TD of Installed well = 31.5 ft bgs

[illegible]



## MONITORING WELL DEVELOPMENT LOG

Page 1 of 1

Well ID MKTF-01R

All Measurements taken from: ☒ Top of Casing ☐ Protective Casing ☐ Ground Level

|                    |                               |                                     |       |                            |                                 |
|--------------------|-------------------------------|-------------------------------------|-------|----------------------------|---------------------------------|
| Trihydro Personnel | Hilario Trejo                 | Measured Depth (pre-development)    | 18.75 | Qty of Drilling Fluid Lost | N/A                             |
| Date               | 8/31/2021                     | Static Water Level (ft)             | 3.40  | Development Method         | bailer                          |
| Project            | Additional Well Installations | Standing Water Column (ft)          | 15.35 | Purging Equipment          | bailer                          |
| Job Number         | 697-092-001                   | One Well Volume (gal)               | 2.50  | Water Level Equipment      | fluid level probe               |
| Installation Date  | 7/22/2021                     | One Annulus Volume (gal)            |       | pH/EC Meter                | YSI                             |
| Well Diameter      | 2 inch                        | Minimum Gallons to Purge            | 25.02 | Turbidity Meter            | LaMotte, 2020we                 |
| Borehole Diameter  | 8-in                          | Measured Depth (post-development)   |       | Other                      | TD of Installed well = 18 ftbgs |
| Screen Length      | 15 ft                         | Water Level (ft) (post-development) | Dry   |                            |                                 |

[illegible]



## MONITORING WELL DEVELOPMENT LOG

Page 1 of 1

Well ID MKTF-02R

All Measurements taken from: ☒ Top of Casing ☐ Protective Casing ☐ Ground Level

Trihydro Personnel      Hilario Trejo

Date 8/31/2021

|         |                               |
|---------|-------------------------------|
| Project | Additional Well Installations |
|---------|-------------------------------|

Job Number 697-092-001

Installation Date 7/22/2021

|               |        |
|---------------|--------|
| Well Diameter | 2 inch |
|---------------|--------|

Borehole Diameter 8-in

Screen Length 15 ft

|                                  |       |
|----------------------------------|-------|
| Measured Depth (pre-development) | 21.50 |
|----------------------------------|-------|

|                         |       |
|-------------------------|-------|
| Static Water Level (ft) | 16.10 |
|-------------------------|-------|

|                            |      |
|----------------------------|------|
| Standing Water Column (ft) | 5.40 |
|----------------------------|------|

|                       |      |
|-----------------------|------|
| One Well Volume (gal) | 0.88 |
|-----------------------|------|

One Annulus Volume (gal) \_\_\_\_\_

|                          |      |
|--------------------------|------|
| Minimum Gallons to Purge | 8.80 |
|--------------------------|------|

Measured Depth (post-development)

Water Level (ft) (post-development) Dry

|                            |     |
|----------------------------|-----|
| Qty of Drilling Fluid Lost | N/A |
|----------------------------|-----|

|                    |        |
|--------------------|--------|
| Development Method | bailer |
|--------------------|--------|

|                   |        |
|-------------------|--------|
| Purging Equipment | bailer |
|-------------------|--------|

|                       |                   |
|-----------------------|-------------------|
| Water Level Equipment | fluid level probe |
|-----------------------|-------------------|

pH/EC Meter YSI

Turbidity Meter LaMotte, 2020we

Other TD of Installed well = 18 ft bgs

[illegible]





## MONITORING WELL DEVELOPMENT LOG

Page 1 of 1

Well ID MKTF-04R

All Measurements taken from: ☒ Top of Casing ☐ Protective Casing ☐ Ground Level

Trihydro Personnel    Hilario Trejo

Date 8/30/2021

|         |                               |
|---------|-------------------------------|
| Project | Additional Well Installations |
|---------|-------------------------------|

Job Number 697-092-001

Installation Date 8/16/2021

|               |        |
|---------------|--------|
| Well Diameter | 2 inch |
|---------------|--------|

Borehole Diameter 8-in

Screen Length 15 ft

|                                  |       |
|----------------------------------|-------|
| Measured Depth (pre-development) | 19.20 |
|----------------------------------|-------|

|                         |      |
|-------------------------|------|
| Static Water Level (ft) | 9.60 |
|-------------------------|------|

|                            |      |
|----------------------------|------|
| Standing Water Column (ft) | 9.60 |
|----------------------------|------|

|                       |      |
|-----------------------|------|
| One Well Volume (gal) | 1.56 |
|-----------------------|------|

One Annulus Volume (gal) \_\_\_\_\_

|                          |       |
|--------------------------|-------|
| Minimum Gallons to Purge | 15.65 |
|--------------------------|-------|

Measured Depth (post-development)

Water Level (ft) (post-development) Dry

|                            |     |
|----------------------------|-----|
| Qty of Drilling Fluid Lost | N/A |
|----------------------------|-----|

|                    |        |
|--------------------|--------|
| Development Method | bailer |
|--------------------|--------|

|                   |        |
|-------------------|--------|
| Purging Equipment | bailer |
|-------------------|--------|

|                       |                   |
|-----------------------|-------------------|
| Water Level Equipment | fluid level probe |
|-----------------------|-------------------|

pH/EC Meter YSI

Turbidity Meter LaMotte, 2020we

Other TD of Installed well = 19 ft bgs

[illegible]



## MONITORING WELL DEVELOPMENT LOG

Page 1 of 1

Well ID MKTF-17R

All Measurements taken from: ☒ Top of Casing ☐ Protective Casing ☐ Ground Level

|                    |                               |                                     |       |                            |                                  |
|--------------------|-------------------------------|-------------------------------------|-------|----------------------------|----------------------------------|
| Trihydro Personnel | Hilario Trejo                 | Measured Depth (pre-development)    | 20.45 | Qty of Drilling Fluid Lost | N/A                              |
| Date               | 8/30/2021                     | Static Water Level (ft)             | 11.93 | Development Method         | bailer                           |
| Project            | Additional Well Installations | Standing Water Column (ft)          | 8.52  | Purging Equipment          | bailer                           |
| Job Number         | 697-092-001                   | One Well Volume (gal)               | 1.39  | Water Level Equipment      | fluid level probe                |
| Installation Date  | 8/14/2021                     | One Annulus Volume (gal)            |       | pH/EC Meter                | YSI                              |
| Well Diameter      | 2 inch                        | Minimum Gallons to Purge            | 13.89 | Turbidity Meter            | LaMotte, 2020we                  |
| Borehole Diameter  | 8-in                          | Measured Depth (post-development)   |       | Other                      | TD of Installed well = 20 ft bgs |
| Screen Length      | 15 ft                         | Water Level (ft) (post-development) | Dry   |                            |                                  |

[illegible]



## MONITORING WELL DEVELOPMENT LOG

Page 1 of 1

Well ID MKTF-18R

All Measurements taken from: ☒ Top of Casing ☐ Protective Casing ☐ Ground Level

|                    |                               |                                     |       |                            |                                  |
|--------------------|-------------------------------|-------------------------------------|-------|----------------------------|----------------------------------|
| Trihydro Personnel | Hilario Trejo                 | Measured Depth (pre-development)    | 25.55 | Qty of Drilling Fluid Lost | N/A                              |
| Date               | 8/30/2021                     | Static Water Level (ft)             | 9.58  | Development Method         | bailer                           |
| Project            | Additional Well Installations | Standing Water Column (ft)          | 15.97 | Purging Equipment          | bailer                           |
| Job Number         | 697-092-001                   | One Well Volume (gal)               | 2.60  | Water Level Equipment      | fluid level probe                |
| Installation Date  | 8/14/2021                     | One Annulus Volume (gal)            |       | pH/EC Meter                | YSI                              |
| Well Diameter      | 2 inch                        | Minimum Gallons to Purge            | 26.03 | Turbidity Meter            | LaMotte, 2020we                  |
| Borehole Diameter  | 8-in                          | Measured Depth (post-development)   |       | Other                      | TD of Installed well = 25 ft bgs |
| Screen Length      | 20 ft                         | Water Level (ft) (post-development) | Dry   |                            |                                  |

| Time                               | Amount Purged (gal) | Field Parameters Measured |    |            |                 |             |      | Comments                                         |
|------------------------------------|---------------------|---------------------------|----|------------|-----------------|-------------|------|--------------------------------------------------|
|                                    |                     | EC (mS/cm)                | pH | Temp. (°C) | Turbidity (NTU) | D.O. (mg/L) | SAL. |                                                  |
| 14:38                              | 17.5                |                           |    |            |                 |             |      | Purged Dry, water brownish w/HC odor. Sunny 81 F |
|                                    |                     |                           |    |            |                 |             |      |                                                  |
|                                    |                     |                           |    |            |                 |             |      |                                                  |
|                                    |                     |                           |    |            |                 |             |      |                                                  |
|                                    |                     |                           |    |            |                 |             |      |                                                  |
|                                    |                     |                           |    |            |                 |             |      |                                                  |
|                                    |                     |                           |    |            |                 |             |      |                                                  |
|                                    |                     |                           |    |            |                 |             |      |                                                  |
|                                    |                     |                           |    |            |                 |             |      |                                                  |
|                                    |                     |                           |    |            |                 |             |      |                                                  |
|                                    |                     |                           |    |            |                 |             |      |                                                  |
|                                    |                     |                           |    |            |                 |             |      |                                                  |
|                                    |                     |                           |    |            |                 |             |      |                                                  |
| FINAL FIELD PARAMETER MEASUREMENTS |                     |                           |    |            |                 |             |      |                                                  |
|                                    |                     |                           |    |            |                 |             |      |                                                  |



## MONITORING WELL DEVELOPMENT LOG

Page 1 of 1

Well ID OW-66

All Measurements taken from: ☒ Top of Casing ☐ Protective Casing ☐ Ground Level

|                    |                               |                                     |       |                            |                                  |
|--------------------|-------------------------------|-------------------------------------|-------|----------------------------|----------------------------------|
| Trihydro Personnel | Hilario Trejo                 | Measured Depth (pre-development)    | 27.83 | Qty of Drilling Fluid Lost | N/A                              |
| Date               | 9/2/2021                      | Static Water Level (ft)             | 18.21 | Development Method         | bailer                           |
| Project            | Additional Well Installations | Standing Water Column (ft)          | 9.62  | Purging Equipment          | bailer                           |
| Job Number         | 697-092-001                   | One Well Volume (gal)               | 1.57  | Water Level Equipment      | fluid level probe                |
| Installation Date  | 7/19/2021                     | One Annulus Volume (gal)            |       | pH/EC Meter                | YSI                              |
| Well Diameter      | 2 inch                        | Minimum Gallons to Purge            | 15.68 | Turbidity Meter            | LaMotte, 2020we                  |
| Borehole Diameter  | 8-in                          | Measured Depth (post-development)   |       | Other                      | TD of Installed well = 25 ft bgs |
| Screen Length      | 15 ft                         | Water Level (ft) (post-development) | Dry   |                            |                                  |

[illegible]



## MONITORING WELL DEVELOPMENT LOG

Page 1 of 1

Well ID OW-67

All Measurements taken from: ☒ Top of Casing ☐ Protective Casing ☐ Ground Level

Trihydro Personnel Hilario Trejo  
 Date 9/2/2021  
 Project Additional Well Installations  
 Job Number 697-092-001  
 Installation Date 7/20/2021  
 Well Diameter 2 inch  
 Borehole Diameter 8-in  
 Screen Length 15 ft

|                                     |       |
|-------------------------------------|-------|
| Measured Depth (pre-development)    | 27.75 |
| Static Water Level (ft)             | 12.4  |
| Standing Water Column (ft)          | 15.35 |
| One Well Volume (gal)               | 2.50  |
| One Annulus Volume (gal)            |       |
| Minimum Gallons to Purge            | 25.02 |
| Measured Depth (post-development)   |       |
| Water Level (ft) (post-development) | 16.55 |

|                            |                                  |
|----------------------------|----------------------------------|
| Qty of Drilling Fluid Lost | N/A                              |
| Development Method         | bailer                           |
| Purging Equipment          | bailer                           |
| Water Level Equipment      | fluid level probe                |
| pH/EC Meter                | YSI                              |
| Turbidity Meter            | LaMotte, 2020we                  |
| Other                      | TD of Installed well = 25 ft bgs |

[illegible]



## MONITORING WELL DEVELOPMENT LOG

Page 1 of 1

Well ID OW-68

All Measurements taken from: ☒ Top of Casing ☐ Protective Casing ☐ Ground Level

Trihydro Personnel Hilario Trejo  
Date 9/2/2021  
Project Additional Well Installations  
Job Number 697-092-001  
Installation Date 7/21/2021  
Well Diameter 2 inch  
Borehole Diameter 8-in  
Screen Length 20 ft

|                                     |       |
|-------------------------------------|-------|
| Measured Depth (pre-development)    | 28.22 |
| Static Water Level (ft)             | 14.22 |
| Standing Water Column (ft)          | 14    |
| One Well Volume (gal)               | 2.28  |
| One Annulus Volume (gal)            |       |
| Minimum Gallons to Purge            | 22.82 |
| Measured Depth (post-development)   |       |
| Water Level (ft) (post-development) | 25.33 |

|                            |                                  |
|----------------------------|----------------------------------|
| Qty of Drilling Fluid Lost | N/A                              |
| Development Method         | bailer                           |
| Purging Equipment          | bailer                           |
| Water Level Equipment      | fluid level probe                |
| pH/EC Meter                | YSI                              |
| Turbidity Meter            | LaMotte, 2020we                  |
| Other                      | TD of Installed well = 25 ft bgs |

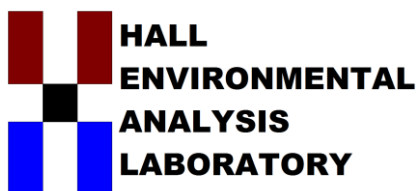
[illegible]





Well Installation and Abandonment Report

## Appendix C - Laboratory Data (on CD) and Data Validation



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

September 22, 2021

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

RE: Well Installations 2021

OrderNo.: 2107A83

Dear Lesli Alexander:

Hall Environmental Analysis Laboratory received 11 sample(s) on 7/21/2021 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued August 04, 2021.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-66-18

Project: Well Installations 2021

Collection Date: 7/19/2021 12:00:00 PM

Lab ID: 2107A83-001

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed         | Batch ID |
|--------------------------------------------------|--------|--------|--------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |    |                       |          |
|                                                  |        |        |        |      |       |    | Analyst: <b>SB</b>    |          |
| Diesel Range Organics (DRO)                      | 96     | 4.2    | 8.5    |      | mg/Kg | 1  | 7/23/2021 6:46:49 PM  | 61498    |
| Motor Oil Range Organics (MRO)                   | ND     | 43     | 43     |      | mg/Kg | 1  | 7/23/2021 6:46:49 PM  | 61498    |
| Surr: DNOP                                       | 111    | 0      | 70-130 |      | %Rec  | 1  | 7/23/2021 6:46:49 PM  | 61498    |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |    |                       |          |
|                                                  |        |        |        |      |       |    | Analyst: <b>ags</b>   |          |
| Mercury                                          | ND     | 0.0026 | 0.032  |      | mg/Kg | 1  | 7/23/2021 10:04:32 AM | 61495    |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |    |                       |          |
|                                                  |        |        |        |      |       |    | Analyst: <b>ags</b>   |          |
| Arsenic                                          | 2.9    | 2.7    | 4.8    | J    | mg/Kg | 2  | 7/23/2021 4:17:11 PM  | 61509    |
| Barium                                           | 340    | 0.29   | 0.48   |      | mg/Kg | 5  | 7/29/2021 2:08:00 PM  | 61509    |
| Cadmium                                          | ND     | 0.096  | 0.19   |      | mg/Kg | 2  | 7/23/2021 4:17:11 PM  | 61509    |
| Chromium                                         | 4.3    | 0.29   | 0.57   |      | mg/Kg | 2  | 7/23/2021 4:17:11 PM  | 61509    |
| Iron                                             | 7100   | 24     | 24     | E    | mg/Kg | 10 | 7/29/2021 2:16:23 PM  | 61509    |
| Lead                                             | 1.2    | 0.51   | 0.57   |      | mg/Kg | 2  | 7/23/2021 4:17:11 PM  | 61509    |
| Manganese                                        | 480    | 0.32   | 0.38   |      | mg/Kg | 2  | 7/29/2021 2:01:18 PM  | 61509    |
| Selenium                                         | ND     | 4.2    | 4.8    |      | mg/Kg | 2  | 7/29/2021 2:01:18 PM  | 61509    |
| Silver                                           | ND     | 0.28   | 0.48   |      | mg/Kg | 2  | 7/23/2021 4:17:11 PM  | 61509    |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |    |                       |          |
|                                                  |        |        |        |      |       |    | Analyst: <b>DAM</b>   |          |
| Acenaphthene                                     | ND     | 0.087  | 0.20   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Acenaphthylene                                   | ND     | 0.088  | 0.20   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Aniline                                          | ND     | 0.068  | 0.20   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Anthracene                                       | ND     | 0.088  | 0.20   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Azobenzene                                       | ND     | 0.098  | 0.20   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Benz(a)anthracene                                | ND     | 0.063  | 0.20   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Benzo(a)pyrene                                   | ND     | 0.092  | 0.20   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Benzo(b)fluoranthene                             | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Benzo(g,h,i)perylene                             | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Benzo(k)fluoranthene                             | ND     | 0.073  | 0.20   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Benzoic acid                                     | ND     | 0.12   | 0.49   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Benzyl alcohol                                   | ND     | 0.080  | 0.20   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Bis(2-chloroethoxy)methane                       | ND     | 0.075  | 0.20   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Bis(2-chloroethyl)ether                          | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.099  | 0.20   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Bis(2-ethylhexyl)phthalate                       | ND     | 0.21   | 0.49   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 4-Bromophenyl phenyl ether                       | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Butyl benzyl phthalate                           | ND     | 0.059  | 0.20   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Carbazole                                        | ND     | 0.086  | 0.20   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 4-Chloro-3-methylphenol                          | ND     | 0.082  | 0.49   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 4-Chloroaniline                                  | ND     | 0.095  | 0.49   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 2-Chloronaphthalene                              | ND     | 0.093  | 0.24   |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-66-18

Project: Well Installations 2021

Collection Date: 7/19/2021 12:00:00 PM

Lab ID: 2107A83-001

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                               | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------------|--------|-------|------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |      |      |       |    | Analyst: DAM          |          |
| 2-Chlorophenol                         | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 4-Chlorophenyl phenyl ether            | ND     | 0.083 | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Chrysene                               | ND     | 0.086 | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Di-n-butyl phthalate                   | 0.33   | 0.27  | 0.39 | J    | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Di-n-octyl phthalate                   | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Dibenz(a,h)anthracene                  | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Dibenzofuran                           | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 1,2-Dichlorobenzene                    | ND     | 0.079 | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 1,3-Dichlorobenzene                    | ND     | 0.070 | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 1,4-Dichlorobenzene                    | ND     | 0.083 | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 3,3'-Dichlorobenzidine                 | ND     | 0.15  | 0.24 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Diethyl phthalate                      | 1.0    | 0.32  | 0.49 | B    | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Dimethyl phthalate                     | ND     | 0.090 | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 2,4-Dichlorophenol                     | ND     | 0.079 | 0.39 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 2,4-Dimethylphenol                     | ND     | 0.069 | 0.29 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 4,6-Dinitro-2-methylphenol             | ND     | 0.082 | 0.39 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 2,4-Dinitrophenol                      | ND     | 0.049 | 0.49 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 2,4-Dinitrotoluene                     | ND     | 0.12  | 0.49 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 2,6-Dinitrotoluene                     | ND     | 0.099 | 0.49 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Fluoranthene                           | 0.080  | 0.079 | 0.20 | J    | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Fluorene                               | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Hexachlorobenzene                      | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Hexachlorobutadiene                    | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Hexachlorocyclopentadiene              | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Hexachloroethane                       | ND     | 0.086 | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Isophorone                             | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 1-Methylnaphthalene                    | 0.59   | 0.090 | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 2-Methylnaphthalene                    | 1.1    | 0.081 | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 2-Methylphenol                         | 0.097  | 0.082 | 0.39 | J    | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 3+4-Methylphenol                       | 0.12   | 0.081 | 0.20 | J    | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| N-Nitrosodi-n-propylamine              | ND     | 0.090 | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| N-Nitrosodimethylamine                 | ND     | 0.15  | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| N-Nitrosodiphenylamine                 | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Naphthalene                            | 1.4    | 0.092 | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 2-Nitroaniline                         | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 3-Nitroaniline                         | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 4-Nitroaniline                         | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Nitrobenzene                           | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-66-18

Project: Well Installations 2021

Collection Date: 7/19/2021 12:00:00 PM

Lab ID: 2107A83-001

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                               | Result | MDL    | RL        | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------------|--------|--------|-----------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |        |           |      |       |    | Analyst: <b>DAM</b>   |          |
| 2-Nitrophenol                          | ND     | 0.084  | 0.20      |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 4-Nitrophenol                          | ND     | 0.080  | 0.24      |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Pentachlorophenol                      | ND     | 0.084  | 0.39      |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Phenanthrene                           | 0.12   | 0.10   | 0.20      | J    | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Phenol                                 | 0.15   | 0.075  | 0.20      | J    | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Pyrene                                 | ND     | 0.074  | 0.20      |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Pyridine                               | ND     | 0.16   | 0.39      |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.090  | 0.20      |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 2,4,5-Trichlorophenol                  | ND     | 0.062  | 0.20      |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| 2,4,6-Trichlorophenol                  | ND     | 0.084  | 0.20      |      | mg/Kg | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Surr: 2-Fluorophenol                   | 0      |        | 20.3-74.1 | S    | %Rec  | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Surr: Phenol-d5                        | 77.7   |        | 23.1-92.7 |      | %Rec  | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Surr: 2,4,6-Tribromophenol             | 87.1   |        | 17.3-122  |      | %Rec  | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Surr: Nitrobenzene-d5                  | 54.8   |        | 24.7-73.2 |      | %Rec  | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Surr: 2-Fluorobiphenyl                 | 50.3   |        | 21.5-90.1 |      | %Rec  | 1  | 7/28/2021 12:12:39 PM | 61566    |
| Surr: 4-Terphenyl-d14                  | 83.1   |        | 15-140    |      | %Rec  | 1  | 7/28/2021 12:12:39 PM | 61566    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |        |           |      |       |    | Analyst: <b>JMR</b>   |          |
| Benzene                                | 10     | 0.021  | 0.055     |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM  | A80017   |
| Toluene                                | 52     | 0.12   | 1.1       |      | mg/Kg | 50 | 7/23/2021 4:22:41 PM  | R80062   |
| Ethylbenzene                           | 8.1    | 0.027  | 0.11      |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM  | A80017   |
| Methyl tert-butyl ether (MTBE)         | 0.054  | 0.022  | 0.11      | J    | mg/Kg | 5  | 7/22/2021 6:44:15 PM  | A80017   |
| 1,2,4-Trimethylbenzene                 | 39     | 0.16   | 1.1       |      | mg/Kg | 50 | 7/23/2021 4:22:41 PM  | R80062   |
| 1,3,5-Trimethylbenzene                 | 13     | 0.25   | 1.1       |      | mg/Kg | 50 | 7/23/2021 4:22:41 PM  | R80062   |
| 1,2-Dichloroethane (EDC)               | ND     | 0.025  | 0.11      |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM  | A80017   |
| 1,2-Dibromoethane (EDB)                | ND     | 0.044  | 0.11      |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM  | A80017   |
| Naphthalene                            | 2.4    | 0.020  | 0.22      |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM  | A80017   |
| 1-Methylnaphthalene                    | 1.2    | 0.13   | 0.44      |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM  | A80017   |
| 2-Methylnaphthalene                    | 2.3    | 0.10   | 0.44      |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM  | A80017   |
| Acetone                                | 0.37   | 0.10   | 1.7       | J    | mg/Kg | 5  | 7/22/2021 6:44:15 PM  | A80017   |
| Bromobenzene                           | ND     | 0.0089 | 0.11      |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM  | A80017   |
| Bromodichloromethane                   | ND     | 0.010  | 0.11      |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM  | A80017   |
| Bromoform                              | ND     | 0.027  | 0.11      |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM  | A80017   |
| Bromomethane                           | ND     | 0.097  | 0.33      |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM  | A80017   |
| 2-Butanone                             | ND     | 0.17   | 1.1       |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM  | A80017   |
| Carbon disulfide                       | ND     | 0.027  | 1.1       |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM  | A80017   |
| Carbon tetrachloride                   | ND     | 0.0098 | 0.11      |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM  | A80017   |
| Chlorobenzene                          | ND     | 0.018  | 0.11      |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM  | A80017   |
| Chloroethane                           | ND     | 0.041  | 0.22      |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM  | A80017   |
| Chloroform                             | ND     | 0.015  | 0.11      |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM  | A80017   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-66-18

Project: Well Installations 2021

Collection Date: 7/19/2021 12:00:00 PM

Lab ID: 2107A83-001

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                    | Result | MDL    | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------|--------|--------|------|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES |        |        |      |      |       |    | Analyst: JMR         |          |
| Chloromethane               | 0.11   | 0.011  | 0.33 | J    | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 2-Chlorotoluene             | ND     | 0.023  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 4-Chlorotoluene             | ND     | 0.070  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| cis-1,2-DCE                 | ND     | 0.055  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| cis-1,3-Dichloropropene     | ND     | 0.015  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 1,2-Dibromo-3-chloropropane | ND     | 0.048  | 0.22 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| Dibromochloromethane        | ND     | 0.015  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| Dibromomethane              | ND     | 0.017  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 1,2-Dichlorobenzene         | ND     | 0.023  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 1,3-Dichlorobenzene         | ND     | 0.021  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 1,4-Dichlorobenzene         | ND     | 0.030  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| Dichlorodifluoromethane     | ND     | 0.034  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 1,1-Dichloroethane          | ND     | 0.019  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 1,1-Dichloroethene          | ND     | 0.016  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 1,2-Dichloropropane         | ND     | 0.019  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 1,3-Dichloropropane         | ND     | 0.024  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 2,2-Dichloropropane         | ND     | 0.013  | 0.22 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 1,1-Dichloropropene         | ND     | 0.012  | 0.22 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| Hexachlorobutadiene         | ND     | 0.029  | 0.22 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 2-Hexanone                  | ND     | 0.021  | 1.1  |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| Isopropylbenzene            | 0.49   | 0.021  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 4-Isopropyltoluene          | 0.23   | 0.029  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 4-Methyl-2-pentanone        | ND     | 0.13   | 1.1  |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| Methylene chloride          | ND     | 0.080  | 0.33 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| n-Butylbenzene              | 1.2    | 0.030  | 0.33 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| n-Propylbenzene             | 2.6    | 0.018  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| sec-Butylbenzene            | 0.41   | 0.091  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| Styrene                     | ND     | 0.014  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| tert-Butylbenzene           | ND     | 0.026  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.0097 | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.036  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| Tetrachloroethene (PCE)     | ND     | 0.030  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| trans-1,2-DCE               | ND     | 0.019  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| trans-1,3-Dichloropropene   | ND     | 0.026  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 1,2,3-Trichlorobenzene      | ND     | 0.0075 | 0.22 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 1,2,4-Trichlorobenzene      | ND     | 0.039  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 1,1,1-Trichloroethane       | ND     | 0.024  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 1,1,2-Trichloroethane       | ND     | 0.0098 | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| Trichloroethene (TCE)       | ND     | 0.017  | 0.11 |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-66-18

Project: Well Installations 2021

Collection Date: 7/19/2021 12:00:00 PM

Lab ID: 2107A83-001

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                                    | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------------------|--------|--------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |        |        |      |       |    | Analyst: JMR         |          |
| Trichlorofluoromethane                      | ND     | 0.025  | 0.11   |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| 1,2,3-Trichloropropane                      | ND     | 0.047  | 0.22   |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| Vinyl chloride                              | ND     | 0.0093 | 0.11   |      | mg/Kg | 5  | 7/22/2021 6:44:15 PM | A80017   |
| Xylenes, Total                              | 93     | 0.58   | 2.2    |      | mg/Kg | 50 | 7/23/2021 4:22:41 PM | R80062   |
| Surr: Dibromofluoromethane                  | 89.1   |        | 70-130 |      | %Rec  | 5  | 7/22/2021 6:44:15 PM | A80017   |
| Surr: 1,2-Dichloroethane-d4                 | 93.8   |        | 70-130 |      | %Rec  | 5  | 7/22/2021 6:44:15 PM | A80017   |
| Surr: Toluene-d8                            | 103    |        | 70-130 |      | %Rec  | 5  | 7/22/2021 6:44:15 PM | A80017   |
| Surr: 4-Bromofluorobenzene                  | 107    |        | 70-130 |      | %Rec  | 5  | 7/22/2021 6:44:15 PM | A80017   |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |        |        |      |       |    | Analyst: JMR         |          |
| Gasoline Range Organics (GRO)               | 1200   | 31     | 110    |      | mg/Kg | 50 | 7/23/2021 4:22:41 PM | R80062   |
| Surr: BFB                                   | 98.9   | 0      | 70-130 |      | %Rec  | 50 | 7/23/2021 4:22:41 PM | R80062   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-66-26

Project: Well Installations 2021

Collection Date: 7/19/2021 11:50:00 AM

Lab ID: 2107A83-002

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed         | Batch ID            |
|--------------------------------------------------|--------|--------|--------|------|-------|----|-----------------------|---------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |    |                       | Analyst: <b>SB</b>  |
| Diesel Range Organics (DRO)                      | 7.8    | 4.8    | 9.8    | J    | mg/Kg | 1  | 7/23/2021 6:58:39 PM  | 61498               |
| Motor Oil Range Organics (MRO)                   | ND     | 49     | 49     |      | mg/Kg | 1  | 7/23/2021 6:58:39 PM  | 61498               |
| Surr: DNOP                                       | 110    | 0      | 70-130 |      | %Rec  | 1  | 7/23/2021 6:58:39 PM  | 61498               |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |    |                       | Analyst: <b>ags</b> |
| Mercury                                          | 0.0033 | 0.0025 | 0.032  | J    | mg/Kg | 1  | 7/23/2021 10:06:36 AM | 61495               |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |    |                       | Analyst: <b>ags</b> |
| Arsenic                                          | ND     | 2.9    | 5.2    |      | mg/Kg | 2  | 7/23/2021 4:34:10 PM  | 61509               |
| Barium                                           | 580    | 1.2    | 2.1    |      | mg/Kg | 20 | 7/29/2021 2:29:20 PM  | 61509               |
| Cadmium                                          | ND     | 0.10   | 0.21   |      | mg/Kg | 2  | 7/23/2021 4:34:10 PM  | 61509               |
| Chromium                                         | 6.6    | 0.31   | 0.62   |      | mg/Kg | 2  | 7/29/2021 2:18:40 PM  | 61509               |
| Iron                                             | 9200   | 52     | 52     | E    | mg/Kg | 20 | 7/29/2021 2:29:20 PM  | 61509               |
| Lead                                             | 0.69   | 0.55   | 0.62   |      | mg/Kg | 2  | 7/29/2021 2:18:40 PM  | 61509               |
| Manganese                                        | 180    | 0.34   | 0.41   |      | mg/Kg | 2  | 7/23/2021 4:34:10 PM  | 61509               |
| Selenium                                         | ND     | 4.5    | 5.2    |      | mg/Kg | 2  | 7/29/2021 2:18:40 PM  | 61509               |
| Silver                                           | ND     | 0.30   | 0.52   |      | mg/Kg | 2  | 7/23/2021 4:34:10 PM  | 61509               |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |    |                       | Analyst: <b>DAM</b> |
| Acenaphthene                                     | ND     | 0.088  | 0.20   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| Acenaphthylene                                   | ND     | 0.089  | 0.20   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| Aniline                                          | ND     | 0.068  | 0.20   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| Anthracene                                       | ND     | 0.089  | 0.20   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| Azobenzene                                       | ND     | 0.098  | 0.20   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| Benz(a)anthracene                                | ND     | 0.063  | 0.20   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| Benzo(a)pyrene                                   | ND     | 0.092  | 0.20   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| Benzo(b)fluoranthene                             | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| Benzo(g,h,i)perylene                             | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| Benzo(k)fluoranthene                             | ND     | 0.074  | 0.20   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| Benzoic acid                                     | ND     | 0.12   | 0.49   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| Benzyl alcohol                                   | ND     | 0.080  | 0.20   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| Bis(2-chloroethoxy)methane                       | ND     | 0.075  | 0.20   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| Bis(2-chloroethyl)ether                          | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| Bis(2-ethylhexyl)phthalate                       | ND     | 0.21   | 0.49   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| 4-Bromophenyl phenyl ether                       | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| Butyl benzyl phthalate                           | ND     | 0.060  | 0.20   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| Carbazole                                        | ND     | 0.086  | 0.20   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| 4-Chloro-3-methylphenol                          | ND     | 0.083  | 0.49   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| 4-Chloroaniline                                  | ND     | 0.095  | 0.49   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |
| 2-Chloronaphthalene                              | ND     | 0.093  | 0.25   |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM  | 61566               |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-66-26

Project: Well Installations 2021

Collection Date: 7/19/2021 11:50:00 AM

Lab ID: 2107A83-002

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                        | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| EPA METHOD 8270C: SEMIVOLATILES |        |       |      |      |       |    | Analyst: DAM         |          |
| 2-Chlorophenol                  | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 4-Chlorophenyl phenyl ether     | ND     | 0.083 | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Chrysene                        | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Di-n-butyl phthalate            | 0.29   | 0.27  | 0.39 | J    | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Di-n-octyl phthalate            | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Dibenz(a,h)anthracene           | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Dibenzofuran                    | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 1,2-Dichlorobenzene             | ND     | 0.079 | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 1,3-Dichlorobenzene             | ND     | 0.070 | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 1,4-Dichlorobenzene             | ND     | 0.083 | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 3,3'-Dichlorobenzidine          | ND     | 0.15  | 0.25 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Diethyl phthalate               | 1.1    | 0.32  | 0.49 | B    | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Dimethyl phthalate              | ND     | 0.091 | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 2,4-Dichlorophenol              | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 2,4-Dimethylphenol              | ND     | 0.070 | 0.29 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.083 | 0.39 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 2,4-Dinitrophenol               | ND     | 0.049 | 0.49 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 2,4-Dinitrotoluene              | ND     | 0.12  | 0.49 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 2,6-Dinitrotoluene              | ND     | 0.10  | 0.49 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Fluoranthene                    | ND     | 0.079 | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Fluorene                        | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Hexachlorobenzene               | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Hexachlorobutadiene             | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Hexachlorocyclopentadiene       | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Hexachloroethane                | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Indeno(1,2,3-cd)pyrene          | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Isophorone                      | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 1-Methylnaphthalene             | ND     | 0.090 | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 2-Methylnaphthalene             | ND     | 0.081 | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 2-Methylphenol                  | ND     | 0.083 | 0.39 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 3+4-Methylphenol                | ND     | 0.081 | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| N-Nitrosodi-n-propylamine       | ND     | 0.091 | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| N-Nitrosodimethylamine          | ND     | 0.15  | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| N-Nitrosodiphenylamine          | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Naphthalene                     | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 2-Nitroaniline                  | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 3-Nitroaniline                  | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 4-Nitroaniline                  | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Nitrobenzene                    | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-66-26

Project: Well Installations 2021

Collection Date: 7/19/2021 11:50:00 AM

Lab ID: 2107A83-002

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                               | Result | MDL    | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|--------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |        |           |      |       |    | Analyst: <b>DAM</b>  |          |
| 2-Nitrophenol                          | ND     | 0.085  | 0.20      |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 4-Nitrophenol                          | ND     | 0.081  | 0.25      |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Pentachlorophenol                      | ND     | 0.085  | 0.39      |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Phenanthrene                           | ND     | 0.10   | 0.20      |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Phenol                                 | ND     | 0.076  | 0.20      |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Pyrene                                 | ND     | 0.074  | 0.20      |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Pyridine                               | ND     | 0.16   | 0.39      |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.090  | 0.20      |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 2,4,5-Trichlorophenol                  | ND     | 0.062  | 0.20      |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| 2,4,6-Trichlorophenol                  | ND     | 0.084  | 0.20      |      | mg/Kg | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Surr: 2-Fluorophenol                   | 59.0   |        | 20.3-74.1 |      | %Rec  | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Surr: Phenol-d5                        | 72.3   |        | 23.1-92.7 |      | %Rec  | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Surr: 2,4,6-Tribromophenol             | 82.5   |        | 17.3-122  |      | %Rec  | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Surr: Nitrobenzene-d5                  | 51.8   |        | 24.7-73.2 |      | %Rec  | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Surr: 2-Fluorobiphenyl                 | 55.9   |        | 21.5-90.1 |      | %Rec  | 1  | 7/28/2021 2:18:47 PM | 61566    |
| Surr: 4-Terphenyl-d14                  | 66.3   |        | 15-140    |      | %Rec  | 1  | 7/28/2021 2:18:47 PM | 61566    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |        |           |      |       |    | Analyst: <b>JMR</b>  |          |
| Benzene                                | 0.12   | 0.0046 | 0.012     |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Toluene                                | 0.33   | 0.0025 | 0.024     |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Ethylbenzene                           | 0.057  | 0.0058 | 0.024     |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Methyl tert-butyl ether (MTBE)         | 0.035  | 0.0048 | 0.024     |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1,2,4-Trimethylbenzene                 | 0.18   | 0.0034 | 0.024     |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1,3,5-Trimethylbenzene                 | 0.059  | 0.0054 | 0.024     |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1,2-Dichloroethane (EDC)               | ND     | 0.0055 | 0.024     |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1,2-Dibromoethane (EDB)                | ND     | 0.0094 | 0.024     |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Naphthalene                            | 0.013  | 0.0044 | 0.048     | J    | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1-Methylnaphthalene                    | ND     | 0.027  | 0.096     |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 2-Methylnaphthalene                    | ND     | 0.022  | 0.096     |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Acetone                                | ND     | 0.022  | 0.36      |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Bromobenzene                           | ND     | 0.0019 | 0.024     |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Bromodichloromethane                   | ND     | 0.0022 | 0.024     |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Bromoform                              | ND     | 0.0058 | 0.024     |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Bromomethane                           | ND     | 0.021  | 0.072     |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 2-Butanone                             | 0.057  | 0.037  | 0.24      | J    | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Carbon disulfide                       | ND     | 0.0058 | 0.24      |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Carbon tetrachloride                   | ND     | 0.0021 | 0.024     |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Chlorobenzene                          | ND     | 0.0038 | 0.024     |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Chloroethane                           | 0.017  | 0.0089 | 0.048     | J    | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Chloroform                             | ND     | 0.0033 | 0.024     |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-66-26

Project: Well Installations 2021

Collection Date: 7/19/2021 11:50:00 AM

Lab ID: 2107A83-002

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                    | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------|--------|--------|-------|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES |        |        |       |      |       |    | Analyst: JMR         |          |
| Chloromethane               | ND     | 0.0023 | 0.072 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 2-Chlorotoluene             | ND     | 0.0050 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 4-Chlorotoluene             | ND     | 0.015  | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| cis-1,2-DCE                 | ND     | 0.012  | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| cis-1,3-Dichloropropene     | ND     | 0.0032 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1,2-Dibromo-3-chloropropane | ND     | 0.010  | 0.048 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Dibromochloromethane        | ND     | 0.0031 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Dibromomethane              | ND     | 0.0036 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1,2-Dichlorobenzene         | ND     | 0.0050 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1,3-Dichlorobenzene         | ND     | 0.0045 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1,4-Dichlorobenzene         | ND     | 0.0064 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Dichlorodifluoromethane     | ND     | 0.0073 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1,1-Dichloroethane          | ND     | 0.0040 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1,1-Dichloroethene          | ND     | 0.0035 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1,2-Dichloropropane         | ND     | 0.0041 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1,3-Dichloropropane         | ND     | 0.0053 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 2,2-Dichloropropane         | ND     | 0.0028 | 0.048 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1,1-Dichloropropene         | ND     | 0.0025 | 0.048 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Hexachlorobutadiene         | ND     | 0.0062 | 0.048 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 2-Hexanone                  | ND     | 0.0046 | 0.24  |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Isopropylbenzene            | ND     | 0.0044 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 4-Isopropyltoluene          | ND     | 0.0062 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 4-Methyl-2-pentanone        | ND     | 0.028  | 0.24  |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Methylene chloride          | ND     | 0.017  | 0.072 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| n-Butylbenzene              | ND     | 0.0064 | 0.072 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| n-Propylbenzene             | 0.022  | 0.0039 | 0.024 | J    | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| sec-Butylbenzene            | ND     | 0.020  | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Styrene                     | ND     | 0.0030 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| tert-Butylbenzene           | ND     | 0.0055 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.0021 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.0077 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Tetrachloroethene (PCE)     | ND     | 0.0066 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| trans-1,2-DCE               | ND     | 0.0041 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| trans-1,3-Dichloropropene   | ND     | 0.0056 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1,2,3-Trichlorobenzene      | ND     | 0.0016 | 0.048 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1,2,4-Trichlorobenzene      | ND     | 0.0083 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1,1,1-Trichloroethane       | ND     | 0.0053 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1,1,2-Trichloroethane       | ND     | 0.0021 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Trichloroethene (TCE)       | ND     | 0.0037 | 0.024 |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-66-26

Project: Well Installations 2021

Collection Date: 7/19/2021 11:50:00 AM

Lab ID: 2107A83-002

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                                    | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------------------|--------|--------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |        |        |      |       |    | Analyst: JMR         |          |
| Trichlorofluoromethane                      | ND     | 0.0054 | 0.024  |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| 1,2,3-Trichloropropane                      | ND     | 0.010  | 0.048  |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Vinyl chloride                              | ND     | 0.0020 | 0.024  |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Xylenes, Total                              | 0.38   | 0.013  | 0.048  |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Surr: Dibromofluoromethane                  | 100    |        | 70-130 |      | %Rec  | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Surr: 1,2-Dichloroethane-d4                 | 107    |        | 70-130 |      | %Rec  | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Surr: Toluene-d8                            | 96.3   |        | 70-130 |      | %Rec  | 1  | 7/22/2021 7:41:47 PM | A80017   |
| Surr: 4-Bromofluorobenzene                  | 98.0   |        | 70-130 |      | %Rec  | 1  | 7/22/2021 7:41:47 PM | A80017   |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |        |        |      |       |    | Analyst: JMR         |          |
| Gasoline Range Organics (GRO)               | 5.7    | 0.67   | 2.4    |      | mg/Kg | 1  | 7/22/2021 7:41:47 PM | C80017   |
| Surr: BFB                                   | 98.5   | 0      | 70-130 |      | %Rec  | 1  | 7/22/2021 7:41:47 PM | C80017   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-13A-14

Project: Well Installations 2021

Collection Date: 7/19/2021 3:55:00 PM

Lab ID: 2107A83-003

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed         | Batch ID            |
|--------------------------------------------------|--------|--------|--------|------|-------|----|-----------------------|---------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |    |                       | Analyst: <b>SB</b>  |
| Diesel Range Organics (DRO)                      | ND     | 4.6    | 9.3    |      | mg/Kg | 1  | 7/23/2021 7:10:20 PM  | 61498               |
| Motor Oil Range Organics (MRO)                   | ND     | 47     | 47     |      | mg/Kg | 1  | 7/23/2021 7:10:20 PM  | 61498               |
| Surr: DNOP                                       | 105    | 0      | 70-130 |      | %Rec  | 1  | 7/23/2021 7:10:20 PM  | 61498               |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |    |                       | Analyst: <b>ags</b> |
| Mercury                                          | 0.0028 | 0.0027 | 0.034  | J    | mg/Kg | 1  | 7/23/2021 10:08:41 AM | 61495               |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |    |                       | Analyst: <b>ags</b> |
| Arsenic                                          | ND     | 2.7    | 4.8    |      | mg/Kg | 2  | 7/23/2021 4:36:25 PM  | 61509               |
| Barium                                           | 1000   | 1.1    | 1.9    |      | mg/Kg | 20 | 7/29/2021 2:33:43 PM  | 61509               |
| Cadmium                                          | ND     | 0.095  | 0.19   |      | mg/Kg | 2  | 7/23/2021 4:36:25 PM  | 61509               |
| Chromium                                         | 11     | 0.29   | 0.57   |      | mg/Kg | 2  | 7/29/2021 2:31:28 PM  | 61509               |
| Iron                                             | 15000  | 48     | 48     | E    | mg/Kg | 20 | 7/29/2021 2:33:43 PM  | 61509               |
| Lead                                             | ND     | 0.51   | 0.57   |      | mg/Kg | 2  | 7/23/2021 4:36:25 PM  | 61509               |
| Manganese                                        | 960    | 3.2    | 3.8    |      | mg/Kg | 20 | 7/29/2021 2:33:43 PM  | 61509               |
| Selenium                                         | ND     | 4.2    | 4.8    |      | mg/Kg | 2  | 7/29/2021 2:31:28 PM  | 61509               |
| Silver                                           | ND     | 0.28   | 0.48   |      | mg/Kg | 2  | 7/23/2021 4:36:25 PM  | 61509               |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |    |                       | Analyst: <b>DAM</b> |
| Acenaphthene                                     | ND     | 0.087  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| Acenaphthylene                                   | ND     | 0.089  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| Aniline                                          | ND     | 0.068  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| Anthracene                                       | ND     | 0.089  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| Azobenzene                                       | ND     | 0.098  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| Benz(a)anthracene                                | ND     | 0.063  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| Benzo(a)pyrene                                   | ND     | 0.092  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| Benzo(b)fluoranthene                             | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| Benzo(g,h,i)perylene                             | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| Benzo(k)fluoranthene                             | ND     | 0.073  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| Benzoic acid                                     | ND     | 0.12   | 0.49   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| Benzyl alcohol                                   | ND     | 0.080  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| Bis(2-chloroethoxy)methane                       | ND     | 0.075  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| Bis(2-chloroethyl)ether                          | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.099  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| Bis(2-ethylhexyl)phthalate                       | ND     | 0.21   | 0.49   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| 4-Bromophenyl phenyl ether                       | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| Butyl benzyl phthalate                           | ND     | 0.059  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| Carbazole                                        | ND     | 0.086  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| 4-Chloro-3-methylphenol                          | ND     | 0.082  | 0.49   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| 4-Chloroaniline                                  | ND     | 0.095  | 0.49   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |
| 2-Chloronaphthalene                              | ND     | 0.093  | 0.24   |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM  | 61566               |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-13A-14

Project: Well Installations 2021

Collection Date: 7/19/2021 3:55:00 PM

Lab ID: 2107A83-003

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                        | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| EPA METHOD 8270C: SEMIVOLATILES |        |       |      |      |       |    | Analyst: DAM         |          |
| 2-Chlorophenol                  | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 4-Chlorophenyl phenyl ether     | ND     | 0.083 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Chrysene                        | ND     | 0.086 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Di-n-butyl phthalate            | 0.28   | 0.27  | 0.39 | J    | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Di-n-octyl phthalate            | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Dibenz(a,h)anthracene           | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Dibenzofuran                    | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 1,2-Dichlorobenzene             | ND     | 0.079 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 1,3-Dichlorobenzene             | ND     | 0.070 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 1,4-Dichlorobenzene             | ND     | 0.083 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 3,3'-Dichlorobenzidine          | ND     | 0.15  | 0.24 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Diethyl phthalate               | 0.95   | 0.32  | 0.49 | B    | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Dimethyl phthalate              | ND     | 0.090 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 2,4-Dichlorophenol              | ND     | 0.079 | 0.39 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 2,4-Dimethylphenol              | ND     | 0.070 | 0.29 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.082 | 0.39 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 2,4-Dinitrophenol               | ND     | 0.049 | 0.49 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 2,4-Dinitrotoluene              | ND     | 0.12  | 0.49 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 2,6-Dinitrotoluene              | ND     | 0.099 | 0.49 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Fluoranthene                    | ND     | 0.079 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Fluorene                        | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Hexachlorobenzene               | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Hexachlorobutadiene             | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Hexachlorocyclopentadiene       | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Hexachloroethane                | ND     | 0.086 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Indeno(1,2,3-cd)pyrene          | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Isophorone                      | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 1-Methylnaphthalene             | ND     | 0.090 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 2-Methylnaphthalene             | ND     | 0.081 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 2-Methylphenol                  | ND     | 0.082 | 0.39 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 3+4-Methylphenol                | ND     | 0.081 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| N-Nitrosodi-n-propylamine       | ND     | 0.090 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| N-Nitrosodimethylamine          | ND     | 0.15  | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| N-Nitrosodiphenylamine          | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Naphthalene                     | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 2-Nitroaniline                  | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 3-Nitroaniline                  | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 4-Nitroaniline                  | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Nitrobenzene                    | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-13A-14

Project: Well Installations 2021

Collection Date: 7/19/2021 3:55:00 PM

Lab ID: 2107A83-003

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                               | Result | MDL    | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|--------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |        |           |      |       |    | Analyst: <b>DAM</b>  |          |
| 2-Nitrophenol                          | ND     | 0.084  | 0.20      |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 4-Nitrophenol                          | ND     | 0.080  | 0.24      |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Pentachlorophenol                      | ND     | 0.084  | 0.39      |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Phenanthrene                           | ND     | 0.10   | 0.20      |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Phenol                                 | ND     | 0.075  | 0.20      |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Pyrene                                 | ND     | 0.074  | 0.20      |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Pyridine                               | ND     | 0.16   | 0.39      |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.090  | 0.20      |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 2,4,5-Trichlorophenol                  | ND     | 0.062  | 0.20      |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| 2,4,6-Trichlorophenol                  | ND     | 0.084  | 0.20      |      | mg/Kg | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Surr: 2-Fluorophenol                   | 53.5   |        | 20.3-74.1 |      | %Rec  | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Surr: Phenol-d5                        | 64.4   |        | 23.1-92.7 |      | %Rec  | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Surr: 2,4,6-Tribromophenol             | 78.6   |        | 17.3-122  |      | %Rec  | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Surr: Nitrobenzene-d5                  | 48.3   |        | 24.7-73.2 |      | %Rec  | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Surr: 2-Fluorobiphenyl                 | 52.3   |        | 21.5-90.1 |      | %Rec  | 1  | 7/28/2021 3:01:02 PM | 61566    |
| Surr: 4-Terphenyl-d14                  | 63.3   |        | 15-140    |      | %Rec  | 1  | 7/28/2021 3:01:02 PM | 61566    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |        |           |      |       |    | Analyst: <b>JMR</b>  |          |
| Benzene                                | ND     | 0.0079 | 0.020     |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Toluene                                | ND     | 0.0043 | 0.041     |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Ethylbenzene                           | ND     | 0.010  | 0.041     |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Methyl tert-butyl ether (MTBE)         | ND     | 0.0082 | 0.041     |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 1,2,4-Trimethylbenzene                 | ND     | 0.0058 | 0.041     |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 1,3,5-Trimethylbenzene                 | ND     | 0.0092 | 0.041     |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 1,2-Dichloroethane (EDC)               | ND     | 0.0093 | 0.041     |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 1,2-Dibromoethane (EDB)                | ND     | 0.016  | 0.041     |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Naphthalene                            | ND     | 0.0075 | 0.082     |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 1-Methylnaphthalene                    | ND     | 0.047  | 0.16      |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 2-Methylnaphthalene                    | ND     | 0.038  | 0.16      |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Acetone                                | 0.11   | 0.037  | 0.61      | J    | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Bromobenzene                           | ND     | 0.0033 | 0.041     |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Bromodichloromethane                   | ND     | 0.0038 | 0.041     |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Bromoform                              | ND     | 0.0099 | 0.041     |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Bromomethane                           | ND     | 0.036  | 0.12      |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 2-Butanone                             | 0.12   | 0.063  | 0.41      | J    | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Carbon disulfide                       | ND     | 0.010  | 0.41      |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Carbon tetrachloride                   | ND     | 0.0036 | 0.041     |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Chlorobenzene                          | ND     | 0.0065 | 0.041     |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Chloroethane                           | ND     | 0.015  | 0.082     |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Chloroform                             | ND     | 0.0056 | 0.041     |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-13A-14

Project: Well Installations 2021

Collection Date: 7/19/2021 3:55:00 PM

Lab ID: 2107A83-003

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                           | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------------------|--------|--------|-------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |       |      |       |    | Analyst: JMR         |          |
| Chloromethane                      | ND     | 0.0039 | 0.12  |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 2-Chlorotoluene                    | ND     | 0.0085 | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 4-Chlorotoluene                    | ND     | 0.026  | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| cis-1,2-DCE                        | ND     | 0.020  | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| cis-1,3-Dichloropropene            | ND     | 0.0054 | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 1,2-Dibromo-3-chloropropane        | ND     | 0.018  | 0.082 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Dibromochloromethane               | ND     | 0.0054 | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Dibromomethane                     | ND     | 0.0062 | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 1,2-Dichlorobenzene                | ND     | 0.0085 | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 1,3-Dichlorobenzene                | ND     | 0.0077 | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 1,4-Dichlorobenzene                | ND     | 0.011  | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Dichlorodifluoromethane            | ND     | 0.013  | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 1,1-Dichloroethane                 | ND     | 0.0069 | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 1,1-Dichloroethene                 | ND     | 0.0060 | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 1,2-Dichloropropane                | ND     | 0.0070 | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 1,3-Dichloropropane                | ND     | 0.0090 | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 2,2-Dichloropropane                | ND     | 0.0048 | 0.082 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 1,1-Dichloropropene                | ND     | 0.0043 | 0.082 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Hexachlorobutadiene                | ND     | 0.011  | 0.082 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 2-Hexanone                         | ND     | 0.0078 | 0.41  |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Isopropylbenzene                   | ND     | 0.0076 | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 4-Isopropyltoluene                 | ND     | 0.011  | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 4-Methyl-2-pentanone               | ND     | 0.048  | 0.41  |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Methylene chloride                 | ND     | 0.030  | 0.12  |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| n-Butylbenzene                     | ND     | 0.011  | 0.12  |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| n-Propylbenzene                    | ND     | 0.0066 | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| sec-Butylbenzene                   | ND     | 0.034  | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Styrene                            | ND     | 0.0052 | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| tert-Butylbenzene                  | ND     | 0.0095 | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 1,1,1,2-Tetrachloroethane          | ND     | 0.0036 | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 1,1,2,2-Tetrachloroethane          | ND     | 0.013  | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Tetrachloroethene (PCE)            | ND     | 0.011  | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| trans-1,2-DCE                      | ND     | 0.0070 | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| trans-1,3-Dichloropropene          | ND     | 0.0096 | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 1,2,3-Trichlorobenzene             | ND     | 0.0028 | 0.082 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 1,2,4-Trichlorobenzene             | ND     | 0.014  | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 1,1,1-Trichloroethane              | ND     | 0.0090 | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| 1,1,2-Trichloroethane              | ND     | 0.0036 | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |
| Trichloroethene (TCE)              | ND     | 0.0063 | 0.041 |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017   |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-13A-14

Project: Well Installations 2021

Collection Date: 7/19/2021 3:55:00 PM

Lab ID: 2107A83-003

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                                    | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed        | Batch ID     |
|---------------------------------------------|--------|--------|--------|------|-------|----|----------------------|--------------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |        |        |      |       |    |                      | Analyst: JMR |
| Trichlorofluoromethane                      | ND     | 0.0093 | 0.041  |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017       |
| 1,2,3-Trichloropropane                      | ND     | 0.017  | 0.082  |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017       |
| Vinyl chloride                              | ND     | 0.0034 | 0.041  |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017       |
| Xylenes, Total                              | ND     | 0.022  | 0.082  |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | A80017       |
| Surr: Dibromofluoromethane                  | 108    |        | 70-130 |      | %Rec  | 1  | 7/22/2021 8:10:32 PM | A80017       |
| Surr: 1,2-Dichloroethane-d4                 | 101    |        | 70-130 |      | %Rec  | 1  | 7/22/2021 8:10:32 PM | A80017       |
| Surr: Toluene-d8                            | 97.2   |        | 70-130 |      | %Rec  | 1  | 7/22/2021 8:10:32 PM | A80017       |
| Surr: 4-Bromofluorobenzene                  | 98.7   |        | 70-130 |      | %Rec  | 1  | 7/22/2021 8:10:32 PM | A80017       |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |        |        |      |       |    |                      | Analyst: JMR |
| Gasoline Range Organics (GRO)               | ND     | 1.1    | 4.1    |      | mg/Kg | 1  | 7/22/2021 8:10:32 PM | C80017       |
| Surr: BFB                                   | 97.1   | 0      | 70-130 |      | %Rec  | 1  | 7/22/2021 8:10:32 PM | C80017       |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-13A-25.5

Project: Well Installations 2021

Collection Date: 7/19/2021 3:45:00 PM

Lab ID: 2107A83-004

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed         | Batch ID            |
|--------------------------------------------------|--------|--------|--------|------|-------|----|-----------------------|---------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |    |                       | Analyst: <b>SB</b>  |
| Diesel Range Organics (DRO)                      | ND     | 4.6    | 9.3    |      | mg/Kg | 1  | 7/23/2021 7:22:13 PM  | 61498               |
| Motor Oil Range Organics (MRO)                   | ND     | 47     | 47     |      | mg/Kg | 1  | 7/23/2021 7:22:13 PM  | 61498               |
| Surr: DNOP                                       | 108    | 0      | 70-130 |      | %Rec  | 1  | 7/23/2021 7:22:13 PM  | 61498               |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |    |                       | Analyst: <b>ags</b> |
| Mercury                                          | ND     | 0.0025 | 0.031  |      | mg/Kg | 1  | 7/23/2021 10:10:46 AM | 61495               |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |    |                       | Analyst: <b>ags</b> |
| Arsenic                                          | ND     | 2.9    | 5.1    |      | mg/Kg | 2  | 7/23/2021 4:38:46 PM  | 61509               |
| Barium                                           | 250    | 0.12   | 0.20   |      | mg/Kg | 2  | 7/29/2021 2:36:16 PM  | 61509               |
| Cadmium                                          | ND     | 0.10   | 0.20   |      | mg/Kg | 2  | 7/23/2021 4:38:46 PM  | 61509               |
| Chromium                                         | 12     | 0.31   | 0.61   |      | mg/Kg | 2  | 7/29/2021 2:36:16 PM  | 61509               |
| Iron                                             | 16000  | 5.1    | 5.1    | E    | mg/Kg | 2  | 7/29/2021 2:36:16 PM  | 61509               |
| Lead                                             | ND     | 0.54   | 0.61   |      | mg/Kg | 2  | 7/23/2021 4:38:46 PM  | 61509               |
| Manganese                                        | 330    | 0.34   | 0.41   |      | mg/Kg | 2  | 7/23/2021 4:38:46 PM  | 61509               |
| Selenium                                         | ND     | 4.5    | 5.1    |      | mg/Kg | 2  | 7/29/2021 2:36:16 PM  | 61509               |
| Silver                                           | ND     | 0.30   | 0.51   |      | mg/Kg | 2  | 7/23/2021 4:38:46 PM  | 61509               |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |    |                       | Analyst: <b>DAM</b> |
| Acenaphthene                                     | ND     | 0.087  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| Acenaphthylene                                   | ND     | 0.089  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| Aniline                                          | ND     | 0.068  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| Anthracene                                       | ND     | 0.089  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| Azobenzene                                       | ND     | 0.098  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| Benz(a)anthracene                                | ND     | 0.063  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| Benzo(a)pyrene                                   | ND     | 0.092  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| Benzo(b)fluoranthene                             | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| Benzo(g,h,i)perylene                             | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| Benzo(k)fluoranthene                             | ND     | 0.074  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| Benzoic acid                                     | ND     | 0.12   | 0.49   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| Benzyl alcohol                                   | ND     | 0.080  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| Bis(2-chloroethoxy)methane                       | ND     | 0.075  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| Bis(2-chloroethyl)ether                          | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.099  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| Bis(2-ethylhexyl)phthalate                       | ND     | 0.21   | 0.49   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| 4-Bromophenyl phenyl ether                       | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| Butyl benzyl phthalate                           | ND     | 0.060  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| Carbazole                                        | ND     | 0.086  | 0.20   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| 4-Chloro-3-methylphenol                          | ND     | 0.082  | 0.49   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| 4-Chloroaniline                                  | ND     | 0.095  | 0.49   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |
| 2-Chloronaphthalene                              | ND     | 0.093  | 0.24   |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM  | 61566               |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-13A-25.5

Project: Well Installations 2021

Collection Date: 7/19/2021 3:45:00 PM

Lab ID: 2107A83-004

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                        | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| EPA METHOD 8270C: SEMIVOLATILES |        |       |      |      |       |    | Analyst: DAM         |          |
| 2-Chlorophenol                  | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 4-Chlorophenyl phenyl ether     | ND     | 0.083 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Chrysene                        | ND     | 0.086 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Di-n-butyl phthalate            | ND     | 0.27  | 0.39 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Di-n-octyl phthalate            | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Dibenz(a,h)anthracene           | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Dibenzofuran                    | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 1,2-Dichlorobenzene             | ND     | 0.079 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 1,3-Dichlorobenzene             | ND     | 0.070 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 1,4-Dichlorobenzene             | ND     | 0.083 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 3,3'-Dichlorobenzidine          | ND     | 0.15  | 0.24 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Diethyl phthalate               | 0.81   | 0.32  | 0.49 | B    | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Dimethyl phthalate              | ND     | 0.090 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 2,4-Dichlorophenol              | ND     | 0.079 | 0.39 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 2,4-Dimethylphenol              | ND     | 0.070 | 0.29 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.082 | 0.39 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 2,4-Dinitrophenol               | ND     | 0.049 | 0.49 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 2,4-Dinitrotoluene              | ND     | 0.12  | 0.49 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 2,6-Dinitrotoluene              | ND     | 0.099 | 0.49 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Fluoranthene                    | ND     | 0.079 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Fluorene                        | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Hexachlorobenzene               | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Hexachlorobutadiene             | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Hexachlorocyclopentadiene       | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Hexachloroethane                | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Indeno(1,2,3-cd)pyrene          | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Isophorone                      | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 1-Methylnaphthalene             | ND     | 0.090 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 2-Methylnaphthalene             | ND     | 0.081 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 2-Methylphenol                  | ND     | 0.082 | 0.39 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 3+4-Methylphenol                | ND     | 0.081 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| N-Nitrosodi-n-propylamine       | ND     | 0.091 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| N-Nitrosodimethylamine          | ND     | 0.15  | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| N-Nitrosodiphenylamine          | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Naphthalene                     | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 2-Nitroaniline                  | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 3-Nitroaniline                  | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 4-Nitroaniline                  | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Nitrobenzene                    | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-13A-25.5

Project: Well Installations 2021

Collection Date: 7/19/2021 3:45:00 PM

Lab ID: 2107A83-004

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                               | Result | MDL    | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|--------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |        |           |      |       |    | Analyst: <b>DAM</b>  |          |
| 2-Nitrophenol                          | ND     | 0.084  | 0.20      |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 4-Nitrophenol                          | ND     | 0.080  | 0.24      |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Pentachlorophenol                      | ND     | 0.084  | 0.39      |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Phenanthrene                           | ND     | 0.10   | 0.20      |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Phenol                                 | ND     | 0.075  | 0.20      |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Pyrene                                 | ND     | 0.074  | 0.20      |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Pyridine                               | ND     | 0.16   | 0.39      |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.090  | 0.20      |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 2,4,5-Trichlorophenol                  | ND     | 0.062  | 0.20      |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| 2,4,6-Trichlorophenol                  | ND     | 0.084  | 0.20      |      | mg/Kg | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Surr: 2-Fluorophenol                   | 46.4   |        | 20.3-74.1 |      | %Rec  | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Surr: Phenol-d5                        | 53.1   |        | 23.1-92.7 |      | %Rec  | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Surr: 2,4,6-Tribromophenol             | 78.6   |        | 17.3-122  |      | %Rec  | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Surr: Nitrobenzene-d5                  | 44.4   |        | 24.7-73.2 |      | %Rec  | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Surr: 2-Fluorobiphenyl                 | 45.9   |        | 21.5-90.1 |      | %Rec  | 1  | 7/28/2021 3:43:05 PM | 61566    |
| Surr: 4-Terphenyl-d14                  | 61.8   |        | 15-140    |      | %Rec  | 1  | 7/28/2021 3:43:05 PM | 61566    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |        |           |      |       |    | Analyst: <b>JMR</b>  |          |
| Benzene                                | ND     | 0.0073 | 0.019     |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Toluene                                | ND     | 0.0040 | 0.038     |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Ethylbenzene                           | ND     | 0.0092 | 0.038     |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Methyl tert-butyl ether (MTBE)         | ND     | 0.0075 | 0.038     |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1,2,4-Trimethylbenzene                 | ND     | 0.0053 | 0.038     |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1,3,5-Trimethylbenzene                 | ND     | 0.0085 | 0.038     |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1,2-Dichloroethane (EDC)               | ND     | 0.0086 | 0.038     |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1,2-Dibromoethane (EDB)                | ND     | 0.015  | 0.038     |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Naphthalene                            | ND     | 0.0069 | 0.076     |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1-Methylnaphthalene                    | ND     | 0.043  | 0.15      |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 2-Methylnaphthalene                    | ND     | 0.035  | 0.15      |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Acetone                                | ND     | 0.034  | 0.57      |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Bromobenzene                           | ND     | 0.0030 | 0.038     |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Bromodichloromethane                   | ND     | 0.0035 | 0.038     |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Bromoform                              | ND     | 0.0091 | 0.038     |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Bromomethane                           | ND     | 0.033  | 0.11      |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 2-Butanone                             | 0.16   | 0.058  | 0.38      | J    | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Carbon disulfide                       | ND     | 0.0092 | 0.38      |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Carbon tetrachloride                   | ND     | 0.0034 | 0.038     |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Chlorobenzene                          | ND     | 0.0060 | 0.038     |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Chloroethane                           | ND     | 0.014  | 0.076     |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Chloroform                             | ND     | 0.0052 | 0.038     |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-13A-25.5

Project: Well Installations 2021

Collection Date: 7/19/2021 3:45:00 PM

Lab ID: 2107A83-004

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                           | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------------------|--------|--------|-------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |       |      |       |    | Analyst: JMR         |          |
| Chloromethane                      | ND     | 0.0036 | 0.11  |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 2-Chlorotoluene                    | ND     | 0.0078 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 4-Chlorotoluene                    | ND     | 0.024  | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| cis-1,2-DCE                        | ND     | 0.019  | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| cis-1,3-Dichloropropene            | ND     | 0.0050 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1,2-Dibromo-3-chloropropane        | ND     | 0.016  | 0.076 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Dibromochloromethane               | ND     | 0.0050 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Dibromomethane                     | ND     | 0.0058 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1,2-Dichlorobenzene                | ND     | 0.0079 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1,3-Dichlorobenzene                | ND     | 0.0072 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1,4-Dichlorobenzene                | ND     | 0.010  | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Dichlorodifluoromethane            | ND     | 0.012  | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1,1-Dichloroethane                 | ND     | 0.0063 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1,1-Dichloroethene                 | ND     | 0.0055 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1,2-Dichloropropane                | ND     | 0.0065 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1,3-Dichloropropane                | ND     | 0.0083 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 2,2-Dichloropropane                | ND     | 0.0044 | 0.076 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1,1-Dichloropropene                | ND     | 0.0040 | 0.076 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Hexachlorobutadiene                | ND     | 0.0099 | 0.076 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 2-Hexanone                         | ND     | 0.0072 | 0.38  |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Isopropylbenzene                   | ND     | 0.0070 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 4-Isopropyltoluene                 | ND     | 0.0097 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 4-Methyl-2-pentanone               | ND     | 0.044  | 0.38  |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Methylene chloride                 | ND     | 0.027  | 0.11  |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| n-Butylbenzene                     | ND     | 0.010  | 0.11  |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| n-Propylbenzene                    | ND     | 0.0061 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| sec-Butylbenzene                   | ND     | 0.031  | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Styrene                            | ND     | 0.0048 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| tert-Butylbenzene                  | ND     | 0.0088 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1,1,1,2-Tetrachloroethane          | ND     | 0.0033 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1,1,2,2-Tetrachloroethane          | ND     | 0.012  | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Tetrachloroethene (PCE)            | ND     | 0.010  | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| trans-1,2-DCE                      | ND     | 0.0065 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| trans-1,3-Dichloropropene          | ND     | 0.0089 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1,2,3-Trichlorobenzene             | ND     | 0.0026 | 0.076 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1,2,4-Trichlorobenzene             | ND     | 0.013  | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1,1,1-Trichloroethane              | ND     | 0.0084 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1,1,2-Trichloroethane              | ND     | 0.0034 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Trichloroethene (TCE)              | ND     | 0.0058 | 0.038 |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-13A-25.5

Project: Well Installations 2021

Collection Date: 7/19/2021 3:45:00 PM

Lab ID: 2107A83-004

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                                    | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------------------|--------|--------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |        |        |      |       |    | Analyst: JMR         |          |
| Trichlorofluoromethane                      | ND     | 0.0086 | 0.038  |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| 1,2,3-Trichloropropane                      | ND     | 0.016  | 0.076  |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Vinyl chloride                              | ND     | 0.0032 | 0.038  |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Xylenes, Total                              | ND     | 0.020  | 0.076  |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Surr: Dibromofluoromethane                  | 104    |        | 70-130 |      | %Rec  | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Surr: 1,2-Dichloroethane-d4                 | 100    |        | 70-130 |      | %Rec  | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Surr: Toluene-d8                            | 93.6   |        | 70-130 |      | %Rec  | 1  | 7/22/2021 8:39:14 PM | A80017   |
| Surr: 4-Bromofluorobenzene                  | 102    |        | 70-130 |      | %Rec  | 1  | 7/22/2021 8:39:14 PM | A80017   |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |        |        |      |       |    | Analyst: JMR         |          |
| Gasoline Range Organics (GRO)               | ND     | 1.1    | 3.8    |      | mg/Kg | 1  | 7/22/2021 8:39:14 PM | C80017   |
| Surr: BFB                                   | 99.3   | 0      | 70-130 |      | %Rec  | 1  | 7/22/2021 8:39:14 PM | C80017   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-68-22

Project: Well Installations 2021

Collection Date: 7/20/2021 5:15:00 PM

Lab ID: 2107A83-005

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed         | Batch ID            |
|--------------------------------------------------|--------|--------|--------|------|-------|----|-----------------------|---------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |    |                       | Analyst: <b>SB</b>  |
| Diesel Range Organics (DRO)                      | ND     | 4.4    | 9.0    |      | mg/Kg | 1  | 7/23/2021 7:33:59 PM  | 61498               |
| Motor Oil Range Organics (MRO)                   | ND     | 45     | 45     |      | mg/Kg | 1  | 7/23/2021 7:33:59 PM  | 61498               |
| Surr: DNOP                                       | 107    | 0      | 70-130 |      | %Rec  | 1  | 7/23/2021 7:33:59 PM  | 61498               |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |    |                       | Analyst: <b>ags</b> |
| Mercury                                          | ND     | 0.0028 | 0.035  |      | mg/Kg | 1  | 7/23/2021 10:12:53 AM | 61495               |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |    |                       | Analyst: <b>ags</b> |
| Arsenic                                          | ND     | 2.9    | 5.2    |      | mg/Kg | 2  | 7/23/2021 4:40:58 PM  | 61509               |
| Barium                                           | 400    | 0.13   | 0.21   |      | mg/Kg | 2  | 7/29/2021 2:38:24 PM  | 61509               |
| Cadmium                                          | ND     | 0.10   | 0.21   |      | mg/Kg | 2  | 7/23/2021 4:40:58 PM  | 61509               |
| Chromium                                         | 9.1    | 0.31   | 0.62   |      | mg/Kg | 2  | 7/29/2021 2:38:24 PM  | 61509               |
| Iron                                             | 11000  | 5.2    | 5.2    | E    | mg/Kg | 2  | 7/29/2021 2:38:24 PM  | 61509               |
| Lead                                             | 1.2    | 0.56   | 0.62   |      | mg/Kg | 2  | 7/29/2021 2:38:24 PM  | 61509               |
| Manganese                                        | 420    | 0.34   | 0.42   |      | mg/Kg | 2  | 7/23/2021 4:40:58 PM  | 61509               |
| Selenium                                         | ND     | 4.6    | 5.2    |      | mg/Kg | 2  | 7/29/2021 2:38:24 PM  | 61509               |
| Silver                                           | ND     | 0.30   | 0.52   |      | mg/Kg | 2  | 7/23/2021 4:40:58 PM  | 61509               |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |    |                       | Analyst: <b>DAM</b> |
| Acenaphthene                                     | ND     | 0.089  | 0.20   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| Acenaphthylene                                   | ND     | 0.090  | 0.20   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| Aniline                                          | ND     | 0.069  | 0.20   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| Anthracene                                       | ND     | 0.090  | 0.20   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| Azobenzene                                       | ND     | 0.099  | 0.20   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| Benz(a)anthracene                                | ND     | 0.064  | 0.20   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| Benzo(a)pyrene                                   | ND     | 0.094  | 0.20   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| Benzo(b)fluoranthene                             | ND     | 0.11   | 0.20   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| Benzo(g,h,i)perylene                             | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| Benzo(k)fluoranthene                             | ND     | 0.075  | 0.20   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| Benzoic acid                                     | ND     | 0.12   | 0.50   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| Benzyl alcohol                                   | ND     | 0.082  | 0.20   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| Bis(2-chloroethoxy)methane                       | ND     | 0.076  | 0.20   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| Bis(2-chloroethyl)ether                          | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| Bis(2-ethylhexyl)phthalate                       | 0.22   | 0.21   | 0.50   | J    | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| 4-Bromophenyl phenyl ether                       | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| Butyl benzyl phthalate                           | ND     | 0.061  | 0.20   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| Carbazole                                        | ND     | 0.088  | 0.20   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| 4-Chloro-3-methylphenol                          | ND     | 0.084  | 0.50   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| 4-Chloroaniline                                  | ND     | 0.097  | 0.50   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |
| 2-Chloronaphthalene                              | ND     | 0.094  | 0.25   |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM  | 61566               |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-68-22

Project: Well Installations 2021

Collection Date: 7/20/2021 5:15:00 PM

Lab ID: 2107A83-005

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                        | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| EPA METHOD 8270C: SEMIVOLATILES |        |       |      |      |       |    | Analyst: DAM         |          |
| 2-Chlorophenol                  | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 4-Chlorophenyl phenyl ether     | ND     | 0.084 | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Chrysene                        | ND     | 0.088 | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Di-n-butyl phthalate            | 0.36   | 0.28  | 0.40 | J    | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Di-n-octyl phthalate            | ND     | 0.13  | 0.40 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Dibenz(a,h)anthracene           | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Dibenzofuran                    | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 1,2-Dichlorobenzene             | ND     | 0.081 | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 1,3-Dichlorobenzene             | ND     | 0.071 | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 1,4-Dichlorobenzene             | ND     | 0.084 | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 3,3'-Dichlorobenzidine          | ND     | 0.15  | 0.25 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Diethyl phthalate               | 1.1    | 0.32  | 0.50 | B    | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Dimethyl phthalate              | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 2,4-Dichlorophenol              | ND     | 0.081 | 0.40 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 2,4-Dimethylphenol              | ND     | 0.071 | 0.30 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.084 | 0.40 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 2,4-Dinitrophenol               | ND     | 0.050 | 0.50 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 2,4-Dinitrotoluene              | ND     | 0.12  | 0.50 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 2,6-Dinitrotoluene              | ND     | 0.10  | 0.50 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Fluoranthene                    | ND     | 0.080 | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Fluorene                        | ND     | 0.089 | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Hexachlorobenzene               | ND     | 0.089 | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Hexachlorobutadiene             | ND     | 0.093 | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Hexachlorocyclopentadiene       | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Hexachloroethane                | ND     | 0.088 | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Indeno(1,2,3-cd)pyrene          | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Isophorone                      | ND     | 0.081 | 0.40 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 1-Methylnaphthalene             | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 2-Methylnaphthalene             | ND     | 0.082 | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 2-Methylphenol                  | ND     | 0.084 | 0.40 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 3+4-Methylphenol                | ND     | 0.082 | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| N-Nitrosodi-n-propylamine       | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| N-Nitrosodimethylamine          | ND     | 0.15  | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| N-Nitrosodiphenylamine          | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Naphthalene                     | ND     | 0.094 | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 2-Nitroaniline                  | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 3-Nitroaniline                  | ND     | 0.12  | 0.20 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 4-Nitroaniline                  | ND     | 0.13  | 0.40 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Nitrobenzene                    | ND     | 0.082 | 0.40 |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-68-22

Project: Well Installations 2021

Collection Date: 7/20/2021 5:15:00 PM

Lab ID: 2107A83-005

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                               | Result | MDL    | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|--------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |        |           |      |       |    | Analyst: <b>DAM</b>  |          |
| 2-Nitrophenol                          | ND     | 0.086  | 0.20      |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 4-Nitrophenol                          | ND     | 0.082  | 0.25      |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Pentachlorophenol                      | ND     | 0.086  | 0.40      |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Phenanthrene                           | ND     | 0.10   | 0.20      |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Phenol                                 | ND     | 0.077  | 0.20      |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Pyrene                                 | ND     | 0.075  | 0.20      |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Pyridine                               | ND     | 0.16   | 0.40      |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.091  | 0.20      |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 2,4,5-Trichlorophenol                  | ND     | 0.063  | 0.20      |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| 2,4,6-Trichlorophenol                  | ND     | 0.086  | 0.20      |      | mg/Kg | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Surr: 2-Fluorophenol                   | 55.1   |        | 20.3-74.1 |      | %Rec  | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Surr: Phenol-d5                        | 69.6   |        | 23.1-92.7 |      | %Rec  | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Surr: 2,4,6-Tribromophenol             | 83.6   |        | 17.3-122  |      | %Rec  | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Surr: Nitrobenzene-d5                  | 50.9   |        | 24.7-73.2 |      | %Rec  | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Surr: 2-Fluorobiphenyl                 | 51.2   |        | 21.5-90.1 |      | %Rec  | 1  | 7/28/2021 4:25:22 PM | 61566    |
| Surr: 4-Terphenyl-d14                  | 65.2   |        | 15-140    |      | %Rec  | 1  | 7/28/2021 4:25:22 PM | 61566    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |        |           |      |       |    | Analyst: <b>JMR</b>  |          |
| Benzene                                | ND     | 0.0049 | 0.013     |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Toluene                                | ND     | 0.0027 | 0.026     |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Ethylbenzene                           | ND     | 0.0063 | 0.026     |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Methyl tert-butyl ether (MTBE)         | 0.0055 | 0.0051 | 0.026     | J    | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1,2,4-Trimethylbenzene                 | ND     | 0.0036 | 0.026     |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1,3,5-Trimethylbenzene                 | ND     | 0.0058 | 0.026     |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1,2-Dichloroethane (EDC)               | ND     | 0.0059 | 0.026     |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1,2-Dibromoethane (EDB)                | ND     | 0.010  | 0.026     |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Naphthalene                            | ND     | 0.0047 | 0.051     |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1-Methylnaphthalene                    | ND     | 0.029  | 0.10      |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 2-Methylnaphthalene                    | ND     | 0.024  | 0.10      |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Acetone                                | 0.074  | 0.023  | 0.38      | J    | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Bromobenzene                           | ND     | 0.0021 | 0.026     |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Bromodichloromethane                   | ND     | 0.0024 | 0.026     |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Bromoform                              | ND     | 0.0062 | 0.026     |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Bromomethane                           | ND     | 0.022  | 0.077     |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 2-Butanone                             | 0.095  | 0.040  | 0.26      | J    | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Carbon disulfide                       | ND     | 0.0062 | 0.26      |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Carbon tetrachloride                   | ND     | 0.0023 | 0.026     |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Chlorobenzene                          | ND     | 0.0041 | 0.026     |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Chloroethane                           | ND     | 0.0096 | 0.051     |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Chloroform                             | ND     | 0.0035 | 0.026     |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-68-22

Project: Well Installations 2021

Collection Date: 7/20/2021 5:15:00 PM

Lab ID: 2107A83-005

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                    | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------|--------|--------|-------|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES |        |        |       |      |       |    | Analyst: JMR         |          |
| Chloromethane               | ND     | 0.0025 | 0.077 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 2-Chlorotoluene             | ND     | 0.0053 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 4-Chlorotoluene             | ND     | 0.016  | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| cis-1,2-DCE                 | ND     | 0.013  | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| cis-1,3-Dichloropropene     | ND     | 0.0034 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1,2-Dibromo-3-chloropropane | ND     | 0.011  | 0.051 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Dibromochloromethane        | ND     | 0.0034 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Dibromomethane              | ND     | 0.0039 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1,2-Dichlorobenzene         | ND     | 0.0053 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1,3-Dichlorobenzene         | ND     | 0.0048 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1,4-Dichlorobenzene         | ND     | 0.0069 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Dichlorodifluoromethane     | ND     | 0.0079 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1,1-Dichloroethane          | ND     | 0.0043 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1,1-Dichloroethene          | ND     | 0.0038 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1,2-Dichloropropane         | ND     | 0.0044 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1,3-Dichloropropane         | ND     | 0.0056 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 2,2-Dichloropropane         | ND     | 0.0030 | 0.051 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1,1-Dichloropropene         | ND     | 0.0027 | 0.051 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Hexachlorobutadiene         | ND     | 0.0067 | 0.051 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 2-Hexanone                  | ND     | 0.0049 | 0.26  |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Isopropylbenzene            | ND     | 0.0048 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 4-Isopropyltoluene          | ND     | 0.0066 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 4-Methyl-2-pentanone        | ND     | 0.030  | 0.26  |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Methylene chloride          | ND     | 0.019  | 0.077 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| n-Butylbenzene              | ND     | 0.0069 | 0.077 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| n-Propylbenzene             | ND     | 0.0041 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| sec-Butylbenzene            | ND     | 0.021  | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Styrene                     | ND     | 0.0032 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| tert-Butylbenzene           | ND     | 0.0059 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.0022 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.0083 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Tetrachloroethene (PCE)     | ND     | 0.0070 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| trans-1,2-DCE               | ND     | 0.0044 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| trans-1,3-Dichloropropene   | ND     | 0.0060 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1,2,3-Trichlorobenzene      | ND     | 0.0017 | 0.051 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1,2,4-Trichlorobenzene      | ND     | 0.0089 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1,1,1-Trichloroethane       | ND     | 0.0057 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1,1,2-Trichloroethane       | ND     | 0.0023 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Trichloroethene (TCE)       | ND     | 0.0039 | 0.026 |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-68-22

Project: Well Installations 2021

Collection Date: 7/20/2021 5:15:00 PM

Lab ID: 2107A83-005

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                                    | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------------------|--------|--------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |        |        |      |       |    | Analyst: JMR         |          |
| Trichlorofluoromethane                      | ND     | 0.0058 | 0.026  |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| 1,2,3-Trichloropropane                      | ND     | 0.011  | 0.051  |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Vinyl chloride                              | ND     | 0.0021 | 0.026  |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Xylenes, Total                              | ND     | 0.013  | 0.051  |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Surr: Dibromofluoromethane                  | 101    |        | 70-130 |      | %Rec  | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Surr: 1,2-Dichloroethane-d4                 | 99.2   |        | 70-130 |      | %Rec  | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Surr: Toluene-d8                            | 96.9   |        | 70-130 |      | %Rec  | 1  | 7/22/2021 9:07:57 PM | A80017   |
| Surr: 4-Bromofluorobenzene                  | 96.6   |        | 70-130 |      | %Rec  | 1  | 7/22/2021 9:07:57 PM | A80017   |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |        |        |      |       |    | Analyst: JMR         |          |
| Gasoline Range Organics (GRO)               | ND     | 0.71   | 2.6    |      | mg/Kg | 1  | 7/22/2021 9:07:57 PM | C80017   |
| Surr: BFB                                   | 93.6   | 0      | 70-130 |      | %Rec  | 1  | 7/22/2021 9:07:57 PM | C80017   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-68-26

Project: Well Installations 2021

Collection Date: 7/20/2021 3:20:00 PM

Lab ID: 2107A83-006

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed         | Batch ID            |
|--------------------------------------------------|--------|--------|--------|------|-------|----|-----------------------|---------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |    |                       | Analyst: <b>SB</b>  |
| Diesel Range Organics (DRO)                      | ND     | 4.3    | 8.7    |      | mg/Kg | 1  | 7/23/2021 7:45:38 PM  | 61498               |
| Motor Oil Range Organics (MRO)                   | ND     | 43     | 43     |      | mg/Kg | 1  | 7/23/2021 7:45:38 PM  | 61498               |
| Surr: DNOP                                       | 107    | 0      | 70-130 |      | %Rec  | 1  | 7/23/2021 7:45:38 PM  | 61498               |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |    |                       | Analyst: <b>ags</b> |
| Mercury                                          | ND     | 0.0027 | 0.035  |      | mg/Kg | 1  | 7/23/2021 10:15:00 AM | 61495               |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |    |                       | Analyst: <b>ags</b> |
| Arsenic                                          | ND     | 2.9    | 5.0    |      | mg/Kg | 2  | 7/23/2021 4:43:14 PM  | 61509               |
| Barium                                           | 800    | 1.2    | 2.0    |      | mg/Kg | 20 | 7/29/2021 2:42:54 PM  | 61509               |
| Cadmium                                          | ND     | 0.10   | 0.20   |      | mg/Kg | 2  | 7/23/2021 4:43:14 PM  | 61509               |
| Chromium                                         | 10     | 0.30   | 0.61   |      | mg/Kg | 2  | 7/29/2021 2:40:37 PM  | 61509               |
| Iron                                             | 14000  | 50     | 50     | E    | mg/Kg | 20 | 7/29/2021 2:42:54 PM  | 61509               |
| Lead                                             | ND     | 0.54   | 0.61   |      | mg/Kg | 2  | 7/23/2021 4:43:14 PM  | 61509               |
| Manganese                                        | 710    | 3.3    | 4.0    |      | mg/Kg | 20 | 7/29/2021 2:42:54 PM  | 61509               |
| Selenium                                         | ND     | 4.4    | 5.0    |      | mg/Kg | 2  | 7/29/2021 2:40:37 PM  | 61509               |
| Silver                                           | ND     | 0.29   | 0.50   |      | mg/Kg | 2  | 7/23/2021 4:43:14 PM  | 61509               |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |    |                       | Analyst: <b>DAM</b> |
| Acenaphthene                                     | ND     | 0.085  | 0.19   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| Acenaphthylene                                   | ND     | 0.086  | 0.19   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| Aniline                                          | ND     | 0.066  | 0.19   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| Anthracene                                       | ND     | 0.086  | 0.19   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| Azobenzene                                       | ND     | 0.095  | 0.19   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| Benz(a)anthracene                                | ND     | 0.061  | 0.19   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| Benzo(a)pyrene                                   | ND     | 0.089  | 0.19   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| Benzo(b)fluoranthene                             | ND     | 0.10   | 0.19   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| Benzo(g,h,i)perylene                             | ND     | 0.097  | 0.19   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| Benzo(k)fluoranthene                             | ND     | 0.071  | 0.19   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| Benzoic acid                                     | ND     | 0.12   | 0.47   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| Benzyl alcohol                                   | ND     | 0.078  | 0.19   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| Bis(2-chloroethoxy)methane                       | ND     | 0.073  | 0.19   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| Bis(2-chloroethyl)ether                          | ND     | 0.099  | 0.19   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.096  | 0.19   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| Bis(2-ethylhexyl)phthalate                       | 0.22   | 0.20   | 0.47   | J    | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| 4-Bromophenyl phenyl ether                       | ND     | 0.099  | 0.19   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| Butyl benzyl phthalate                           | ND     | 0.058  | 0.19   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| Carbazole                                        | ND     | 0.083  | 0.19   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| 4-Chloro-3-methylphenol                          | ND     | 0.080  | 0.47   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| 4-Chloroaniline                                  | ND     | 0.092  | 0.47   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |
| 2-Chloronaphthalene                              | ND     | 0.090  | 0.24   |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM  | 61566               |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-68-26

Project: Well Installations 2021

Collection Date: 7/20/2021 3:20:00 PM

Lab ID: 2107A83-006

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                               | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |      |      |       |    | Analyst: DAM         |          |
| 2-Chlorophenol                         | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 4-Chlorophenyl phenyl ether            | ND     | 0.080 | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Chrysene                               | ND     | 0.084 | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Di-n-butyl phthalate                   | 0.39   | 0.26  | 0.38 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Di-n-octyl phthalate                   | ND     | 0.12  | 0.38 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Dibenz(a,h)anthracene                  | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Dibenzofuran                           | ND     | 0.099 | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 1,2-Dichlorobenzene                    | ND     | 0.077 | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 1,3-Dichlorobenzene                    | ND     | 0.068 | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 1,4-Dichlorobenzene                    | ND     | 0.080 | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 3,3'-Dichlorobenzidine                 | ND     | 0.14  | 0.24 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Diethyl phthalate                      | 1.0    | 0.31  | 0.47 | B    | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Dimethyl phthalate                     | ND     | 0.088 | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 2,4-Dichlorophenol                     | ND     | 0.077 | 0.38 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 2,4-Dimethylphenol                     | ND     | 0.067 | 0.28 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 4,6-Dinitro-2-methylphenol             | ND     | 0.080 | 0.38 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 2,4-Dinitrophenol                      | ND     | 0.048 | 0.47 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 2,4-Dinitrotoluene                     | ND     | 0.12  | 0.47 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 2,6-Dinitrotoluene                     | ND     | 0.096 | 0.47 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Fluoranthene                           | ND     | 0.077 | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Fluorene                               | ND     | 0.085 | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Hexachlorobenzene                      | ND     | 0.084 | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Hexachlorobutadiene                    | ND     | 0.089 | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Hexachlorocyclopentadiene              | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Hexachloroethane                       | ND     | 0.084 | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Isophorone                             | ND     | 0.077 | 0.38 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 1-Methylnaphthalene                    | ND     | 0.087 | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 2-Methylnaphthalene                    | ND     | 0.078 | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 2-Methylphenol                         | ND     | 0.080 | 0.38 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 3+4-Methylphenol                       | ND     | 0.078 | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| N-Nitrosodi-n-propylamine              | ND     | 0.088 | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| N-Nitrosodimethylamine                 | ND     | 0.14  | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| N-Nitrosodiphenylamine                 | ND     | 0.099 | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Naphthalene                            | ND     | 0.089 | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 2-Nitroaniline                         | ND     | 0.097 | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 3-Nitroaniline                         | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 4-Nitroaniline                         | ND     | 0.12  | 0.38 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Nitrobenzene                           | ND     | 0.078 | 0.38 |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-68-26

Project: Well Installations 2021

Collection Date: 7/20/2021 3:20:00 PM

Lab ID: 2107A83-006

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                               | Result | MDL    | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|--------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |        |           |      |       |    | Analyst: <b>DAM</b>  |          |
| 2-Nitrophenol                          | ND     | 0.082  | 0.19      |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 4-Nitrophenol                          | ND     | 0.078  | 0.24      |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Pentachlorophenol                      | ND     | 0.082  | 0.38      |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Phenanthrene                           | ND     | 0.097  | 0.19      |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Phenol                                 | ND     | 0.073  | 0.19      |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Pyrene                                 | ND     | 0.072  | 0.19      |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Pyridine                               | ND     | 0.15   | 0.38      |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.087  | 0.19      |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 2,4,5-Trichlorophenol                  | ND     | 0.060  | 0.19      |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| 2,4,6-Trichlorophenol                  | ND     | 0.082  | 0.19      |      | mg/Kg | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Surr: 2-Fluorophenol                   | 40.4   |        | 20.3-74.1 |      | %Rec  | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Surr: Phenol-d5                        | 53.7   |        | 23.1-92.7 |      | %Rec  | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Surr: 2,4,6-Tribromophenol             | 77.9   |        | 17.3-122  |      | %Rec  | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Surr: Nitrobenzene-d5                  | 40.3   |        | 24.7-73.2 |      | %Rec  | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Surr: 2-Fluorobiphenyl                 | 40.6   |        | 21.5-90.1 |      | %Rec  | 1  | 7/28/2021 5:07:46 PM | 61566    |
| Surr: 4-Terphenyl-d14                  | 63.2   |        | 15-140    |      | %Rec  | 1  | 7/28/2021 5:07:46 PM | 61566    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |        |           |      |       |    | Analyst: <b>JMR</b>  |          |
| Benzene                                | ND     | 0.0054 | 0.014     |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Toluene                                | ND     | 0.0029 | 0.028     |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Ethylbenzene                           | ND     | 0.0068 | 0.028     |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Methyl tert-butyl ether (MTBE)         | 0.0057 | 0.0055 | 0.028     | J    | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1,2,4-Trimethylbenzene                 | ND     | 0.0039 | 0.028     |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1,3,5-Trimethylbenzene                 | ND     | 0.0063 | 0.028     |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1,2-Dichloroethane (EDC)               | ND     | 0.0063 | 0.028     |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1,2-Dibromoethane (EDB)                | ND     | 0.011  | 0.028     |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Naphthalene                            | ND     | 0.0051 | 0.056     |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1-Methylnaphthalene                    | ND     | 0.032  | 0.11      |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 2-Methylnaphthalene                    | ND     | 0.026  | 0.11      |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Acetone                                | 0.075  | 0.025  | 0.42      | J    | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Bromobenzene                           | ND     | 0.0022 | 0.028     |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Bromodichloromethane                   | ND     | 0.0026 | 0.028     |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Bromoform                              | ND     | 0.0067 | 0.028     |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Bromomethane                           | ND     | 0.024  | 0.084     |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 2-Butanone                             | 0.098  | 0.043  | 0.28      | J    | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Carbon disulfide                       | ND     | 0.0068 | 0.28      |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Carbon tetrachloride                   | ND     | 0.0025 | 0.028     |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Chlorobenzene                          | ND     | 0.0044 | 0.028     |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Chloroethane                           | ND     | 0.010  | 0.056     |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Chloroform                             | ND     | 0.0038 | 0.028     |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-68-26

Project: Well Installations 2021

Collection Date: 7/20/2021 3:20:00 PM

Lab ID: 2107A83-006

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                    | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------|--------|--------|-------|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES |        |        |       |      |       |    | Analyst: JMR         |          |
| Chloromethane               | ND     | 0.0027 | 0.084 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 2-Chlorotoluene             | ND     | 0.0058 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 4-Chlorotoluene             | ND     | 0.018  | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| cis-1,2-DCE                 | ND     | 0.014  | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| cis-1,3-Dichloropropene     | ND     | 0.0037 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1,2-Dibromo-3-chloropropane | ND     | 0.012  | 0.056 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Dibromochloromethane        | ND     | 0.0037 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Dibromomethane              | ND     | 0.0042 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1,2-Dichlorobenzene         | ND     | 0.0058 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1,3-Dichlorobenzene         | ND     | 0.0053 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1,4-Dichlorobenzene         | ND     | 0.0074 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Dichlorodifluoromethane     | ND     | 0.0085 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1,1-Dichloroethane          | ND     | 0.0047 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1,1-Dichloroethene          | ND     | 0.0041 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1,2-Dichloropropane         | ND     | 0.0048 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1,3-Dichloropropane         | ND     | 0.0061 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 2,2-Dichloropropane         | ND     | 0.0033 | 0.056 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1,1-Dichloropropene         | ND     | 0.0029 | 0.056 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Hexachlorobutadiene         | ND     | 0.0073 | 0.056 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 2-Hexanone                  | ND     | 0.0053 | 0.28  |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Isopropylbenzene            | ND     | 0.0052 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 4-Isopropyltoluene          | ND     | 0.0072 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 4-Methyl-2-pentanone        | ND     | 0.032  | 0.28  |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Methylene chloride          | ND     | 0.020  | 0.084 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| n-Butylbenzene              | ND     | 0.0074 | 0.084 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| n-Propylbenzene             | ND     | 0.0045 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| sec-Butylbenzene            | ND     | 0.023  | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Styrene                     | ND     | 0.0035 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| tert-Butylbenzene           | ND     | 0.0064 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.0024 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.0090 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Tetrachloroethene (PCE)     | ND     | 0.0076 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| trans-1,2-DCE               | ND     | 0.0048 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| trans-1,3-Dichloropropene   | ND     | 0.0065 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1,2,3-Trichlorobenzene      | ND     | 0.0019 | 0.056 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1,2,4-Trichlorobenzene      | ND     | 0.0097 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1,1,1-Trichloroethane       | ND     | 0.0061 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1,1,2-Trichloroethane       | ND     | 0.0025 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Trichloroethene (TCE)       | ND     | 0.0043 | 0.028 |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-68-26

Project: Well Installations 2021

Collection Date: 7/20/2021 3:20:00 PM

Lab ID: 2107A83-006

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                                    | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------------------|--------|--------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |        |        |      |       |    | Analyst: JMR         |          |
| Trichlorofluoromethane                      | ND     | 0.0063 | 0.028  |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| 1,2,3-Trichloropropane                      | ND     | 0.012  | 0.056  |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Vinyl chloride                              | ND     | 0.0023 | 0.028  |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Xylenes, Total                              | ND     | 0.015  | 0.056  |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Surr: Dibromofluoromethane                  | 100    |        | 70-130 |      | %Rec  | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Surr: 1,2-Dichloroethane-d4                 | 99.8   |        | 70-130 |      | %Rec  | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Surr: Toluene-d8                            | 95.2   |        | 70-130 |      | %Rec  | 1  | 7/22/2021 9:36:37 PM | A80017   |
| Surr: 4-Bromofluorobenzene                  | 103    |        | 70-130 |      | %Rec  | 1  | 7/22/2021 9:36:37 PM | A80017   |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |        |        |      |       |    | Analyst: JMR         |          |
| Gasoline Range Organics (GRO)               | ND     | 0.77   | 2.8    |      | mg/Kg | 1  | 7/22/2021 9:36:37 PM | C80017   |
| Surr: BFB                                   | 100    | 0      | 70-130 |      | %Rec  | 1  | 7/22/2021 9:36:37 PM | C80017   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-67-17

Project: Well Installations 2021

Collection Date: 7/20/2021 12:10:00 PM

Lab ID: 2107A83-007

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                                         | Result | MDL   | RL     | Qual | Units | DF | Date Analyzed         | Batch ID |
|--------------------------------------------------|--------|-------|--------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |       |        |      |       |    |                       |          |
|                                                  |        |       |        |      |       |    | Analyst: <b>SB</b>    |          |
| Diesel Range Organics (DRO)                      | ND     | 4.8   | 9.7    |      | mg/Kg | 1  | 7/23/2021 7:57:27 PM  | 61498    |
| Motor Oil Range Organics (MRO)                   | ND     | 49    | 49     |      | mg/Kg | 1  | 7/23/2021 7:57:27 PM  | 61498    |
| Surr: DNOP                                       | 107    | 0     | 70-130 |      | %Rec  | 1  | 7/23/2021 7:57:27 PM  | 61498    |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |       |        |      |       |    |                       |          |
|                                                  |        |       |        |      |       |    | Analyst: <b>ags</b>   |          |
| Mercury                                          | ND     | 0.012 | 0.16   |      | mg/Kg | 5  | 7/23/2021 10:38:09 AM | 61495    |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |       |        |      |       |    |                       |          |
|                                                  |        |       |        |      |       |    | Analyst: <b>ags</b>   |          |
| Arsenic                                          | ND     | 2.7   | 4.8    |      | mg/Kg | 2  | 7/23/2021 4:45:30 PM  | 61509    |
| Barium                                           | 650    | 1.1   | 1.9    |      | mg/Kg | 20 | 7/29/2021 2:47:17 PM  | 61509    |
| Cadmium                                          | ND     | 0.095 | 0.19   |      | mg/Kg | 2  | 7/23/2021 4:45:30 PM  | 61509    |
| Chromium                                         | 5.4    | 0.29  | 0.57   |      | mg/Kg | 2  | 7/29/2021 2:45:11 PM  | 61509    |
| Iron                                             | 8400   | 48    | 48     | E    | mg/Kg | 20 | 7/29/2021 2:47:17 PM  | 61509    |
| Lead                                             | 1.7    | 0.51  | 0.57   |      | mg/Kg | 2  | 7/29/2021 2:45:11 PM  | 61509    |
| Manganese                                        | 420    | 0.32  | 0.38   |      | mg/Kg | 2  | 7/23/2021 4:45:30 PM  | 61509    |
| Selenium                                         | ND     | 4.2   | 4.8    |      | mg/Kg | 2  | 7/29/2021 2:45:11 PM  | 61509    |
| Silver                                           | ND     | 0.28  | 0.48   |      | mg/Kg | 2  | 7/23/2021 4:45:30 PM  | 61509    |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |       |        |      |       |    |                       |          |
|                                                  |        |       |        |      |       |    | Analyst: <b>DAM</b>   |          |
| Acenaphthene                                     | ND     | 0.087 | 0.20   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Acenaphthylene                                   | ND     | 0.088 | 0.20   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Aniline                                          | ND     | 0.068 | 0.20   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Anthracene                                       | ND     | 0.088 | 0.20   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Azobenzene                                       | ND     | 0.098 | 0.20   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Benz(a)anthracene                                | ND     | 0.063 | 0.20   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Benzo(a)pyrene                                   | ND     | 0.092 | 0.20   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Benzo(b)fluoranthene                             | ND     | 0.10  | 0.20   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Benzo(g,h,i)perylene                             | ND     | 0.10  | 0.20   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Benzo(k)fluoranthene                             | ND     | 0.073 | 0.20   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Benzoic acid                                     | ND     | 0.12  | 0.49   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Benzyl alcohol                                   | ND     | 0.080 | 0.20   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Bis(2-chloroethoxy)methane                       | ND     | 0.075 | 0.20   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Bis(2-chloroethyl)ether                          | ND     | 0.10  | 0.20   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.099 | 0.20   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Bis(2-ethylhexyl)phthalate                       | ND     | 0.21  | 0.49   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| 4-Bromophenyl phenyl ether                       | ND     | 0.10  | 0.20   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Butyl benzyl phthalate                           | ND     | 0.059 | 0.20   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Carbazole                                        | ND     | 0.086 | 0.20   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| 4-Chloro-3-methylphenol                          | ND     | 0.082 | 0.49   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| 4-Chloroaniline                                  | ND     | 0.095 | 0.49   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| 2-Chloronaphthalene                              | ND     | 0.093 | 0.24   |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-67-17

Project: Well Installations 2021

Collection Date: 7/20/2021 12:10:00 PM

Lab ID: 2107A83-007

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                        | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| EPA METHOD 8270C: SEMIVOLATILES |        |       |      |      |       |    | Analyst: DAM         |          |
| 2-Chlorophenol                  | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| 4-Chlorophenyl phenyl ether     | ND     | 0.083 | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| Chrysene                        | ND     | 0.086 | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| Di-n-butyl phthalate            | ND     | 0.27  | 0.39 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| Di-n-octyl phthalate            | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| Dibenz(a,h)anthracene           | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| Dibenzofuran                    | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| 1,2-Dichlorobenzene             | ND     | 0.079 | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| 1,3-Dichlorobenzene             | ND     | 0.070 | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| 1,4-Dichlorobenzene             | ND     | 0.083 | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| 3,3'-Dichlorobenzidine          | ND     | 0.15  | 0.24 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| Diethyl phthalate               | 0.80   | 0.32  | 0.49 | B    | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| Dimethyl phthalate              | ND     | 0.090 | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| 2,4-Dichlorophenol              | ND     | 0.079 | 0.39 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| 2,4-Dimethylphenol              | ND     | 0.069 | 0.29 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.082 | 0.39 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| 2,4-Dinitrophenol               | ND     | 0.049 | 0.49 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| 2,4-Dinitrotoluene              | ND     | 0.12  | 0.49 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| 2,6-Dinitrotoluene              | ND     | 0.099 | 0.49 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| Fluoranthene                    | ND     | 0.079 | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| Fluorene                        | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| Hexachlorobenzene               | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| Hexachlorobutadiene             | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| Hexachlorocyclopentadiene       | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| Hexachloroethane                | ND     | 0.086 | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| Indeno(1,2,3-cd)pyrene          | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| Isophorone                      | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| 1-Methylnaphthalene             | ND     | 0.090 | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| 2-Methylnaphthalene             | ND     | 0.081 | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| 2-Methylphenol                  | ND     | 0.082 | 0.39 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| 3+4-Methylphenol                | ND     | 0.081 | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| N-Nitrosodi-n-propylamine       | ND     | 0.090 | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| N-Nitrosodimethylamine          | ND     | 0.15  | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| N-Nitrosodiphenylamine          | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| Naphthalene                     | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| 2-Nitroaniline                  | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| 3-Nitroaniline                  | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| 4-Nitroaniline                  | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |
| Nitrobenzene                    | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM | 61566    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-67-17

Project: Well Installations 2021

Collection Date: 7/20/2021 12:10:00 PM

Lab ID: 2107A83-007

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                               | Result | MDL    | RL        | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------------|--------|--------|-----------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |        |           |      |       |    | Analyst: <b>DAM</b>   |          |
| 2-Nitrophenol                          | ND     | 0.084  | 0.20      |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| 4-Nitrophenol                          | ND     | 0.080  | 0.24      |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Pentachlorophenol                      | ND     | 0.084  | 0.39      |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Phenanthrene                           | ND     | 0.10   | 0.20      |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Phenol                                 | ND     | 0.075  | 0.20      |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Pyrene                                 | ND     | 0.074  | 0.20      |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Pyridine                               | ND     | 0.16   | 0.39      |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.090  | 0.20      |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| 2,4,5-Trichlorophenol                  | ND     | 0.062  | 0.20      |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| 2,4,6-Trichlorophenol                  | ND     | 0.084  | 0.20      |      | mg/Kg | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Surr: 2-Fluorophenol                   | 51.6   |        | 20.3-74.1 |      | %Rec  | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Surr: Phenol-d5                        | 63.7   |        | 23.1-92.7 |      | %Rec  | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Surr: 2,4,6-Tribromophenol             | 79.1   |        | 17.3-122  |      | %Rec  | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Surr: Nitrobenzene-d5                  | 53.0   |        | 24.7-73.2 |      | %Rec  | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Surr: 2-Fluorobiphenyl                 | 53.4   |        | 21.5-90.1 |      | %Rec  | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| Surr: 4-Terphenyl-d14                  | 58.2   |        | 15-140    |      | %Rec  | 1  | 7/28/2021 5:50:05 PM  | 61566    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |        |           |      |       |    | Analyst: <b>JMR</b>   |          |
| Benzene                                | ND     | 0.0055 | 0.014     |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Toluene                                | ND     | 0.0030 | 0.029     |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Ethylbenzene                           | ND     | 0.0070 | 0.029     |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Methyl tert-butyl ether (MTBE)         | ND     | 0.0057 | 0.029     |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1,2,4-Trimethylbenzene                 | ND     | 0.0040 | 0.029     |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1,3,5-Trimethylbenzene                 | ND     | 0.0064 | 0.029     |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1,2-Dichloroethane (EDC)               | ND     | 0.0065 | 0.029     |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1,2-Dibromoethane (EDB)                | ND     | 0.011  | 0.029     |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Naphthalene                            | ND     | 0.0052 | 0.057     |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1-Methylnaphthalene                    | ND     | 0.033  | 0.11      |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 2-Methylnaphthalene                    | ND     | 0.026  | 0.11      |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Acetone                                | ND     | 0.026  | 0.43      |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Bromobenzene                           | ND     | 0.0023 | 0.029     |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Bromodichloromethane                   | ND     | 0.0027 | 0.029     |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Bromoform                              | ND     | 0.0069 | 0.029     |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Bromomethane                           | ND     | 0.025  | 0.086     |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 2-Butanone                             | 0.080  | 0.044  | 0.29      | J    | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Carbon disulfide                       | ND     | 0.0070 | 0.29      |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Carbon tetrachloride                   | ND     | 0.0025 | 0.029     |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Chlorobenzene                          | ND     | 0.0045 | 0.029     |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Chloroethane                           | ND     | 0.011  | 0.057     |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Chloroform                             | ND     | 0.0039 | 0.029     |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-67-17

Project: Well Installations 2021

Collection Date: 7/20/2021 12:10:00 PM

Lab ID: 2107A83-007

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                           | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed         | Batch ID |
|------------------------------------|--------|--------|-------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |       |      |       |    | Analyst: JMR          |          |
| Chloromethane                      | ND     | 0.0028 | 0.086 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 2-Chlorotoluene                    | ND     | 0.0059 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 4-Chlorotoluene                    | ND     | 0.018  | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| cis-1,2-DCE                        | ND     | 0.014  | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| cis-1,3-Dichloropropene            | ND     | 0.0038 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1,2-Dibromo-3-chloropropane        | ND     | 0.012  | 0.057 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Dibromochloromethane               | ND     | 0.0038 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Dibromomethane                     | ND     | 0.0044 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1,2-Dichlorobenzene                | ND     | 0.0060 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1,3-Dichlorobenzene                | ND     | 0.0054 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1,4-Dichlorobenzene                | ND     | 0.0077 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Dichlorodifluoromethane            | ND     | 0.0088 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1,1-Dichloroethane                 | ND     | 0.0048 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1,1-Dichloroethene                 | ND     | 0.0042 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1,2-Dichloropropane                | ND     | 0.0049 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1,3-Dichloropropane                | ND     | 0.0063 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 2,2-Dichloropropane                | ND     | 0.0034 | 0.057 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1,1-Dichloropropene                | ND     | 0.0030 | 0.057 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Hexachlorobutadiene                | ND     | 0.0075 | 0.057 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 2-Hexanone                         | ND     | 0.0055 | 0.29  |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Isopropylbenzene                   | ND     | 0.0053 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 4-Isopropyltoluene                 | ND     | 0.0074 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 4-Methyl-2-pentanone               | ND     | 0.033  | 0.29  |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Methylene chloride                 | ND     | 0.021  | 0.086 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| n-Butylbenzene                     | ND     | 0.0077 | 0.086 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| n-Propylbenzene                    | ND     | 0.0046 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| sec-Butylbenzene                   | ND     | 0.024  | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Styrene                            | ND     | 0.0036 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| tert-Butylbenzene                  | ND     | 0.0066 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1,1,1,2-Tetrachloroethane          | ND     | 0.0025 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1,1,2,2-Tetrachloroethane          | ND     | 0.0093 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Tetrachloroethene (PCE)            | ND     | 0.0078 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| trans-1,2-DCE                      | ND     | 0.0049 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| trans-1,3-Dichloropropene          | ND     | 0.0067 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1,2,3-Trichlorobenzene             | ND     | 0.0019 | 0.057 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1,2,4-Trichlorobenzene             | ND     | 0.010  | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1,1,1-Trichloroethane              | ND     | 0.0063 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1,1,2-Trichloroethane              | ND     | 0.0025 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Trichloroethene (TCE)              | ND     | 0.0044 | 0.029 |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-67-17

Project: Well Installations 2021

Collection Date: 7/20/2021 12:10:00 PM

Lab ID: 2107A83-007

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                                    | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed         | Batch ID |
|---------------------------------------------|--------|--------|--------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |        |        |      |       |    | Analyst: JMR          |          |
| Trichlorofluoromethane                      | ND     | 0.0065 | 0.029  |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| 1,2,3-Trichloropropane                      | ND     | 0.012  | 0.057  |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Vinyl chloride                              | ND     | 0.0024 | 0.029  |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Xylenes, Total                              | ND     | 0.015  | 0.057  |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Surr: Dibromofluoromethane                  | 99.8   |        | 70-130 |      | %Rec  | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Surr: 1,2-Dichloroethane-d4                 | 105    |        | 70-130 |      | %Rec  | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Surr: Toluene-d8                            | 94.8   |        | 70-130 |      | %Rec  | 1  | 7/22/2021 10:05:14 PM | A80017   |
| Surr: 4-Bromofluorobenzene                  | 102    |        | 70-130 |      | %Rec  | 1  | 7/22/2021 10:05:14 PM | A80017   |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |        |        |      |       |    | Analyst: JMR          |          |
| Gasoline Range Organics (GRO)               | ND     | 0.80   | 2.9    |      | mg/Kg | 1  | 7/22/2021 10:05:14 PM | C80017   |
| Surr: BFB                                   | 97.5   | 0      | 70-130 |      | %Rec  | 1  | 7/22/2021 10:05:14 PM | C80017   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-67-26

Project: Well Installations 2021

Collection Date: 7/20/2021 12:25:00 PM

Lab ID: 2107A83-008

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed         | Batch ID |
|--------------------------------------------------|--------|--------|--------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |    |                       |          |
|                                                  |        |        |        |      |       |    | Analyst: <b>SB</b>    |          |
| Diesel Range Organics (DRO)                      | ND     | 4.8    | 9.7    |      | mg/Kg | 1  | 7/23/2021 8:09:30 PM  | 61498    |
| Motor Oil Range Organics (MRO)                   | ND     | 48     | 48     |      | mg/Kg | 1  | 7/23/2021 8:09:30 PM  | 61498    |
| Surr: DNOP                                       | 111    | 0      | 70-130 |      | %Rec  | 1  | 7/23/2021 8:09:30 PM  | 61498    |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |    |                       |          |
|                                                  |        |        |        |      |       |    | Analyst: <b>ags</b>   |          |
| Mercury                                          | ND     | 0.0026 | 0.033  |      | mg/Kg | 1  | 7/23/2021 10:27:39 AM | 61495    |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |    |                       |          |
|                                                  |        |        |        |      |       |    | Analyst: <b>ags</b>   |          |
| Arsenic                                          | ND     | 2.7    | 4.8    |      | mg/Kg | 2  | 7/23/2021 4:47:41 PM  | 61509    |
| Barium                                           | 340    | 0.12   | 0.19   |      | mg/Kg | 2  | 7/29/2021 2:49:28 PM  | 61509    |
| Cadmium                                          | ND     | 0.096  | 0.19   |      | mg/Kg | 2  | 7/23/2021 4:47:41 PM  | 61509    |
| Chromium                                         | 7.1    | 0.29   | 0.58   |      | mg/Kg | 2  | 7/29/2021 2:49:28 PM  | 61509    |
| Iron                                             | 10000  | 48     | 48     | E    | mg/Kg | 20 | 7/29/2021 3:00:19 PM  | 61509    |
| Lead                                             | 1.3    | 0.51   | 0.58   |      | mg/Kg | 2  | 7/29/2021 2:49:28 PM  | 61509    |
| Manganese                                        | 450    | 0.32   | 0.38   |      | mg/Kg | 2  | 7/23/2021 4:47:41 PM  | 61509    |
| Selenium                                         | ND     | 4.2    | 4.8    |      | mg/Kg | 2  | 7/29/2021 2:49:28 PM  | 61509    |
| Silver                                           | ND     | 0.28   | 0.48   |      | mg/Kg | 2  | 7/23/2021 4:47:41 PM  | 61509    |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |    |                       |          |
|                                                  |        |        |        |      |       |    | Analyst: <b>DAM</b>   |          |
| Acenaphthene                                     | ND     | 0.088  | 0.20   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Acenaphthylene                                   | ND     | 0.089  | 0.20   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Aniline                                          | ND     | 0.068  | 0.20   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Anthracene                                       | ND     | 0.089  | 0.20   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Azobenzene                                       | ND     | 0.098  | 0.20   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Benz(a)anthracene                                | ND     | 0.063  | 0.20   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Benzo(a)pyrene                                   | ND     | 0.092  | 0.20   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Benzo(b)fluoranthene                             | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Benzo(g,h,i)perylene                             | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Benzo(k)fluoranthene                             | ND     | 0.074  | 0.20   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Benzoic acid                                     | ND     | 0.12   | 0.49   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Benzyl alcohol                                   | ND     | 0.080  | 0.20   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Bis(2-chloroethoxy)methane                       | ND     | 0.075  | 0.20   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Bis(2-chloroethyl)ether                          | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Bis(2-ethylhexyl)phthalate                       | 0.22   | 0.21   | 0.49   | J    | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| 4-Bromophenyl phenyl ether                       | ND     | 0.10   | 0.20   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Butyl benzyl phthalate                           | ND     | 0.060  | 0.20   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Carbazole                                        | ND     | 0.086  | 0.20   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| 4-Chloro-3-methylphenol                          | ND     | 0.083  | 0.49   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| 4-Chloroaniline                                  | ND     | 0.095  | 0.49   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| 2-Chloronaphthalene                              | ND     | 0.093  | 0.25   |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-67-26

Project: Well Installations 2021

Collection Date: 7/20/2021 12:25:00 PM

Lab ID: 2107A83-008

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                        | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| EPA METHOD 8270C: SEMIVOLATILES |        |       |      |      |       |    | Analyst: DAM         |          |
| 2-Chlorophenol                  | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| 4-Chlorophenyl phenyl ether     | ND     | 0.083 | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| Chrysene                        | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| Di-n-butyl phthalate            | 0.30   | 0.27  | 0.39 | J    | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| Di-n-octyl phthalate            | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| Dibenz(a,h)anthracene           | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| Dibenzofuran                    | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| 1,2-Dichlorobenzene             | ND     | 0.079 | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| 1,3-Dichlorobenzene             | ND     | 0.070 | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| 1,4-Dichlorobenzene             | ND     | 0.083 | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| 3,3'-Dichlorobenzidine          | ND     | 0.15  | 0.25 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| Diethyl phthalate               | 0.92   | 0.32  | 0.49 | B    | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| Dimethyl phthalate              | ND     | 0.091 | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| 2,4-Dichlorophenol              | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| 2,4-Dimethylphenol              | ND     | 0.070 | 0.29 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.083 | 0.39 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| 2,4-Dinitrophenol               | ND     | 0.049 | 0.49 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| 2,4-Dinitrotoluene              | ND     | 0.12  | 0.49 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| 2,6-Dinitrotoluene              | ND     | 0.10  | 0.49 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| Fluoranthene                    | ND     | 0.079 | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| Fluorene                        | ND     | 0.088 | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| Hexachlorobenzene               | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| Hexachlorobutadiene             | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| Hexachlorocyclopentadiene       | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| Hexachloroethane                | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| Indeno(1,2,3-cd)pyrene          | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| Isophorone                      | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| 1-Methylnaphthalene             | ND     | 0.090 | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| 2-Methylnaphthalene             | ND     | 0.081 | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| 2-Methylphenol                  | ND     | 0.083 | 0.39 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| 3+4-Methylphenol                | ND     | 0.081 | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| N-Nitrosodi-n-propylamine       | ND     | 0.091 | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| N-Nitrosodimethylamine          | ND     | 0.15  | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| N-Nitrosodiphenylamine          | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| Naphthalene                     | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| 2-Nitroaniline                  | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| 3-Nitroaniline                  | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| 4-Nitroaniline                  | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |
| Nitrobenzene                    | ND     | 0.081 | 0.39 |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM | 61566    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-67-26

Project: Well Installations 2021

Collection Date: 7/20/2021 12:25:00 PM

Lab ID: 2107A83-008

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                               | Result | MDL    | RL        | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------------|--------|--------|-----------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |        |           |      |       |    | Analyst: <b>DAM</b>   |          |
| 2-Nitrophenol                          | ND     | 0.085  | 0.20      |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| 4-Nitrophenol                          | ND     | 0.081  | 0.25      |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Pentachlorophenol                      | ND     | 0.085  | 0.39      |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Phenanthrene                           | ND     | 0.10   | 0.20      |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Phenol                                 | ND     | 0.076  | 0.20      |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Pyrene                                 | ND     | 0.074  | 0.20      |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Pyridine                               | ND     | 0.16   | 0.39      |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.090  | 0.20      |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| 2,4,5-Trichlorophenol                  | ND     | 0.063  | 0.20      |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| 2,4,6-Trichlorophenol                  | ND     | 0.085  | 0.20      |      | mg/Kg | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Surr: 2-Fluorophenol                   | 55.1   |        | 20.3-74.1 |      | %Rec  | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Surr: Phenol-d5                        | 69.8   |        | 23.1-92.7 |      | %Rec  | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Surr: 2,4,6-Tribromophenol             | 75.9   |        | 17.3-122  |      | %Rec  | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Surr: Nitrobenzene-d5                  | 52.2   |        | 24.7-73.2 |      | %Rec  | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Surr: 2-Fluorobiphenyl                 | 47.7   |        | 21.5-90.1 |      | %Rec  | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| Surr: 4-Terphenyl-d14                  | 61.0   |        | 15-140    |      | %Rec  | 1  | 7/28/2021 6:32:14 PM  | 61566    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |        |           |      |       |    | Analyst: <b>JMR</b>   |          |
| Benzene                                | ND     | 0.0044 | 0.012     |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Toluene                                | ND     | 0.0024 | 0.023     |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Ethylbenzene                           | ND     | 0.0056 | 0.023     |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Methyl tert-butyl ether (MTBE)         | ND     | 0.0046 | 0.023     |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1,2,4-Trimethylbenzene                 | ND     | 0.0033 | 0.023     |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1,3,5-Trimethylbenzene                 | ND     | 0.0052 | 0.023     |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1,2-Dichloroethane (EDC)               | ND     | 0.0053 | 0.023     |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1,2-Dibromoethane (EDB)                | ND     | 0.0091 | 0.023     |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Naphthalene                            | ND     | 0.0042 | 0.046     |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1-Methylnaphthalene                    | ND     | 0.027  | 0.092     |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 2-Methylnaphthalene                    | ND     | 0.021  | 0.092     |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Acetone                                | ND     | 0.021  | 0.35      |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Bromobenzene                           | ND     | 0.0018 | 0.023     |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Bromodichloromethane                   | ND     | 0.0021 | 0.023     |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Bromoform                              | ND     | 0.0056 | 0.023     |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Bromomethane                           | ND     | 0.020  | 0.069     |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 2-Butanone                             | 0.057  | 0.036  | 0.23      | J    | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Carbon disulfide                       | ND     | 0.0056 | 0.23      |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Carbon tetrachloride                   | ND     | 0.0020 | 0.023     |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Chlorobenzene                          | ND     | 0.0037 | 0.023     |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Chloroethane                           | ND     | 0.0086 | 0.046     |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Chloroform                             | ND     | 0.0032 | 0.023     |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-67-26

Project: Well Installations 2021

Collection Date: 7/20/2021 12:25:00 PM

Lab ID: 2107A83-008

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                    | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed         | Batch ID |
|-----------------------------|--------|--------|-------|------|-------|----|-----------------------|----------|
| EPA METHOD 8260B: VOLATILES |        |        |       |      |       |    | Analyst: JMR          |          |
| Chloromethane               | ND     | 0.0022 | 0.069 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 2-Chlorotoluene             | ND     | 0.0048 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 4-Chlorotoluene             | ND     | 0.015  | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| cis-1,2-DCE                 | ND     | 0.011  | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| cis-1,3-Dichloropropene     | ND     | 0.0030 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1,2-Dibromo-3-chloropropane | ND     | 0.010  | 0.046 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Dibromochloromethane        | ND     | 0.0030 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Dibromomethane              | ND     | 0.0035 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1,2-Dichlorobenzene         | ND     | 0.0048 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1,3-Dichlorobenzene         | ND     | 0.0044 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1,4-Dichlorobenzene         | ND     | 0.0062 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Dichlorodifluoromethane     | ND     | 0.0071 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1,1-Dichloroethane          | ND     | 0.0039 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1,1-Dichloroethene          | ND     | 0.0034 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1,2-Dichloropropane         | ND     | 0.0040 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1,3-Dichloropropane         | ND     | 0.0051 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 2,2-Dichloropropane         | ND     | 0.0027 | 0.046 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1,1-Dichloropropene         | ND     | 0.0024 | 0.046 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Hexachlorobutadiene         | ND     | 0.0060 | 0.046 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 2-Hexanone                  | ND     | 0.0044 | 0.23  |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Isopropylbenzene            | ND     | 0.0043 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 4-Isopropyltoluene          | ND     | 0.0060 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 4-Methyl-2-pentanone        | ND     | 0.027  | 0.23  |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Methylene chloride          | ND     | 0.017  | 0.069 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| n-Butylbenzene              | ND     | 0.0062 | 0.069 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| n-Propylbenzene             | ND     | 0.0037 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| sec-Butylbenzene            | ND     | 0.019  | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Styrene                     | ND     | 0.0029 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| tert-Butylbenzene           | ND     | 0.0054 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.0020 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.0075 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Tetrachloroethene (PCE)     | ND     | 0.0063 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| trans-1,2-DCE               | ND     | 0.0040 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| trans-1,3-Dichloropropene   | ND     | 0.0054 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1,2,3-Trichlorobenzene      | ND     | 0.0016 | 0.046 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1,2,4-Trichlorobenzene      | ND     | 0.0080 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1,1,1-Trichloroethane       | ND     | 0.0051 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1,1,2-Trichloroethane       | ND     | 0.0020 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Trichloroethene (TCE)       | ND     | 0.0036 | 0.023 |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-67-26

Project: Well Installations 2021

Collection Date: 7/20/2021 12:25:00 PM

Lab ID: 2107A83-008

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                                    | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed         | Batch ID |
|---------------------------------------------|--------|--------|--------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |        |        |      |       |    | Analyst: JMR          |          |
| Trichlorofluoromethane                      | ND     | 0.0052 | 0.023  |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| 1,2,3-Trichloropropane                      | ND     | 0.0097 | 0.046  |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Vinyl chloride                              | ND     | 0.0019 | 0.023  |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Xylenes, Total                              | ND     | 0.012  | 0.046  |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Surr: Dibromofluoromethane                  | 103    |        | 70-130 |      | %Rec  | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Surr: 1,2-Dichloroethane-d4                 | 106    |        | 70-130 |      | %Rec  | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Surr: Toluene-d8                            | 95.7   |        | 70-130 |      | %Rec  | 1  | 7/22/2021 10:33:50 PM | A80017   |
| Surr: 4-Bromofluorobenzene                  | 103    |        | 70-130 |      | %Rec  | 1  | 7/22/2021 10:33:50 PM | A80017   |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |        |        |      |       |    | Analyst: JMR          |          |
| Gasoline Range Organics (GRO)               | ND     | 0.64   | 2.3    |      | mg/Kg | 1  | 7/22/2021 10:33:50 PM | C80017   |
| Surr: BFB                                   | 100    | 0      | 70-130 |      | %Rec  | 1  | 7/22/2021 10:33:50 PM | C80017   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MeOH Blank

Project: Well Installations 2021

Collection Date:

Lab ID: 2107A83-009

Matrix: MEOH BLAN

Received Date: 7/21/2021 4:10:00 PM

| Analyses                       | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed        | Batch ID |
|--------------------------------|--------|--------|-------|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES    |        |        |       |      |       |    | Analyst: JMR         |          |
| Benzene                        | ND     | 0.0096 | 0.025 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Toluene                        | ND     | 0.0052 | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Ethylbenzene                   | ND     | 0.012  | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Methyl tert-butyl ether (MTBE) | 0.017  | 0.010  | 0.050 | J    | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 1,2,4-Trimethylbenzene         | ND     | 0.0071 | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 1,3,5-Trimethylbenzene         | ND     | 0.011  | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 1,2-Dichloroethane (EDC)       | ND     | 0.011  | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 1,2-Dibromoethane (EDB)        | ND     | 0.020  | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Naphthalene                    | ND     | 0.0092 | 0.10  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 1-Methylnaphthalene            | ND     | 0.057  | 0.20  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 2-Methylnaphthalene            | ND     | 0.046  | 0.20  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Acetone                        | ND     | 0.045  | 0.75  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Bromobenzene                   | ND     | 0.0040 | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Bromodichloromethane           | ND     | 0.0046 | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Bromoform                      | ND     | 0.012  | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Bromomethane                   | ND     | 0.044  | 0.15  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 2-Butanone                     | 0.15   | 0.077  | 0.50  | J    | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Carbon disulfide               | ND     | 0.012  | 0.50  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Carbon tetrachloride           | ND     | 0.0044 | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Chlorobenzene                  | ND     | 0.0079 | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Chloroethane                   | ND     | 0.019  | 0.10  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Chloroform                     | ND     | 0.0069 | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Chloromethane                  | ND     | 0.0048 | 0.15  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 2-Chlorotoluene                | ND     | 0.010  | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 4-Chlorotoluene                | ND     | 0.032  | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| cis-1,2-DCE                    | ND     | 0.025  | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| cis-1,3-Dichloropropene        | ND     | 0.0066 | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 1,2-Dibromo-3-chloropropane    | ND     | 0.022  | 0.10  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Dibromochloromethane           | ND     | 0.0066 | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Dibromomethane                 | ND     | 0.0076 | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 1,2-Dichlorobenzene            | ND     | 0.010  | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 1,3-Dichlorobenzene            | ND     | 0.0094 | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 1,4-Dichlorobenzene            | ND     | 0.013  | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Dichlorodifluoromethane        | ND     | 0.015  | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 1,1-Dichloroethane             | ND     | 0.0084 | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 1,1-Dichloroethene             | ND     | 0.0073 | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 1,2-Dichloropropane            | ND     | 0.0086 | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 1,3-Dichloropropane            | ND     | 0.011  | 0.050 |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 2,2-Dichloropropane            | ND     | 0.0059 | 0.10  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MeOH Blank

Project: Well Installations 2021

Collection Date:

Lab ID: 2107A83-009

Matrix: MEOH BLAN

Received Date: 7/21/2021 4:10:00 PM

| Analyses                           | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------------------|--------|--------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |        |      |       |    | Analyst: JMR         |          |
| 1,1-Dichloropropene                | ND     | 0.0053 | 0.10   |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Hexachlorobutadiene                | ND     | 0.013  | 0.10   |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 2-Hexanone                         | ND     | 0.0095 | 0.50   |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Isopropylbenzene                   | ND     | 0.0093 | 0.050  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 4-Isopropyltoluene                 | ND     | 0.013  | 0.050  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 4-Methyl-2-pentanone               | ND     | 0.058  | 0.50   |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Methylene chloride                 | ND     | 0.036  | 0.15   |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| n-Butylbenzene                     | ND     | 0.013  | 0.15   |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| n-Propylbenzene                    | ND     | 0.0081 | 0.050  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| sec-Butylbenzene                   | ND     | 0.041  | 0.050  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Styrene                            | ND     | 0.0063 | 0.050  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| tert-Butylbenzene                  | ND     | 0.012  | 0.050  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 1,1,1,2-Tetrachloroethane          | ND     | 0.0044 | 0.050  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 1,1,2,2-Tetrachloroethane          | ND     | 0.016  | 0.050  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Tetrachloroethene (PCE)            | ND     | 0.014  | 0.050  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| trans-1,2-DCE                      | ND     | 0.0085 | 0.050  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| trans-1,3-Dichloropropene          | ND     | 0.012  | 0.050  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 1,2,3-Trichlorobenzene             | ND     | 0.0034 | 0.10   |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 1,2,4-Trichlorobenzene             | ND     | 0.017  | 0.050  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 1,1,1-Trichloroethane              | ND     | 0.011  | 0.050  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 1,1,2-Trichloroethane              | ND     | 0.0044 | 0.050  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Trichloroethene (TCE)              | ND     | 0.0077 | 0.050  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Trichlorofluoromethane             | ND     | 0.011  | 0.050  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| 1,2,3-Trichloropropane             | ND     | 0.021  | 0.10   |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Vinyl chloride                     | ND     | 0.0042 | 0.050  |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Xylenes, Total                     | ND     | 0.026  | 0.10   |      | mg/Kg | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Surr: Dibromofluoromethane         | 102    |        | 70-130 |      | %Rec  | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Surr: 1,2-Dichloroethane-d4        | 104    |        | 70-130 |      | %Rec  | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Surr: Toluene-d8                   | 97.4   |        | 70-130 |      | %Rec  | 1  | 7/23/2021 1:25:20 AM | A80017   |
| Surr: 4-Bromofluorobenzene         | 102    |        | 70-130 |      | %Rec  | 1  | 7/23/2021 1:25:20 AM | A80017   |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-69-26

Project: Well Installations 2021

Collection Date: 7/21/2021 12:10:00 PM

Lab ID: 2107A83-010

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed         | Batch ID            |
|--------------------------------------------------|--------|--------|--------|------|-------|----|-----------------------|---------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |    |                       | Analyst: <b>CLP</b> |
| Diesel Range Organics (DRO)                      | ND     | 4.6    | 9.3    |      | mg/Kg | 1  | 7/23/2021 10:52:22 AM | 61499               |
| Motor Oil Range Organics (MRO)                   | ND     | 46     | 46     |      | mg/Kg | 1  | 7/23/2021 10:52:22 AM | 61499               |
| Surr: DNOP                                       | 173    | 0      | 70-130 | S    | %Rec  | 1  | 7/23/2021 10:52:22 AM | 61499               |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |    |                       | Analyst: <b>ags</b> |
| Mercury                                          | ND     | 0.0025 | 0.032  |      | mg/Kg | 1  | 7/23/2021 10:29:45 AM | 61495               |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |    |                       | Analyst: <b>ags</b> |
| Arsenic                                          | ND     | 2.9    | 5.1    |      | mg/Kg | 2  | 7/23/2021 4:49:49 PM  | 61509               |
| Barium                                           | 160    | 0.12   | 0.20   |      | mg/Kg | 2  | 7/29/2021 3:02:32 PM  | 61509               |
| Cadmium                                          | ND     | 0.10   | 0.20   |      | mg/Kg | 2  | 7/23/2021 4:49:49 PM  | 61509               |
| Chromium                                         | 18     | 0.31   | 0.61   |      | mg/Kg | 2  | 7/29/2021 3:02:32 PM  | 61509               |
| Iron                                             | 19000  | 51     | 51     | E    | mg/Kg | 20 | 7/29/2021 3:04:47 PM  | 61509               |
| Lead                                             | ND     | 0.54   | 0.61   |      | mg/Kg | 2  | 7/23/2021 4:49:49 PM  | 61509               |
| Manganese                                        | 250    | 0.34   | 0.41   |      | mg/Kg | 2  | 7/23/2021 4:49:49 PM  | 61509               |
| Selenium                                         | ND     | 4.5    | 5.1    |      | mg/Kg | 2  | 7/29/2021 3:02:32 PM  | 61509               |
| Silver                                           | ND     | 0.30   | 0.51   |      | mg/Kg | 2  | 7/23/2021 4:49:49 PM  | 61509               |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |    |                       | Analyst: <b>DAM</b> |
| Acenaphthene                                     | ND     | 0.085  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| Acenaphthylene                                   | ND     | 0.087  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| Aniline                                          | ND     | 0.066  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| Anthracene                                       | ND     | 0.087  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| Azobenzene                                       | ND     | 0.095  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| Benz(a)anthracene                                | ND     | 0.062  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| Benzo(a)pyrene                                   | ND     | 0.090  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| Benzo(b)fluoranthene                             | ND     | 0.10   | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| Benzo(g,h,i)perylene                             | ND     | 0.097  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| Benzo(k)fluoranthene                             | ND     | 0.072  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| Benzoic acid                                     | ND     | 0.12   | 0.48   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| Benzyl alcohol                                   | ND     | 0.078  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| Bis(2-chloroethoxy)methane                       | ND     | 0.073  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| Bis(2-chloroethyl)ether                          | ND     | 0.10   | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.097  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| Bis(2-ethylhexyl)phthalate                       | 0.31   | 0.21   | 0.48   | J    | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| 4-Bromophenyl phenyl ether                       | ND     | 0.10   | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| Butyl benzyl phthalate                           | ND     | 0.058  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| Carbazole                                        | ND     | 0.084  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| 4-Chloro-3-methylphenol                          | ND     | 0.081  | 0.48   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| 4-Chloroaniline                                  | ND     | 0.093  | 0.48   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |
| 2-Chloronaphthalene                              | ND     | 0.091  | 0.24   |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM  | 61566               |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-69-26

Project: Well Installations 2021

Collection Date: 7/21/2021 12:10:00 PM

Lab ID: 2107A83-010

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                        | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| EPA METHOD 8270C: SEMIVOLATILES |        |       |      |      |       |    | Analyst: DAM         |          |
| 2-Chlorophenol                  | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 4-Chlorophenyl phenyl ether     | ND     | 0.081 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Chrysene                        | ND     | 0.084 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Di-n-butyl phthalate            | 0.35   | 0.27  | 0.38 | J    | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Di-n-octyl phthalate            | ND     | 0.12  | 0.38 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Dibenz(a,h)anthracene           | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Dibenzofuran                    | ND     | 0.099 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 1,2-Dichlorobenzene             | ND     | 0.077 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 1,3-Dichlorobenzene             | ND     | 0.068 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 1,4-Dichlorobenzene             | ND     | 0.081 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 3,3'-Dichlorobenzidine          | ND     | 0.14  | 0.24 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Diethyl phthalate               | 0.88   | 0.31  | 0.48 | B    | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Dimethyl phthalate              | ND     | 0.088 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 2,4-Dichlorophenol              | ND     | 0.078 | 0.38 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 2,4-Dimethylphenol              | ND     | 0.068 | 0.29 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.081 | 0.38 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 2,4-Dinitrophenol               | ND     | 0.048 | 0.48 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 2,4-Dinitrotoluene              | ND     | 0.12  | 0.48 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 2,6-Dinitrotoluene              | ND     | 0.097 | 0.48 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Fluoranthene                    | ND     | 0.077 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Fluorene                        | ND     | 0.085 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Hexachlorobenzene               | ND     | 0.085 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Hexachlorobutadiene             | ND     | 0.090 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Hexachlorocyclopentadiene       | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Hexachloroethane                | ND     | 0.085 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Indeno(1,2,3-cd)pyrene          | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Isophorone                      | ND     | 0.078 | 0.38 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 1-Methylnaphthalene             | ND     | 0.088 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 2-Methylnaphthalene             | ND     | 0.079 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 2-Methylphenol                  | ND     | 0.080 | 0.38 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 3+4-Methylphenol                | ND     | 0.079 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| N-Nitrosodi-n-propylamine       | ND     | 0.089 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| N-Nitrosodimethylamine          | ND     | 0.14  | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| N-Nitrosodiphenylamine          | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Naphthalene                     | ND     | 0.090 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 2-Nitroaniline                  | ND     | 0.098 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 3-Nitroaniline                  | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 4-Nitroaniline                  | ND     | 0.12  | 0.38 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Nitrobenzene                    | ND     | 0.078 | 0.38 |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-69-26

Project: Well Installations 2021

Collection Date: 7/21/2021 12:10:00 PM

Lab ID: 2107A83-010

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                               | Result | MDL    | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|--------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |        |           |      |       |    | Analyst: <b>DAM</b>  |          |
| 2-Nitrophenol                          | ND     | 0.082  | 0.19      |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 4-Nitrophenol                          | ND     | 0.079  | 0.24      |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Pentachlorophenol                      | ND     | 0.083  | 0.38      |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Phenanthrene                           | ND     | 0.098  | 0.19      |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Phenol                                 | ND     | 0.074  | 0.19      |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Pyrene                                 | ND     | 0.072  | 0.19      |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Pyridine                               | ND     | 0.15   | 0.38      |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.088  | 0.19      |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 2,4,5-Trichlorophenol                  | ND     | 0.061  | 0.19      |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| 2,4,6-Trichlorophenol                  | ND     | 0.082  | 0.19      |      | mg/Kg | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Surr: 2-Fluorophenol                   | 61.5   |        | 20.3-74.1 |      | %Rec  | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Surr: Phenol-d5                        | 70.7   |        | 23.1-92.7 |      | %Rec  | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Surr: 2,4,6-Tribromophenol             | 84.7   |        | 17.3-122  |      | %Rec  | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Surr: Nitrobenzene-d5                  | 57.8   |        | 24.7-73.2 |      | %Rec  | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Surr: 2-Fluorobiphenyl                 | 59.0   |        | 21.5-90.1 |      | %Rec  | 1  | 7/28/2021 7:14:20 PM | 61566    |
| Surr: 4-Terphenyl-d14                  | 69.5   |        | 15-140    |      | %Rec  | 1  | 7/28/2021 7:14:20 PM | 61566    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |        |           |      |       |    | Analyst: <b>JMR</b>  |          |
| Benzene                                | ND     | 0.0068 | 0.018     |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Toluene                                | ND     | 0.0037 | 0.035     |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Ethylbenzene                           | ND     | 0.0086 | 0.035     |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Methyl tert-butyl ether (MTBE)         | ND     | 0.0070 | 0.035     |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1,2,4-Trimethylbenzene                 | ND     | 0.0050 | 0.035     |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1,3,5-Trimethylbenzene                 | ND     | 0.0079 | 0.035     |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1,2-Dichloroethane (EDC)               | ND     | 0.0081 | 0.035     |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1,2-Dibromoethane (EDB)                | ND     | 0.014  | 0.035     |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Naphthalene                            | ND     | 0.0065 | 0.071     |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1-Methylnaphthalene                    | ND     | 0.041  | 0.14      |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 2-Methylnaphthalene                    | ND     | 0.033  | 0.14      |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Acetone                                | ND     | 0.032  | 0.53      |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Bromobenzene                           | ND     | 0.0028 | 0.035     |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Bromodichloromethane                   | ND     | 0.0033 | 0.035     |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Bromoform                              | ND     | 0.0085 | 0.035     |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Bromomethane                           | ND     | 0.031  | 0.11      |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 2-Butanone                             | 0.16   | 0.055  | 0.35      | J    | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Carbon disulfide                       | ND     | 0.0086 | 0.35      |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Carbon tetrachloride                   | ND     | 0.0031 | 0.035     |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Chlorobenzene                          | ND     | 0.0056 | 0.035     |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Chloroethane                           | ND     | 0.013  | 0.071     |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Chloroform                             | ND     | 0.0049 | 0.035     |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-69-26

Project: Well Installations 2021

Collection Date: 7/21/2021 12:10:00 PM

Lab ID: 2107A83-010

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                           | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------------------|--------|--------|-------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |       |      |       |    | Analyst: JMR         |          |
| Chloromethane                      | ND     | 0.0034 | 0.11  |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 2-Chlorotoluene                    | ND     | 0.0073 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 4-Chlorotoluene                    | ND     | 0.022  | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| cis-1,2-DCE                        | ND     | 0.018  | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| cis-1,3-Dichloropropene            | ND     | 0.0047 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1,2-Dibromo-3-chloropropane        | ND     | 0.015  | 0.071 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Dibromochloromethane               | ND     | 0.0046 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Dibromomethane                     | ND     | 0.0054 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1,2-Dichlorobenzene                | ND     | 0.0074 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1,3-Dichlorobenzene                | ND     | 0.0067 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1,4-Dichlorobenzene                | ND     | 0.0095 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Dichlorodifluoromethane            | ND     | 0.011  | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1,1-Dichloroethane                 | ND     | 0.0059 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1,1-Dichloroethene                 | ND     | 0.0052 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1,2-Dichloropropane                | ND     | 0.0061 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1,3-Dichloropropane                | ND     | 0.0078 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 2,2-Dichloropropane                | ND     | 0.0041 | 0.071 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1,1-Dichloropropene                | ND     | 0.0037 | 0.071 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Hexachlorobutadiene                | ND     | 0.0092 | 0.071 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 2-Hexanone                         | ND     | 0.0067 | 0.35  |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Isopropylbenzene                   | ND     | 0.0066 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 4-Isopropyltoluene                 | ND     | 0.0091 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 4-Methyl-2-pentanone               | ND     | 0.041  | 0.35  |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Methylene chloride                 | ND     | 0.026  | 0.11  |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| n-Butylbenzene                     | ND     | 0.0094 | 0.11  |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| n-Propylbenzene                    | ND     | 0.0057 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| sec-Butylbenzene                   | ND     | 0.029  | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Styrene                            | ND     | 0.0044 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| tert-Butylbenzene                  | ND     | 0.0082 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1,1,1,2-Tetrachloroethane          | ND     | 0.0031 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1,1,2,2-Tetrachloroethane          | ND     | 0.011  | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Tetrachloroethene (PCE)            | ND     | 0.0097 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| trans-1,2-DCE                      | ND     | 0.0060 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| trans-1,3-Dichloropropene          | ND     | 0.0083 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1,2,3-Trichlorobenzene             | ND     | 0.0024 | 0.071 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1,2,4-Trichlorobenzene             | ND     | 0.012  | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1,1,1-Trichloroethane              | ND     | 0.0078 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1,1,2-Trichloroethane              | ND     | 0.0031 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Trichloroethene (TCE)              | ND     | 0.0054 | 0.035 |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|                    |     |                                                       |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-69-26

Project: Well Installations 2021

Collection Date: 7/21/2021 12:10:00 PM

Lab ID: 2107A83-010

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                                    | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------------------|--------|--------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |        |        |      |       |    | Analyst: JMR         |          |
| Trichlorofluoromethane                      | ND     | 0.0080 | 0.035  |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| 1,2,3-Trichloropropane                      | ND     | 0.015  | 0.071  |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Vinyl chloride                              | ND     | 0.0030 | 0.035  |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Xylenes, Total                              | ND     | 0.019  | 0.071  |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Surr: Dibromofluoromethane                  | 104    |        | 70-130 |      | %Rec  | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Surr: 1,2-Dichloroethane-d4                 | 104    |        | 70-130 |      | %Rec  | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Surr: Toluene-d8                            | 96.2   |        | 70-130 |      | %Rec  | 1  | 7/23/2021 1:53:54 AM | A80017   |
| Surr: 4-Bromofluorobenzene                  | 98.9   |        | 70-130 |      | %Rec  | 1  | 7/23/2021 1:53:54 AM | A80017   |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |        |        |      |       |    | Analyst: JMR         |          |
| Gasoline Range Organics (GRO)               | ND     | 0.98   | 3.5    |      | mg/Kg | 1  | 7/23/2021 1:53:54 AM | C80017   |
| Surr: BFB                                   | 95.8   | 0      | 70-130 |      | %Rec  | 1  | 7/23/2021 1:53:54 AM | C80017   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-69-6

Project: Well Installations 2021

Collection Date: 7/21/2021 12:15:00 PM

Lab ID: 2107A83-011

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed         | Batch ID |
|--------------------------------------------------|--------|--------|--------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |    | Analyst: CLP          |          |
| Diesel Range Organics (DRO)                      | 8.4    | 4.7    | 9.5    | J    | mg/Kg | 1  | 7/23/2021 11:21:20 AM | 61499    |
| Motor Oil Range Organics (MRO)                   | ND     | 47     | 47     |      | mg/Kg | 1  | 7/23/2021 11:21:20 AM | 61499    |
| Surr: DNOP                                       | 117    | 0      | 70-130 |      | %Rec  | 1  | 7/23/2021 11:21:20 AM | 61499    |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |    | Analyst: ags          |          |
| Mercury                                          | 0.0051 | 0.0028 | 0.035  | J    | mg/Kg | 1  | 7/23/2021 10:31:50 AM | 61495    |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |    | Analyst: ags          |          |
| Arsenic                                          | ND     | 2.8    | 4.9    |      | mg/Kg | 2  | 7/23/2021 4:52:01 PM  | 61509    |
| Barium                                           | 290    | 0.12   | 0.20   |      | mg/Kg | 2  | 7/29/2021 3:06:50 PM  | 61509    |
| Cadmium                                          | ND     | 0.099  | 0.20   |      | mg/Kg | 2  | 7/23/2021 4:52:01 PM  | 61509    |
| Chromium                                         | 5.5    | 0.30   | 0.59   |      | mg/Kg | 2  | 7/29/2021 3:06:50 PM  | 61509    |
| Iron                                             | 9800   | 49     | 49     | E    | mg/Kg | 20 | 7/29/2021 3:08:55 PM  | 61509    |
| Lead                                             | 4.5    | 0.53   | 0.59   |      | mg/Kg | 2  | 7/29/2021 3:06:50 PM  | 61509    |
| Manganese                                        | 220    | 0.33   | 0.40   |      | mg/Kg | 2  | 7/23/2021 4:52:01 PM  | 61509    |
| Selenium                                         | ND     | 4.3    | 4.9    |      | mg/Kg | 2  | 7/29/2021 3:06:50 PM  | 61509    |
| Silver                                           | ND     | 0.29   | 0.49   |      | mg/Kg | 2  | 7/23/2021 4:52:01 PM  | 61509    |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |    | Analyst: DAM          |          |
| Acenaphthene                                     | ND     | 0.086  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| Acenaphthylene                                   | ND     | 0.087  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| Aniline                                          | ND     | 0.066  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| Anthracene                                       | ND     | 0.087  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| Azobenzene                                       | ND     | 0.096  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| Benz(a)anthracene                                | ND     | 0.062  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| Benzo(a)pyrene                                   | ND     | 0.090  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| Benzo(b)fluoranthene                             | ND     | 0.10   | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| Benzo(g,h,i)perylene                             | ND     | 0.098  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| Benzo(k)fluoranthene                             | ND     | 0.072  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| Benzoic acid                                     | ND     | 0.12   | 0.48   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| Benzyl alcohol                                   | ND     | 0.079  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| Bis(2-chloroethoxy)methane                       | ND     | 0.073  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| Bis(2-chloroethyl)ether                          | ND     | 0.10   | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.097  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| Bis(2-ethylhexyl)phthalate                       | ND     | 0.21   | 0.48   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| 4-Bromophenyl phenyl ether                       | ND     | 0.10   | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| Butyl benzyl phthalate                           | ND     | 0.058  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| Carbazole                                        | ND     | 0.084  | 0.19   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| 4-Chloro-3-methylphenol                          | ND     | 0.081  | 0.48   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| 4-Chloroaniline                                  | ND     | 0.093  | 0.48   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |
| 2-Chloronaphthalene                              | ND     | 0.091  | 0.24   |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM  | 61566    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-69-6

Project: Well Installations 2021

Collection Date: 7/21/2021 12:15:00 PM

Lab ID: 2107A83-011

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                               | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |      |      |       |    | Analyst: DAM         |          |
| 2-Chlorophenol                         | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 4-Chlorophenyl phenyl ether            | ND     | 0.081 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Chrysene                               | ND     | 0.085 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Di-n-butyl phthalate                   | ND     | 0.27  | 0.38 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Di-n-octyl phthalate                   | ND     | 0.12  | 0.38 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Dibenz(a,h)anthracene                  | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Dibenzofuran                           | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 1,2-Dichlorobenzene                    | ND     | 0.077 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 1,3-Dichlorobenzene                    | ND     | 0.068 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 1,4-Dichlorobenzene                    | ND     | 0.081 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 3,3'-Dichlorobenzidine                 | ND     | 0.14  | 0.24 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Diethyl phthalate                      | 0.69   | 0.31  | 0.48 | B    | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Dimethyl phthalate                     | ND     | 0.089 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 2,4-Dichlorophenol                     | ND     | 0.078 | 0.38 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 2,4-Dimethylphenol                     | ND     | 0.068 | 0.29 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 4,6-Dinitro-2-methylphenol             | ND     | 0.081 | 0.38 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 2,4-Dinitrophenol                      | ND     | 0.048 | 0.48 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 2,4-Dinitrotoluene                     | ND     | 0.12  | 0.48 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 2,6-Dinitrotoluene                     | ND     | 0.097 | 0.48 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Fluoranthene                           | ND     | 0.077 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Fluorene                               | ND     | 0.085 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Hexachlorobenzene                      | ND     | 0.085 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Hexachlorobutadiene                    | ND     | 0.090 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Hexachlorocyclopentadiene              | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Hexachloroethane                       | ND     | 0.085 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Isophorone                             | ND     | 0.078 | 0.38 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 1-Methylnaphthalene                    | ND     | 0.088 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 2-Methylnaphthalene                    | ND     | 0.079 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 2-Methylphenol                         | ND     | 0.081 | 0.38 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 3+4-Methylphenol                       | ND     | 0.079 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| N-Nitrosodi-n-propylamine              | ND     | 0.089 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| N-Nitrosodimethylamine                 | ND     | 0.14  | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| N-Nitrosodiphenylamine                 | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Naphthalene                            | ND     | 0.090 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 2-Nitroaniline                         | ND     | 0.098 | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 3-Nitroaniline                         | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 4-Nitroaniline                         | ND     | 0.12  | 0.38 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Nitrobenzene                           | ND     | 0.079 | 0.38 |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-69-6

Project: Well Installations 2021

Collection Date: 7/21/2021 12:15:00 PM

Lab ID: 2107A83-011

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                               | Result | MDL    | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|--------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |        |           |      |       |    | Analyst: <b>DAM</b>  |          |
| 2-Nitrophenol                          | ND     | 0.083  | 0.19      |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 4-Nitrophenol                          | ND     | 0.079  | 0.24      |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Pentachlorophenol                      | ND     | 0.083  | 0.38      |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Phenanthrene                           | ND     | 0.098  | 0.19      |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Phenol                                 | ND     | 0.074  | 0.19      |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Pyrene                                 | ND     | 0.073  | 0.19      |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Pyridine                               | ND     | 0.15   | 0.38      |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.088  | 0.19      |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 2,4,5-Trichlorophenol                  | ND     | 0.061  | 0.19      |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| 2,4,6-Trichlorophenol                  | ND     | 0.082  | 0.19      |      | mg/Kg | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Surr: 2-Fluorophenol                   | 49.7   |        | 20.3-74.1 |      | %Rec  | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Surr: Phenol-d5                        | 56.2   |        | 23.1-92.7 |      | %Rec  | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Surr: 2,4,6-Tribromophenol             | 91.4   |        | 17.3-122  |      | %Rec  | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Surr: Nitrobenzene-d5                  | 48.0   |        | 24.7-73.2 |      | %Rec  | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Surr: 2-Fluorobiphenyl                 | 51.0   |        | 21.5-90.1 |      | %Rec  | 1  | 7/28/2021 7:56:12 PM | 61566    |
| Surr: 4-Terphenyl-d14                  | 65.2   |        | 15-140    |      | %Rec  | 1  | 7/28/2021 7:56:12 PM | 61566    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |        |           |      |       |    | Analyst: <b>JMR</b>  |          |
| Benzene                                | ND     | 0.0065 | 0.017     |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Toluene                                | ND     | 0.0035 | 0.034     |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Ethylbenzene                           | ND     | 0.0082 | 0.034     |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Methyl tert-butyl ether (MTBE)         | ND     | 0.0067 | 0.034     |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1,2,4-Trimethylbenzene                 | ND     | 0.0048 | 0.034     |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1,3,5-Trimethylbenzene                 | ND     | 0.0076 | 0.034     |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1,2-Dichloroethane (EDC)               | ND     | 0.0077 | 0.034     |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1,2-Dibromoethane (EDB)                | ND     | 0.013  | 0.034     |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Naphthalene                            | ND     | 0.0062 | 0.068     |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1-Methylnaphthalene                    | ND     | 0.039  | 0.14      |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 2-Methylnaphthalene                    | ND     | 0.031  | 0.14      |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Acetone                                | ND     | 0.030  | 0.51      |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Bromobenzene                           | ND     | 0.0027 | 0.034     |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Bromodichloromethane                   | ND     | 0.0031 | 0.034     |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Bromoform                              | ND     | 0.0082 | 0.034     |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Bromomethane                           | ND     | 0.030  | 0.10      |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 2-Butanone                             | 0.094  | 0.052  | 0.34      | J    | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Carbon disulfide                       | ND     | 0.0082 | 0.34      |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Carbon tetrachloride                   | ND     | 0.0030 | 0.034     |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Chlorobenzene                          | ND     | 0.0054 | 0.034     |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Chloroethane                           | ND     | 0.013  | 0.068     |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Chloroform                             | ND     | 0.0047 | 0.034     |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-69-6

Project: Well Installations 2021

Collection Date: 7/21/2021 12:15:00 PM

Lab ID: 2107A83-011

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                           | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------------------|--------|--------|-------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |       |      |       |    | Analyst: JMR         |          |
| Chloromethane                      | ND     | 0.0033 | 0.10  |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 2-Chlorotoluene                    | ND     | 0.0070 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 4-Chlorotoluene                    | ND     | 0.021  | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| cis-1,2-DCE                        | ND     | 0.017  | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| cis-1,3-Dichloropropene            | ND     | 0.0045 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1,2-Dibromo-3-chloropropane        | ND     | 0.015  | 0.068 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Dibromochloromethane               | ND     | 0.0044 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Dibromomethane                     | ND     | 0.0052 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1,2-Dichlorobenzene                | ND     | 0.0070 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1,3-Dichlorobenzene                | ND     | 0.0064 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1,4-Dichlorobenzene                | ND     | 0.0091 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Dichlorodifluoromethane            | ND     | 0.010  | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1,1-Dichloroethane                 | ND     | 0.0057 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1,1-Dichloroethene                 | ND     | 0.0049 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1,2-Dichloropropane                | ND     | 0.0058 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1,3-Dichloropropane                | ND     | 0.0074 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 2,2-Dichloropropane                | ND     | 0.0040 | 0.068 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1,1-Dichloropropene                | ND     | 0.0036 | 0.068 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Hexachlorobutadiene                | ND     | 0.0088 | 0.068 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 2-Hexanone                         | ND     | 0.0065 | 0.34  |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Isopropylbenzene                   | ND     | 0.0063 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 4-Isopropyltoluene                 | ND     | 0.0087 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 4-Methyl-2-pentanone               | ND     | 0.039  | 0.34  |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Methylene chloride                 | ND     | 0.025  | 0.10  |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| n-Butylbenzene                     | ND     | 0.0090 | 0.10  |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| n-Propylbenzene                    | ND     | 0.0055 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| sec-Butylbenzene                   | ND     | 0.028  | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Styrene                            | ND     | 0.0043 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| tert-Butylbenzene                  | ND     | 0.0078 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1,1,1,2-Tetrachloroethane          | ND     | 0.0030 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1,1,2,2-Tetrachloroethane          | ND     | 0.011  | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Tetrachloroethene (PCE)            | ND     | 0.0093 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| trans-1,2-DCE                      | ND     | 0.0058 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| trans-1,3-Dichloropropene          | ND     | 0.0079 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1,2,3-Trichlorobenzene             | ND     | 0.0023 | 0.068 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1,2,4-Trichlorobenzene             | ND     | 0.012  | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1,1,1-Trichloroethane              | ND     | 0.0075 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1,1,2-Trichloroethane              | ND     | 0.0030 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Trichloroethene (TCE)              | ND     | 0.0052 | 0.034 |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107A83

Date Reported: 9/22/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-69-6

Project: Well Installations 2021

Collection Date: 7/21/2021 12:15:00 PM

Lab ID: 2107A83-011

Matrix: MEOH (SOIL)

Received Date: 7/21/2021 4:10:00 PM

| Analyses                                    | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------------------|--------|--------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |        |        |      |       |    | Analyst: JMR         |          |
| Trichlorofluoromethane                      | ND     | 0.0077 | 0.034  |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| 1,2,3-Trichloropropane                      | ND     | 0.014  | 0.068  |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Vinyl chloride                              | ND     | 0.0028 | 0.034  |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Xylenes, Total                              | ND     | 0.018  | 0.068  |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Surr: Dibromofluoromethane                  | 100    |        | 70-130 |      | %Rec  | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Surr: 1,2-Dichloroethane-d4                 | 103    |        | 70-130 |      | %Rec  | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Surr: Toluene-d8                            | 97.4   |        | 70-130 |      | %Rec  | 1  | 7/23/2021 2:22:27 AM | A80017   |
| Surr: 4-Bromofluorobenzene                  | 101    |        | 70-130 |      | %Rec  | 1  | 7/23/2021 2:22:27 AM | A80017   |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |        |        |      |       |    | Analyst: JMR         |          |
| Gasoline Range Organics (GRO)               | ND     | 0.94   | 3.4    |      | mg/Kg | 1  | 7/23/2021 2:22:27 AM | C80017   |
| Surr: BFB                                   | 102    | 0      | 70-130 |      | %Rec  | 1  | 7/23/2021 2:22:27 AM | C80017   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2107A83

22-Sep-21

**Client:** Marathon  
**Project:** Well Installations 2021

| Sample ID: <b>MB-61499</b>     | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|--------------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>          | Batch ID: <b>61499</b>          | RunNo: <b>80042</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/22/2021</b>    | Analysis Date: <b>7/23/2021</b> | SeqNo: <b>2816402</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| 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                     | 13                              |                                                            | 10.00     |             | 129  | 70       | 130       |      |          |      |

| Sample ID: <b>LCS-61499</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>61499</b>          | RunNo: <b>80042</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/22/2021</b> | Analysis Date: <b>7/23/2021</b> | SeqNo: <b>2816403</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 51                              | 10                                                         | 50.00     | 0           | 103  | 68.9     | 141       |      |          |      |
| Surr: DNOP                  | 4.4                             |                                                            | 5.000     |             | 87.3 | 70       | 130       |      |          |      |

| Sample ID: <b>2107A83-010AMS</b> | SampType: <b>MS</b>             | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|----------------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>OW-69-26</b>       | Batch ID: <b>61499</b>          | RunNo: <b>80042</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/22/2021</b>      | Analysis Date: <b>7/23/2021</b> | SeqNo: <b>2816405</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| Analyte                          | Result                          | PQL                                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO)      | 50                              | 9.1                                                        | 45.45     | 0           | 109  | 15       | 184       |      |          |      |
| Surr: DNOP                       | 4.9                             |                                                            | 4.545     |             | 108  | 70       | 130       |      |          |      |

| Sample ID: <b>MB-61498</b>     | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|--------------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>          | Batch ID: <b>61498</b>          | RunNo: <b>80027</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/22/2021</b>    | Analysis Date: <b>7/23/2021</b> | SeqNo: <b>2817071</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| 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                     | 13                              |                                                            | 10.00     |             | 132  | 70       | 130       |      |          | S    |

| Sample ID: <b>LCS-61498</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>61498</b>          | RunNo: <b>80027</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/22/2021</b> | Analysis Date: <b>7/23/2021</b> | SeqNo: <b>2817072</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 64                              | 10                                                         | 50.00     | 0           | 128  | 68.9     | 141       |      |          |      |
| Surr: DNOP                  | 6.6                             |                                                            | 5.000     |             | 131  | 70       | 130       |      |          | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2107A83

22-Sep-21

Client: Marathon

Project: Well Installations 2021

|                             |        |                          |           |                                                     |      |              |           |      |          |      |
|-----------------------------|--------|--------------------------|-----------|-----------------------------------------------------|------|--------------|-----------|------|----------|------|
| Sample ID: 2107A83-010AMSD  |        | SampType: MSD            |           | TestCode: EPA Method 8015M/D: Diesel Range Organics |      |              |           |      |          |      |
| Client ID: OW-69-26         |        | Batch ID: 61499          |           | RunNo: 80090                                        |      |              |           |      |          |      |
| Prep Date: 7/22/2021        |        | Analysis Date: 7/26/2021 |           | SeqNo: 2819394                                      |      | Units: mg/Kg |           |      |          |      |
| Analyte                     | Result | PQL                      | SPK value | SPK Ref Val                                         | %REC | LowLimit     | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 44     | 8.6                      | 42.77     | 0                                                   | 102  | 15           | 184       | 12.7 | 23.9     |      |
| Surr: DNOP                  | 5.0    |                          | 4.277     |                                                     | 116  | 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 Quantitative Limit

S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2107A83

22-Sep-21

**Client:** Marathon  
**Project:** Well Installations 2021

| Sample ID: <b>100ng lcs</b> | SampType: <b>LCS</b>            |       |           | TestCode: <b>EPA Method 8260B: Volatiles</b> |      |                     |           |      |          |      |
|-----------------------------|---------------------------------|-------|-----------|----------------------------------------------|------|---------------------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>A80017</b>         |       |           | RunNo: <b>80017</b>                          |      |                     |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>7/22/2021</b> |       |           | SeqNo: <b>2815786</b>                        |      | Units: <b>mg/Kg</b> |           |      |          |      |
| 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                     | 1.0                             | 0.050 | 1.000     | 0                                            | 99.9 | 70                  | 130       |      |          |      |
| Chlorobenzene               | 0.97                            | 0.050 | 1.000     | 0                                            | 97.2 | 70                  | 130       |      |          |      |
| 1,1-Dichloroethene          | 1.0                             | 0.050 | 1.000     | 0                                            | 105  | 70                  | 130       |      |          |      |
| Trichloroethene (TCE)       | 0.93                            | 0.050 | 1.000     | 0                                            | 93.4 | 70                  | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 0.49                            |       | 0.5000    |                                              | 97.6 | 70                  | 130       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 0.50                            |       | 0.5000    |                                              | 99.6 | 70                  | 130       |      |          |      |
| Surr: Toluene-d8            | 0.49                            |       | 0.5000    |                                              | 98.2 | 70                  | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.54                            |       | 0.5000    |                                              | 108  | 70                  | 130       |      |          |      |

| Sample ID: <b>mb</b>           | SampType: <b>MBLK</b>           |       |           | TestCode: <b>EPA Method 8260B: Volatiles</b> |      |                     |           |      |          |      |
|--------------------------------|---------------------------------|-------|-----------|----------------------------------------------|------|---------------------|-----------|------|----------|------|
| Client ID: <b>PBS</b>          | Batch ID: <b>A80017</b>         |       |           | RunNo: <b>80017</b>                          |      |                     |           |      |          |      |
| Prep Date:                     | Analysis Date: <b>7/22/2021</b> |       |           | SeqNo: <b>2815787</b>                        |      | Units: <b>mg/Kg</b> |           |      |          |      |
| 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                              | 0.15  |           |                                              |      |                     |           |      |          |      |
| 2-Butanone                     | ND                              | 0.50  |           |                                              |      |                     |           |      |          |      |
| Carbon disulfide               | ND                              | 0.50  |           |                                              |      |                     |           |      |          |      |
| Carbon tetrachloride           | ND                              | 0.050 |           |                                              |      |                     |           |      |          |      |
| Chlorobenzene                  | ND                              | 0.050 |           |                                              |      |                     |           |      |          |      |
| 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2107A83

22-Sep-21

**Client:** Marathon  
**Project:** Well Installations 2021

| Sample ID: <b>mb</b>        | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8260B: Volatiles</b> |                     |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>A80017</b>         | RunNo: <b>80017</b>                          |                     |             |      |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>7/22/2021</b> | SeqNo: <b>2815787</b>                        | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2107A83

22-Sep-21

**Client:** Marathon  
**Project:** Well Installations 2021

| Sample ID: <b>mb</b>        | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8260B: Volatiles</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>A80017</b>         | RunNo: <b>80017</b>                          |           |             |      |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>7/22/2021</b> | SeqNo: <b>2815787</b> Units: <b>mg/Kg</b>    |           |             |      |          |           |      |          |      |
| 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  | 70       | 130       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 0.50                            |                                              | 0.5000    |             | 100  | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 0.49                            |                                              | 0.5000    |             | 97.2 | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.52                            |                                              | 0.5000    |             | 104  | 70       | 130       |      |          |      |

### Qualifiers:

|     |                                                       |    |                                                 |
|-----|-------------------------------------------------------|----|-------------------------------------------------|
| *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
| D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
| 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 Quantitative Limit                          | RL | Reporting Limit                                 |
| S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2107A83

22-Sep-21

**Client:** Marathon  
**Project:** Well Installations 2021

| Sample ID: <b>mb-61566</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|--------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>61566</b>          | RunNo: <b>80150</b>                              |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/26/2021</b> | Analysis Date: <b>7/28/2021</b> | SeqNo: <b>2822045</b> Units: <b>mg/Kg</b>        |           |             |      |          |           |      |          |      |
| 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                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Benz(a)anthracene           | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Benzo(a)pyrene              | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Benzo(b)fluoranthene        | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Benzo(g,h,i)perylene        | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Benzo(k)fluoranthene        | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Benzoic acid                | ND                              | 0.50                                             |           |             |      |          |           |      |          |      |
| Benzyl alcohol              | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Bis(2-chloroethoxy)methane  | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Bis(2-chloroethyl)ether     | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Bis(2-chloroisopropyl)ether | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Bis(2-ethylhexyl)phthalate  | ND                              | 0.50                                             |           |             |      |          |           |      |          |      |
| 4-Bromophenyl phenyl ether  | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Butyl benzyl phthalate      | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Carbazole                   | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 4-Chloro-3-methylphenol     | ND                              | 0.50                                             |           |             |      |          |           |      |          |      |
| 4-Chloroaniline             | ND                              | 0.50                                             |           |             |      |          |           |      |          |      |
| 2-Chloronaphthalene         | ND                              | 0.25                                             |           |             |      |          |           |      |          |      |
| 2-Chlorophenol              | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 4-Chlorophenyl phenyl ether | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Chrysene                    | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Di-n-butyl phthalate        | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| Di-n-octyl phthalate        | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| Dibenz(a,h)anthracene       | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Dibenzofuran                | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 1,2-Dichlorobenzene         | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 1,3-Dichlorobenzene         | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 1,4-Dichlorobenzene         | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 3,3'-Dichlorobenzidine      | ND                              | 0.25                                             |           |             |      |          |           |      |          |      |
| Diethyl phthalate           | 0.76                            | 0.50                                             |           |             |      |          |           |      |          |      |
| Dimethyl phthalate          | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 2,4-Dichlorophenol          | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| 2,4-Dimethylphenol          | ND                              | 0.30                                             |           |             |      |          |           |      |          |      |
| 4,6-Dinitro-2-methylphenol  | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| 2,4-Dinitrophenol           | ND                              | 0.50                                             |           |             |      |          |           |      |          |      |

## 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2107A83

22-Sep-21

Client: Marathon

Project: Well Installations 2021

| Sample ID: <b>mb-61566</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|--------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>61566</b>          | RunNo: <b>80150</b>                              |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/26/2021</b> | Analysis Date: <b>7/28/2021</b> | SeqNo: <b>2822045</b> Units: <b>mg/Kg</b>        |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                              | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 2,4-Dinitrotoluene          | ND                              | 0.50                                             |           |             |      |          |           |      |          |      |
| 2,6-Dinitrotoluene          | ND                              | 0.50                                             |           |             |      |          |           |      |          |      |
| Fluoranthene                | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Fluorene                    | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Hexachlorobenzene           | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Hexachlorobutadiene         | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Hexachlorocyclopentadiene   | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Hexachloroethane            | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Indeno(1,2,3-cd)pyrene      | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Isophorone                  | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| 1-Methylnaphthalene         | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 2-Methylnaphthalene         | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 2-Methylphenol              | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| 3+4-Methylphenol            | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| N-Nitrosodi-n-propylamine   | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| N-Nitrosodimethylamine      | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| N-Nitrosodiphenylamine      | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Naphthalene                 | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 2-Nitroaniline              | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 3-Nitroaniline              | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 4-Nitroaniline              | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| Nitrobenzene                | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| 2-Nitrophenol               | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 4-Nitrophenol               | ND                              | 0.25                                             |           |             |      |          |           |      |          |      |
| Pentachlorophenol           | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| Phenanthrene                | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Phenol                      | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Pyrene                      | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Pyridine                    | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| 1,2,4-Trichlorobenzene      | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 2,4,5-Trichlorophenol       | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 2,4,6-Trichlorophenol       | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Surr: 2-Fluorophenol        | 1.7                             |                                                  | 3.330     |             | 50.7 | 20.3     | 74.1      |      |          |      |
| Surr: Phenol-d5             | 2.1                             |                                                  | 3.330     |             | 63.0 | 23.1     | 92.7      |      |          |      |
| Surr: 2,4,6-Tribromophenol  | 2.4                             |                                                  | 3.330     |             | 73.2 | 17.3     | 122       |      |          |      |
| Surr: Nitrobenzene-d5       | 0.85                            |                                                  | 1.670     |             | 51.2 | 24.7     | 73.2      |      |          |      |
| Surr: 2-Fluorobiphenyl      | 0.97                            |                                                  | 1.670     |             | 57.9 | 21.5     | 90.1      |      |          |      |
| Surr: 4-Terphenyl-d14       | 2.1                             |                                                  | 1.670     |             | 123  | 15       | 140       |      |          |      |

## 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2107A83

22-Sep-21

**Client:** Marathon  
**Project:** Well Installations 2021

| Sample ID: <b>Ics-61566</b> | SampType: <b>LCS</b>            |      |           | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |      |                     |           |      |          |      |
|-----------------------------|---------------------------------|------|-----------|--------------------------------------------------|------|---------------------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>61566</b>          |      |           | RunNo: <b>80150</b>                              |      |                     |           |      |          |      |
| Prep Date: <b>7/26/2021</b> | Analysis Date: <b>7/28/2021</b> |      |           | SeqNo: <b>2822046</b>                            |      | Units: <b>mg/Kg</b> |           |      |          |      |
| Analyte                     | Result                          | PQL  | SPK value | SPK Ref Val                                      | %REC | LowLimit            | HighLimit | %RPD | RPDLimit | Qual |
| Acenaphthene                | 1.1                             | 0.20 | 1.670     | 0                                                | 68.3 | 22.9                | 109       |      |          |      |
| 4-Chloro-3-methylphenol     | 2.3                             | 0.50 | 3.330     | 0                                                | 68.5 | 24.2                | 109       |      |          |      |
| 2-Chlorophenol              | 1.8                             | 0.20 | 3.330     | 0                                                | 55.5 | 18.8                | 103       |      |          |      |
| 1,4-Dichlorobenzene         | 0.83                            | 0.20 | 1.670     | 0                                                | 49.5 | 18.8                | 89.5      |      |          |      |
| 2,4-Dinitrotoluene          | 1.1                             | 0.50 | 1.670     | 0                                                | 66.1 | 20.2                | 94.5      |      |          |      |
| N-Nitrosodi-n-propylamine   | 1.1                             | 0.20 | 1.670     | 0                                                | 64.4 | 19.2                | 96.9      |      |          |      |
| 4-Nitrophenol               | 3.0                             | 0.25 | 3.330     | 0                                                | 90.9 | 25                  | 118       |      |          |      |
| Pentachlorophenol           | 2.5                             | 0.40 | 3.330     | 0                                                | 74.1 | 24.1                | 107       |      |          |      |
| Phenol                      | 2.1                             | 0.20 | 3.330     | 0                                                | 62.8 | 17.8                | 112       |      |          |      |
| Pyrene                      | 1.8                             | 0.20 | 1.670     | 0                                                | 110  | 25.9                | 125       |      |          |      |
| 1,2,4-Trichlorobenzene      | 0.91                            | 0.20 | 1.670     | 0                                                | 54.4 | 18.5                | 92.8      |      |          |      |
| Surr: 2-Fluorophenol        | 1.7                             |      | 3.330     |                                                  | 52.3 | 20.3                | 74.1      |      |          |      |
| Surr: Phenol-d5             | 2.1                             |      | 3.330     |                                                  | 63.7 | 23.1                | 92.7      |      |          |      |
| Surr: 2,4,6-Tribromophenol  | 2.5                             |      | 3.330     |                                                  | 75.2 | 17.3                | 122       |      |          |      |
| Surr: Nitrobenzene-d5       | 0.95                            |      | 1.670     |                                                  | 57.1 | 24.7                | 73.2      |      |          |      |
| Surr: 2-Fluorobiphenyl      | 1.1                             |      | 1.670     |                                                  | 63.3 | 21.5                | 90.1      |      |          |      |
| Surr: 4-Terphenyl-d14       | 2.1                             |      | 1.670     |                                                  | 124  | 15                  | 140       |      |          |      |

| Sample ID: <b>2107a83-001ams</b> | SampType: <b>MS</b>             |      |           | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |      |                     |           |      |          |      |
|----------------------------------|---------------------------------|------|-----------|--------------------------------------------------|------|---------------------|-----------|------|----------|------|
| Client ID: <b>OW-66-18</b>       | Batch ID: <b>61566</b>          |      |           | RunNo: <b>80150</b>                              |      |                     |           |      |          |      |
| Prep Date: <b>7/26/2021</b>      | Analysis Date: <b>7/28/2021</b> |      |           | SeqNo: <b>2822048</b>                            |      | Units: <b>mg/Kg</b> |           |      |          |      |
| Analyte                          | Result                          | PQL  | SPK value | SPK Ref Val                                      | %REC | LowLimit            | HighLimit | %RPD | RPDLimit | Qual |
| Acenaphthene                     | 0.95                            | 0.19 | 1.625     | 0                                                | 58.5 | 24.8                | 111       |      |          |      |
| 4-Chloro-3-methylphenol          | 2.2                             | 0.49 | 3.239     | 0                                                | 67.1 | 40.7                | 97.8      |      |          |      |
| 2-Chlorophenol                   | 1.9                             | 0.19 | 3.239     | 0                                                | 57.5 | 21.2                | 91.6      |      |          |      |
| 1,4-Dichlorobenzene              | 0.57                            | 0.19 | 1.625     | 0                                                | 35.3 | 17.8                | 74.2      |      |          |      |
| 2,4-Dinitrotoluene               | 0.94                            | 0.49 | 1.625     | 0                                                | 58.0 | 36.5                | 81.5      |      |          |      |
| N-Nitrosodi-n-propylamine        | 1.1                             | 0.19 | 1.625     | 0                                                | 66.9 | 25.5                | 85.2      |      |          |      |
| 4-Nitrophenol                    | 3.0                             | 0.24 | 3.239     | 0                                                | 92.5 | 15                  | 143       |      |          |      |
| Pentachlorophenol                | 2.8                             | 0.39 | 3.239     | 0                                                | 87.9 | 15                  | 116       |      |          |      |
| Phenol                           | 2.2                             | 0.19 | 3.239     | 0.1480                                           | 64.1 | 24.8                | 94.5      |      |          |      |
| Pyrene                           | 1.7                             | 0.19 | 1.625     | 0                                                | 108  | 42                  | 112       |      |          |      |
| 1,2,4-Trichlorobenzene           | 0.80                            | 0.19 | 1.625     | 0                                                | 49.1 | 18.5                | 85.3      |      |          |      |
| Surr: 2-Fluorophenol             | 0                               |      | 3.239     |                                                  | 0    | 20.3                | 74.1      |      |          | S    |
| Surr: Phenol-d5                  | 2.2                             |      | 3.239     |                                                  | 67.3 | 23.1                | 92.7      |      |          |      |
| Surr: 2,4,6-Tribromophenol       | 3.0                             |      | 3.239     |                                                  | 93.1 | 17.3                | 122       |      |          |      |
| Surr: Nitrobenzene-d5            | 0.86                            |      | 1.625     |                                                  | 53.1 | 24.7                | 73.2      |      |          |      |
| Surr: 2-Fluorobiphenyl           | 0.83                            |      | 1.625     |                                                  | 51.2 | 21.5                | 90.1      |      |          |      |

**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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2107A83

22-Sep-21

**Client:** Marathon  
**Project:** Well Installations 2021

| Sample ID: <b>2107a83-001ams</b> | SampType: <b>MS</b>             | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |                     |             |      |          |           |      |          |      |
|----------------------------------|---------------------------------|--------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>OW-66-18</b>       | Batch ID: <b>61566</b>          | RunNo: <b>80150</b>                              |                     |             |      |          |           |      |          |      |
| Prep Date: <b>7/26/2021</b>      | Analysis Date: <b>7/28/2021</b> | SeqNo: <b>2822048</b>                            | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| Analyte                          | Result                          | PQL                                              | SPK value           | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Terphenyl-d14            | 0.85                            |                                                  | 1.625               |             | 52.5 | 15       | 140       |      |          |      |

| Sample ID: <b>2107a83-001amsd</b> | SampType: <b>MSD</b>            | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |                     |             |      |          |           |        |          |      |
|-----------------------------------|---------------------------------|--------------------------------------------------|---------------------|-------------|------|----------|-----------|--------|----------|------|
| Client ID: <b>OW-66-18</b>        | Batch ID: <b>61566</b>          | RunNo: <b>80150</b>                              |                     |             |      |          |           |        |          |      |
| Prep Date: <b>7/26/2021</b>       | Analysis Date: <b>7/28/2021</b> | SeqNo: <b>2822049</b>                            | Units: <b>mg/Kg</b> |             |      |          |           |        |          |      |
| Analyte                           | Result                          | PQL                                              | SPK value           | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD   | RPDLimit | Qual |
| Acenaphthene                      | 1.0                             | 0.20                                             | 1.661               | 0           | 62.7 | 24.8     | 111       | 9.01   | 20       |      |
| 4-Chloro-3-methylphenol           | 2.2                             | 0.50                                             | 3.311               | 0           | 66.5 | 40.7     | 97.8      | 1.30   | 20       |      |
| 2-Chlorophenol                    | 2.0                             | 0.20                                             | 3.311               | 0           | 60.2 | 21.2     | 91.6      | 6.66   | 20       |      |
| 1,4-Dichlorobenzene               | 0.69                            | 0.20                                             | 1.661               | 0           | 41.5 | 17.8     | 74.2      | 18.2   | 20       |      |
| 2,4-Dinitrotoluene                | 0.94                            | 0.50                                             | 1.661               | 0           | 56.8 | 36.5     | 81.5      | 0.0592 | 20       |      |
| N-Nitrosodi-n-propylamine         | 1.2                             | 0.20                                             | 1.661               | 0           | 72.0 | 25.5     | 85.2      | 9.48   | 20       |      |
| 4-Nitrophenol                     | 2.9                             | 0.25                                             | 3.311               | 0           | 89.0 | 15       | 143       | 1.72   | 20       |      |
| Pentachlorophenol                 | 2.9                             | 0.40                                             | 3.311               | 0           | 88.5 | 15       | 116       | 2.97   | 20       |      |
| Phenol                            | 2.3                             | 0.20                                             | 3.311               | 0.1480      | 65.4 | 24.8     | 94.5      | 3.95   | 20       |      |
| Pyrene                            | 1.8                             | 0.20                                             | 1.661               | 0           | 108  | 42       | 112       | 2.16   | 20       |      |
| 1,2,4-Trichlorobenzene            | 0.92                            | 0.20                                             | 1.661               | 0           | 55.2 | 18.5     | 85.3      | 13.9   | 20       |      |
| Surr: 2-Fluorophenol              | 0                               |                                                  | 3.311               |             | 0    | 20.3     | 74.1      | 0      | 0        | S    |
| Surr: Phenol-d5                   | 2.2                             |                                                  | 3.311               |             | 67.4 | 23.1     | 92.7      | 0      | 0        |      |
| Surr: 2,4,6-Tribromophenol        | 3.0                             |                                                  | 3.311               |             | 90.3 | 17.3     | 122       | 0      | 0        |      |
| Surr: Nitrobenzene-d5             | 0.93                            |                                                  | 1.661               |             | 56.2 | 24.7     | 73.2      | 0      | 0        |      |
| Surr: 2-Fluorobiphenyl            | 0.97                            |                                                  | 1.661               |             | 58.6 | 21.5     | 90.1      | 0      | 0        |      |
| Surr: 4-Terphenyl-d14             | 0.96                            |                                                  | 1.661               |             | 57.7 | 15       | 140       | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2107A83

22-Sep-21

**Client:** Marathon  
**Project:** Well Installations 2021

|                             |                                 |                                            |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|--------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: <b>MB-61495</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 7471B: Mercury</b> |           |             |      |          |           |      |          |      |
| Client ID: <b>PBS</b>       | Batch ID: <b>61495</b>          | RunNo: <b>80020</b>                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/22/2021</b> | Analysis Date: <b>7/23/2021</b> | SeqNo: <b>2815962</b> Units: <b>mg/Kg</b>  |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury                     | ND                              | 0.033                                      |           |             |      |          |           |      |          |      |

|                              |                                 |                                            |           |             |      |          |           |      |          |      |
|------------------------------|---------------------------------|--------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: <b>LLCS-61495</b> | SampType: <b>LCSLL</b>          | TestCode: <b>EPA Method 7471B: Mercury</b> |           |             |      |          |           |      |          |      |
| Client ID: <b>BatchQC</b>    | Batch ID: <b>61495</b>          | RunNo: <b>80020</b>                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/22/2021</b>  | Analysis Date: <b>7/23/2021</b> | SeqNo: <b>2815963</b> Units: <b>mg/Kg</b>  |           |             |      |          |           |      |          |      |
| Analyte                      | Result                          | PQL                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury                      | 0.0063                          | 0.033                                      | 0.006660  | 0           | 94.2 | 70       | 130       |      |          | J    |

|                             |                                 |                                            |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|--------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: <b>LCS-61495</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 7471B: Mercury</b> |           |             |      |          |           |      |          |      |
| Client ID: <b>LCSS</b>      | Batch ID: <b>61495</b>          | RunNo: <b>80020</b>                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/22/2021</b> | Analysis Date: <b>7/23/2021</b> | SeqNo: <b>2815964</b> Units: <b>mg/Kg</b>  |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury                     | 0.17                            | 0.033                                      | 0.1667    | 0           | 101  | 80       | 120       |      |          |      |

|                                  |                                 |                                            |           |             |      |          |           |      |          |      |
|----------------------------------|---------------------------------|--------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: <b>2107A83-007AMS</b> | SampType: <b>MS</b>             | TestCode: <b>EPA Method 7471B: Mercury</b> |           |             |      |          |           |      |          |      |
| Client ID: <b>OW-67-17</b>       | Batch ID: <b>61495</b>          | RunNo: <b>80020</b>                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/22/2021</b>      | Analysis Date: <b>7/23/2021</b> | SeqNo: <b>2816001</b> Units: <b>mg/Kg</b>  |           |             |      |          |           |      |          |      |
| Analyte                          | Result                          | PQL                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury                          | 0.17                            | 0.18                                       | 0.1802    | 0           | 93.5 | 80       | 120       |      |          | J    |

|                                   |                                 |                                            |           |             |      |          |           |      |          |      |
|-----------------------------------|---------------------------------|--------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: <b>2107A83-007AMSD</b> | SampType: <b>MSD</b>            | TestCode: <b>EPA Method 7471B: Mercury</b> |           |             |      |          |           |      |          |      |
| Client ID: <b>OW-67-17</b>        | Batch ID: <b>61495</b>          | RunNo: <b>80020</b>                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/22/2021</b>       | Analysis Date: <b>7/23/2021</b> | SeqNo: <b>2816002</b> Units: <b>mg/Kg</b>  |           |             |      |          |           |      |          |      |
| Analyte                           | Result                          | PQL                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury                           | 0.21                            | 0.17                                       | 0.1761    | 0           | 117  | 80       | 120       | 19.9 | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2107A83

22-Sep-21

**Client:** Marathon**Project:** Well Installations 2021

| Sample ID: <b>MB-61509</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 6010B: Soil Metals</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>61509</b>          | RunNo: <b>80056</b>                            |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/22/2021</b> | Analysis Date: <b>7/23/2021</b> | SeqNo: <b>2817187</b> Units: <b>mg/Kg</b>      |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                            | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Arsenic                     | ND                              | 2.5                                            |           |             |      |          |           |      |          |      |
| Barium                      | ND                              | 0.10                                           |           |             |      |          |           |      |          |      |
| Cadmium                     | 0.059                           | 0.10                                           |           |             |      |          |           |      |          | J    |
| Chromium                    | ND                              | 0.30                                           |           |             |      |          |           |      |          |      |
| Iron                        | ND                              | 2.5                                            |           |             |      |          |           |      |          |      |
| Lead                        | ND                              | 0.30                                           |           |             |      |          |           |      |          |      |
| Manganese                   | ND                              | 0.20                                           |           |             |      |          |           |      |          |      |
| Silver                      | ND                              | 0.25                                           |           |             |      |          |           |      |          |      |

| Sample ID: <b>LCS-61509</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 6010B: Soil Metals</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>61509</b>          | RunNo: <b>80056</b>                            |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/22/2021</b> | Analysis Date: <b>7/23/2021</b> | SeqNo: <b>2817189</b> Units: <b>mg/Kg</b>      |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                            | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Arsenic                     | 24                              | 2.5                                            | 25.00     | 0           | 95.5 | 80       | 120       |      |          |      |
| Barium                      | 24                              | 0.10                                           | 25.00     | 0           | 97.0 | 80       | 120       |      |          |      |
| Cadmium                     | 24                              | 0.10                                           | 25.00     | 0           | 95.8 | 80       | 120       |      |          |      |
| Chromium                    | 24                              | 0.30                                           | 25.00     | 0           | 97.4 | 80       | 120       |      |          |      |
| Iron                        | 25                              | 2.5                                            | 25.00     | 0           | 99.8 | 80       | 120       |      |          |      |
| Lead                        | 25                              | 0.30                                           | 25.00     | 0           | 98.8 | 80       | 120       |      |          |      |
| Manganese                   | 24                              | 0.20                                           | 25.00     | 0           | 95.3 | 80       | 120       |      |          |      |
| Silver                      | 4.8                             | 0.25                                           | 5.000     | 0           | 95.6 | 80       | 120       |      |          |      |

| Sample ID: <b>2107A83-001AMS</b> | SampType: <b>MS</b>             | TestCode: <b>EPA Method 6010B: Soil Metals</b> |           |             |      |          |           |      |          |      |
|----------------------------------|---------------------------------|------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>OW-66-18</b>       | Batch ID: <b>61509</b>          | RunNo: <b>80056</b>                            |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/22/2021</b>      | Analysis Date: <b>7/23/2021</b> | SeqNo: <b>2817240</b> Units: <b>mg/Kg</b>      |           |             |      |          |           |      |          |      |
| Analyte                          | Result                          | PQL                                            | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Arsenic                          | 23                              | 5.2                                            | 25.83     | 2.912       | 78.4 | 75       | 125       |      |          |      |
| Cadmium                          | 23                              | 0.21                                           | 25.83     | 0           | 89.5 | 75       | 125       |      |          |      |
| Chromium                         | 28                              | 0.62                                           | 25.83     | 4.279       | 92.6 | 75       | 125       |      |          |      |
| Lead                             | 26                              | 0.62                                           | 25.83     | 1.205       | 97.0 | 75       | 125       |      |          |      |
| Silver                           | 5.0                             | 0.52                                           | 5.165     | 0           | 96.2 | 75       | 125       |      |          |      |

| Sample ID: <b>2107A83-001AMSD</b> | SampType: <b>MSD</b>            | TestCode: <b>EPA Method 6010B: Soil Metals</b> |           |             |      |          |           |      |          |      |
|-----------------------------------|---------------------------------|------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>OW-66-18</b>        | Batch ID: <b>61509</b>          | RunNo: <b>80056</b>                            |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/22/2021</b>       | Analysis Date: <b>7/23/2021</b> | SeqNo: <b>2817244</b> Units: <b>mg/Kg</b>      |           |             |      |          |           |      |          |      |
| Analyte                           | Result                          | PQL                                            | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Arsenic                           | 27                              | 5.2                                            | 25.83     | 2.912       | 92.4 | 75       | 125       | 14.4 | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2107A83

22-Sep-21

**Client:** Marathon  
**Project:** Well Installations 2021

| Sample ID: <b>2107A83-001AMSD</b> | SampType: <b>MSD</b>            | TestCode: <b>EPA Method 6010B: Soil Metals</b> |           |             |      |          |           |      |          |      |
|-----------------------------------|---------------------------------|------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>OW-66-18</b>        | Batch ID: <b>61509</b>          | RunNo: <b>80056</b>                            |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/22/2021</b>       | Analysis Date: <b>7/23/2021</b> | SeqNo: <b>2817244</b> Units: <b>mg/Kg</b>      |           |             |      |          |           |      |          |      |
| Analyte                           | Result                          | PQL                                            | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Cadmium                           | 24                              | 0.21                                           | 25.83     | 0           | 92.9 | 75       | 125       | 3.81 | 20       |      |
| Chromium                          | 31                              | 0.62                                           | 25.83     | 4.279       | 102  | 75       | 125       | 7.88 | 20       |      |
| Lead                              | 26                              | 0.62                                           | 25.83     | 1.205       | 94.4 | 75       | 125       | 2.57 | 20       |      |
| Silver                            | 4.5                             | 0.52                                           | 5.165     | 0           | 87.6 | 75       | 125       | 9.40 | 20       |      |

| Sample ID: <b>MB-61509</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 6010B: Soil Metals</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>61509</b>          | RunNo: <b>80177</b>                            |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/22/2021</b> | Analysis Date: <b>7/29/2021</b> | SeqNo: <b>2823029</b> Units: <b>mg/Kg</b>      |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                            | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Selenium                    | ND                              | 2.5                                            |           |             |      |          |           |      |          |      |

| Sample ID: <b>LCS-61509</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 6010B: Soil Metals</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>61509</b>          | RunNo: <b>80177</b>                            |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/22/2021</b> | Analysis Date: <b>7/29/2021</b> | SeqNo: <b>2823031</b> Units: <b>mg/Kg</b>      |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                            | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Selenium                    | 22                              | 2.5                                            | 25.00     | 0           | 89.2 | 80       | 120       |      |          |      |

| Sample ID: <b>2107A83-001AMS</b> | SampType: <b>MS</b>             | TestCode: <b>EPA Method 6010B: Soil Metals</b> |           |             |      |          |           |      |          |      |
|----------------------------------|---------------------------------|------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>OW-66-18</b>       | Batch ID: <b>61509</b>          | RunNo: <b>80177</b>                            |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/22/2021</b>      | Analysis Date: <b>7/29/2021</b> | SeqNo: <b>2823077</b> Units: <b>mg/Kg</b>      |           |             |      |          |           |      |          |      |
| Analyte                          | Result                          | PQL                                            | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Selenium                         | 21                              | 5.2                                            | 25.83     | 0           | 80.2 | 75       | 125       |      |          |      |

| Sample ID: <b>2107A83-001AMSD</b> | SampType: <b>MSD</b>            | TestCode: <b>EPA Method 6010B: Soil Metals</b> |           |             |      |          |           |      |          |      |
|-----------------------------------|---------------------------------|------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>OW-66-18</b>        | Batch ID: <b>61509</b>          | RunNo: <b>80177</b>                            |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/22/2021</b>       | Analysis Date: <b>7/29/2021</b> | SeqNo: <b>2823078</b> Units: <b>mg/Kg</b>      |           |             |      |          |           |      |          |      |
| Analyte                           | Result                          | PQL                                            | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Selenium                          | 23                              | 5.2                                            | 25.83     | 0           | 87.9 | 75       | 125       | 9.15 | 20       |      |

| Sample ID: <b>2107A83-001APS</b> | SampType: <b>PS</b>             | TestCode: <b>EPA Method 6010B: Soil Metals</b> |           |             |      |          |           |      |          |      |
|----------------------------------|---------------------------------|------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>OW-66-18</b>       | Batch ID: <b>61509</b>          | RunNo: <b>80177</b>                            |           |             |      |          |           |      |          |      |
| Prep Date:                       | Analysis Date: <b>7/29/2021</b> | SeqNo: <b>2823082</b> Units: <b>mg/Kg</b>      |           |             |      |          |           |      |          |      |
| Analyte                          | Result                          | PQL                                            | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Barium                           | 490                             | 26                                             | 129.1     | 343.2       | 110  | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2107A83

22-Sep-21

**Client:** Marathon  
**Project:** Well Installations 2021

| Sample ID: <b>2.5ug gro lcs</b> | SampType: <b>LCS</b>            |     | TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b> |             |                     |          |           |      |          |      |
|---------------------------------|---------------------------------|-----|-------------------------------------------------------|-------------|---------------------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>          | Batch ID: <b>C80017</b>         |     | RunNo: <b>80017</b>                                   |             |                     |          |           |      |          |      |
| Prep Date:                      | Analysis Date: <b>7/22/2021</b> |     | SeqNo: <b>2815823</b>                                 |             | Units: <b>mg/Kg</b> |          |           |      |          |      |
| Analyte                         | Result                          | PQL | SPK value                                             | SPK Ref Val | %REC                | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO)   | 23                              | 5.0 | 25.00                                                 | 0           | 93.8                | 70       | 130       |      |          |      |
| Surr: BFB                       | 480                             |     | 500.0                                                 |             | 96.8                | 70       | 130       |      |          |      |

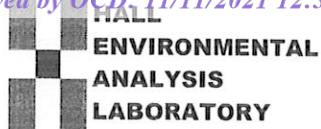
| Sample ID: <b>mb</b>          | SampType: <b>MBLK</b>           |     | TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b> |             |                     |          |           |      |          |      |
|-------------------------------|---------------------------------|-----|-------------------------------------------------------|-------------|---------------------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>         | Batch ID: <b>C80017</b>         |     | RunNo: <b>80017</b>                                   |             |                     |          |           |      |          |      |
| Prep Date:                    | Analysis Date: <b>7/22/2021</b> |     | SeqNo: <b>2815824</b>                                 |             | Units: <b>mg/Kg</b> |          |           |      |          |      |
| Analyte                       | Result                          | PQL | SPK value                                             | SPK Ref Val | %REC                | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND                              | 5.0 |                                                       |             |                     |          |           |      |          |      |
| Surr: BFB                     | 490                             |     | 500.0                                                 |             | 98.9                | 70       | 130       |      |          |      |

| Sample ID: <b>mb</b>          | SampType: <b>MBLK</b>           |     | TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b> |             |                     |          |           |      |          |      |
|-------------------------------|---------------------------------|-----|-------------------------------------------------------|-------------|---------------------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>         | Batch ID: <b>R80062</b>         |     | RunNo: <b>80062</b>                                   |             |                     |          |           |      |          |      |
| Prep Date:                    | Analysis Date: <b>7/23/2021</b> |     | SeqNo: <b>2817654</b>                                 |             | Units: <b>mg/Kg</b> |          |           |      |          |      |
| Analyte                       | Result                          | PQL | SPK value                                             | SPK Ref Val | %REC                | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND                              | 5.0 |                                                       |             |                     |          |           |      |          |      |
| Surr: BFB                     | 510                             |     | 500.0                                                 |             | 102                 | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit



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

## Sample Log-In Check List

Client Name: **Marathon**Work Order Number: **2107A83**

RcptNo: 1

Received By: **Kasandra Payan** 7/21/2021 4:10:00 PMCompleted By: **Desiree Dominguez** 7/21/2021 4:30:26 PMReviewed By: **KPG 7/22/21**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  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☐ No ☒ NA ☐
5. Sample(s) in proper container(s)? Approved by client. 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 ☐
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: **JR 7/22/21**

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: \_\_\_\_\_

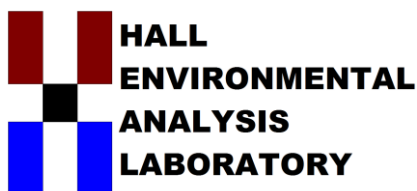
16. Additional remarks:

17. Cooler Information

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|-----------|---------|-----------|-------------|---------|-----------|-----------|
| 1         | 11.6    | Good      |             |         |           |           |

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  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: clients.hallenvironmental.com

October 21, 2021

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

RE: Well Installations 2021

OrderNo.: 2107C60

Dear Lesli Alexander:

Hall Environmental Analysis Laboratory received 5 sample(s) on 7/23/2021 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued August 18, 2021.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-01R-6

Project: Well Installations 2021

Collection Date: 7/22/2021 7:50:00 AM

Lab ID: 2107C60-001

Matrix: MEOH (SOIL)

Received Date: 7/23/2021 4:57:00 PM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF  | Date Analyzed         | Batch ID |
|--------------------------------------------------|--------|--------|--------|------|-------|-----|-----------------------|----------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>SB</b>    |          |
| Diesel Range Organics (DRO)                      | 26     | 4.5    | 9.0    |      | mg/Kg | 1   | 7/28/2021 10:17:17 AM | 61603    |
| Motor Oil Range Organics (MRO)                   | ND     | 45     | 45     |      | mg/Kg | 1   | 7/28/2021 10:17:17 AM | 61603    |
| Surr: DNOP                                       | 113    | 0      | 70-130 |      | %Rec  | 1   | 7/28/2021 10:17:17 AM | 61603    |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>ags</b>   |          |
| Mercury                                          | 0.0041 | 0.0025 | 0.032  | J    | mg/Kg | 1   | 7/28/2021 5:17:38 PM  | 61615    |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>ags</b>   |          |
| Arsenic                                          | ND     | 2.7    | 4.8    |      | mg/Kg | 2   | 7/29/2021 3:42:46 PM  | 61606    |
| Barium                                           | 350    | 0.12   | 0.19   |      | mg/Kg | 2   | 7/29/2021 3:42:46 PM  | 61606    |
| Cadmium                                          | ND     | 0.096  | 0.19   |      | mg/Kg | 2   | 7/29/2021 3:42:46 PM  | 61606    |
| Chromium                                         | 9.7    | 0.29   | 0.58   |      | mg/Kg | 2   | 7/29/2021 3:42:46 PM  | 61606    |
| Iron                                             | 14000  | 260    | 260    |      | mg/Kg | 100 | 10/15/2021 2:25:05 PM | 63296    |
| Lead                                             | 2.6    | 0.51   | 0.58   |      | mg/Kg | 2   | 7/29/2021 3:42:46 PM  | 61606    |
| Manganese                                        | 310    | 0.32   | 0.38   |      | mg/Kg | 2   | 7/29/2021 3:42:46 PM  | 61606    |
| Selenium                                         | ND     | 4.2    | 4.8    |      | mg/Kg | 2   | 8/4/2021 4:16:06 PM   | 61606    |
| Silver                                           | ND     | 0.28   | 0.48   |      | mg/Kg | 2   | 7/29/2021 3:42:46 PM  | 61606    |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>DAM</b>   |          |
| Acenaphthene                                     | ND     | 0.088  | 0.20   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| Acenaphthylene                                   | ND     | 0.089  | 0.20   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| Aniline                                          | ND     | 0.068  | 0.20   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| Anthracene                                       | ND     | 0.089  | 0.20   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| Azobenzene                                       | ND     | 0.099  | 0.20   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| Benz(a)anthracene                                | ND     | 0.063  | 0.20   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| Benzo(a)pyrene                                   | ND     | 0.093  | 0.20   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| Benzo(b)fluoranthene                             | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| Benzo(g,h,i)perylene                             | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| Benzo(k)fluoranthene                             | ND     | 0.074  | 0.20   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| Benzoic acid                                     | ND     | 0.12   | 0.49   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| Benzyl alcohol                                   | ND     | 0.081  | 0.20   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| Bis(2-chloroethoxy)methane                       | ND     | 0.075  | 0.20   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| Bis(2-chloroethyl)ether                          | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| Bis(2-ethylhexyl)phthalate                       | ND     | 0.21   | 0.49   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| 4-Bromophenyl phenyl ether                       | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| Butyl benzyl phthalate                           | 0.075  | 0.060  | 0.20   | J    | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| Carbazole                                        | ND     | 0.087  | 0.20   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| 4-Chloro-3-methylphenol                          | ND     | 0.083  | 0.49   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| 4-Chloroaniline                                  | ND     | 0.096  | 0.49   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |
| 2-Chloronaphthalene                              | ND     | 0.093  | 0.25   |      | mg/Kg | 1   | 7/29/2021 6:18:02 PM  | 61594    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-01R-6

Project: Well Installations 2021

Collection Date: 7/22/2021 7:50:00 AM

Lab ID: 2107C60-001

Matrix: MEOH (SOIL)

Received Date: 7/23/2021 4:57:00 PM

| Analyses                               | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |      |      |       |    | Analyst: DAM         |          |
| 2-Chlorophenol                         | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 4-Chlorophenyl phenyl ether            | ND     | 0.084 | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Chrysene                               | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Di-n-butyl phthalate                   | 0.41   | 0.28  | 0.39 | B    | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Di-n-octyl phthalate                   | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Dibenz(a,h)anthracene                  | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Dibenzofuran                           | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 1,2-Dichlorobenzene                    | ND     | 0.080 | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 1,3-Dichlorobenzene                    | ND     | 0.070 | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 1,4-Dichlorobenzene                    | ND     | 0.084 | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 3,3'-Dichlorobenzidine                 | ND     | 0.15  | 0.25 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Diethyl phthalate                      | 1.7    | 0.32  | 0.49 | B    | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Dimethyl phthalate                     | ND     | 0.091 | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 2,4-Dichlorophenol                     | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 2,4-Dimethylphenol                     | ND     | 0.070 | 0.30 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 4,6-Dinitro-2-methylphenol             | ND     | 0.083 | 0.39 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 2,4-Dinitrophenol                      | ND     | 0.050 | 0.49 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 2,4-Dinitrotoluene                     | ND     | 0.12  | 0.49 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 2,6-Dinitrotoluene                     | ND     | 0.10  | 0.49 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Fluoranthene                           | ND     | 0.080 | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Fluorene                               | ND     | 0.088 | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Hexachlorobenzene                      | ND     | 0.088 | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Hexachlorobutadiene                    | ND     | 0.093 | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Hexachlorocyclopentadiene              | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Hexachloroethane                       | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Isophorone                             | ND     | 0.081 | 0.39 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 1-Methylnaphthalene                    | 0.38   | 0.091 | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 2-Methylnaphthalene                    | 0.66   | 0.081 | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 2-Methylphenol                         | ND     | 0.083 | 0.39 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 3+4-Methylphenol                       | ND     | 0.081 | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| N-Nitrosodi-n-propylamine              | ND     | 0.091 | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| N-Nitrosodimethylamine                 | ND     | 0.15  | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| N-Nitrosodiphenylamine                 | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Naphthalene                            | 0.28   | 0.093 | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 2-Nitroaniline                         | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 3-Nitroaniline                         | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 4-Nitroaniline                         | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Nitrobenzene                           | ND     | 0.081 | 0.39 |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-01R-6

Project: Well Installations 2021

Collection Date: 7/22/2021 7:50:00 AM

Lab ID: 2107C60-001

Matrix: MEOH (SOIL)

Received Date: 7/23/2021 4:57:00 PM

| Analyses                               | Result | MDL    | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|--------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |        |           |      |       |    | Analyst: <b>DAM</b>  |          |
| 2-Nitrophenol                          | ND     | 0.085  | 0.20      |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 4-Nitrophenol                          | ND     | 0.081  | 0.25      |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Pentachlorophenol                      | ND     | 0.085  | 0.39      |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Phenanthrene                           | ND     | 0.10   | 0.20      |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Phenol                                 | 0.093  | 0.076  | 0.20      | J    | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Pyrene                                 | ND     | 0.075  | 0.20      |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Pyridine                               | ND     | 0.16   | 0.39      |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.090  | 0.20      |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 2,4,5-Trichlorophenol                  | ND     | 0.063  | 0.20      |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| 2,4,6-Trichlorophenol                  | ND     | 0.085  | 0.20      |      | mg/Kg | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Surr: 2-Fluorophenol                   | 45.1   |        | 20.3-74.1 |      | %Rec  | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Surr: Phenol-d5                        | 56.1   |        | 23.1-92.7 |      | %Rec  | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Surr: 2,4,6-Tribromophenol             | 75.7   |        | 17.3-122  |      | %Rec  | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Surr: Nitrobenzene-d5                  | 36.0   |        | 24.7-73.2 |      | %Rec  | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Surr: 2-Fluorobiphenyl                 | 41.7   |        | 21.5-90.1 |      | %Rec  | 1  | 7/29/2021 6:18:02 PM | 61594    |
| Surr: 4-Terphenyl-d14                  | 87.7   |        | 15-140    |      | %Rec  | 1  | 7/29/2021 6:18:02 PM | 61594    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |        |           |      |       |    | Analyst: <b>JMR</b>  |          |
| Benzene                                | 7.0    | 0.093  | 0.24      |      | mg/Kg | 20 | 8/1/2021 12:01:01 AM | R80239   |
| Toluene                                | 24     | 0.062  | 0.48      |      | mg/Kg | 20 | 8/1/2021 12:01:01 AM | R80239   |
| Ethylbenzene                           | 9.6    | 0.12   | 0.48      |      | mg/Kg | 20 | 8/1/2021 12:01:01 AM | R80239   |
| Methyl tert-butyl ether (MTBE)         | ND     | 0.014  | 0.024     |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 1,2,4-Trimethylbenzene                 | 21     | 0.068  | 0.48      |      | mg/Kg | 20 | 8/1/2021 12:01:01 AM | R80239   |
| 1,3,5-Trimethylbenzene                 | 4.1    | 0.11   | 0.48      |      | mg/Kg | 20 | 8/1/2021 12:01:01 AM | R80239   |
| 1,2-Dichloroethane (EDC)               | ND     | 0.0055 | 0.024     |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 1,2-Dibromoethane (EDB)                | ND     | 0.0095 | 0.024     |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Naphthalene                            | 1.2    | 0.0090 | 0.048     |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 1-Methylnaphthalene                    | 2.0    | 0.028  | 0.097     |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 2-Methylnaphthalene                    | 3.3    | 0.45   | 1.9       |      | mg/Kg | 20 | 8/1/2021 12:01:01 AM | R80239   |
| Acetone                                | ND     | 0.079  | 0.36      |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Bromobenzene                           | ND     | 0.0051 | 0.024     |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Bromodichloromethane                   | ND     | 0.0031 | 0.024     |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Bromoform                              | ND     | 0.0058 | 0.024     |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Bromomethane                           | ND     | 0.040  | 0.072     |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 2-Butanone                             | ND     | 0.10   | 0.24      |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Carbon disulfide                       | ND     | 0.0099 | 0.24      |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Carbon tetrachloride                   | ND     | 0.0027 | 0.024     |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Chlorobenzene                          | ND     | 0.0043 | 0.024     |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Chloroethane                           | ND     | 0.0090 | 0.048     |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Chloroform                             | ND     | 0.0034 | 0.024     |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-01R-6

Project: Well Installations 2021

Collection Date: 7/22/2021 7:50:00 AM

Lab ID: 2107C60-001

Matrix: MEOH (SOIL)

Received Date: 7/23/2021 4:57:00 PM

| Analyses                    | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------|--------|--------|-------|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES |        |        |       |      |       |    | Analyst: JMR         |          |
| Chloromethane               | ND     | 0.0085 | 0.072 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 2-Chlorotoluene             | ND     | 0.0032 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 4-Chlorotoluene             | ND     | 0.013  | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| cis-1,2-DCE                 | ND     | 0.012  | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| cis-1,3-Dichloropropene     | 0.0072 | 0.0036 | 0.024 | J    | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 1,2-Dibromo-3-chloropropane | ND     | 0.010  | 0.048 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Dibromochloromethane        | ND     | 0.0039 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Dibromomethane              | ND     | 0.0056 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 1,2-Dichlorobenzene         | ND     | 0.0050 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 1,3-Dichlorobenzene         | ND     | 0.0046 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 1,4-Dichlorobenzene         | ND     | 0.0065 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Dichlorodifluoromethane     | ND     | 0.0093 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 1,1-Dichloroethane          | ND     | 0.0070 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 1,1-Dichloroethene          | ND     | 0.0052 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 1,2-Dichloropropane         | ND     | 0.0047 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 1,3-Dichloropropane         | ND     | 0.0053 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 2,2-Dichloropropane         | 0.021  | 0.0034 | 0.048 | J    | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 1,1-Dichloropropene         | ND     | 0.0029 | 0.048 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Hexachlorobutadiene         | ND     | 0.016  | 0.048 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 2-Hexanone                  | ND     | 0.011  | 0.24  |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Isopropylbenzene            | 1.1    | 0.0045 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 4-Isopropyltoluene          | 0.24   | 0.0062 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 4-Methyl-2-pentanone        | 0.13   | 0.028  | 0.24  | J    | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Methylene chloride          | ND     | 0.017  | 0.072 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| n-Butylbenzene              | 2.3    | 0.0065 | 0.072 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| n-Propylbenzene             | 5.3    | 0.078  | 0.48  |      | mg/Kg | 20 | 8/1/2021 12:01:01 AM | R80239   |
| sec-Butylbenzene            | 0.61   | 0.020  | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Styrene                     | ND     | 0.0033 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| tert-Butylbenzene           | ND     | 0.0056 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.0035 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.0078 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Tetrachloroethene (PCE)     | 0.0069 | 0.0066 | 0.024 | J    | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| trans-1,2-DCE               | ND     | 0.0047 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| trans-1,3-Dichloropropene   | ND     | 0.0057 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 1,2,3-Trichlorobenzene      | ND     | 0.0037 | 0.048 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 1,2,4-Trichlorobenzene      | ND     | 0.0084 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 1,1,1-Trichloroethane       | ND     | 0.0053 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 1,1,2-Trichloroethane       | ND     | 0.0060 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Trichloroethene (TCE)       | ND     | 0.0047 | 0.024 |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-01R-6

Project: Well Installations 2021

Collection Date: 7/22/2021 7:50:00 AM

Lab ID: 2107C60-001

Matrix: MEOH (SOIL)

Received Date: 7/23/2021 4:57:00 PM

| Analyses                                    | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------------------|--------|--------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |        |        |      |       |    | Analyst: JMR         |          |
| Trichlorofluoromethane                      | ND     | 0.0055 | 0.024  |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| 1,2,3-Trichloropropane                      | ND     | 0.010  | 0.048  |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Vinyl chloride                              | ND     | 0.0046 | 0.024  |      | mg/Kg | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Xylenes, Total                              | 42     | 0.25   | 0.97   |      | mg/Kg | 20 | 8/1/2021 12:01:01 AM | R80239   |
| Surr: Dibromofluoromethane                  | 87.1   |        | 70-130 |      | %Rec  | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Surr: 1,2-Dichloroethane-d4                 | 95.8   |        | 70-130 |      | %Rec  | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Surr: Toluene-d8                            | 102    |        | 70-130 |      | %Rec  | 1  | 7/31/2021 4:46:37 AM | A80215   |
| Surr: 4-Bromofluorobenzene                  | 91.5   |        | 70-130 |      | %Rec  | 1  | 7/31/2021 4:46:37 AM | A80215   |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |        |        |      |       |    | Analyst: JMR         |          |
| Gasoline Range Organics (GRO)               | 1100   | 13     | 48     |      | mg/Kg | 20 | 8/1/2021 12:01:01 AM | R80239   |
| Surr: BFB                                   | 99.0   | 0      | 70-130 |      | %Rec  | 20 | 8/1/2021 12:01:01 AM | R80239   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-01R-18

Project: Well Installations 2021

Collection Date: 7/22/2021 7:45:00 AM

Lab ID: 2107C60-002

Matrix: MEOH (SOIL)

Received Date: 7/23/2021 4:57:00 PM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF  | Date Analyzed         | Batch ID            |
|--------------------------------------------------|--------|--------|--------|------|-------|-----|-----------------------|---------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |     |                       | Analyst: <b>SB</b>  |
| Diesel Range Organics (DRO)                      | 12     | 4.4    | 8.9    |      | mg/Kg | 1   | 7/28/2021 10:46:01 AM | 61603               |
| Motor Oil Range Organics (MRO)                   | ND     | 44     | 44     |      | mg/Kg | 1   | 7/28/2021 10:46:01 AM | 61603               |
| Surr: DNOP                                       | 117    | 0      | 70-130 |      | %Rec  | 1   | 7/28/2021 10:46:01 AM | 61603               |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |     |                       | Analyst: <b>ags</b> |
| Mercury                                          | ND     | 0.0027 | 0.034  |      | mg/Kg | 1   | 7/28/2021 5:19:44 PM  | 61615               |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |     |                       | Analyst: <b>ags</b> |
| Arsenic                                          | ND     | 2.8    | 4.9    |      | mg/Kg | 2   | 7/29/2021 3:44:50 PM  | 61606               |
| Barium                                           | 390    | 0.12   | 0.20   |      | mg/Kg | 2   | 7/29/2021 3:44:50 PM  | 61606               |
| Cadmium                                          | ND     | 0.098  | 0.20   |      | mg/Kg | 2   | 7/29/2021 3:44:50 PM  | 61606               |
| Chromium                                         | 11     | 0.29   | 0.59   |      | mg/Kg | 2   | 7/29/2021 3:44:50 PM  | 61606               |
| Iron                                             | 19000  | 260    | 260    |      | mg/Kg | 100 | 10/15/2021 2:28:56 PM | 63296               |
| Lead                                             | ND     | 0.52   | 0.59   |      | mg/Kg | 2   | 7/29/2021 3:44:50 PM  | 61606               |
| Manganese                                        | 1600   | 1.7    | 2.1    |      | mg/Kg | 10  | 10/15/2021 2:27:02 PM | 63296               |
| Selenium                                         | ND     | 4.3    | 4.9    |      | mg/Kg | 2   | 8/4/2021 4:18:22 PM   | 61606               |
| Silver                                           | ND     | 0.29   | 0.49   |      | mg/Kg | 2   | 7/29/2021 3:44:50 PM  | 61606               |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |     |                       | Analyst: <b>DAM</b> |
| Acenaphthene                                     | ND     | 0.089  | 0.20   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| Acenaphthylene                                   | ND     | 0.090  | 0.20   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| Aniline                                          | ND     | 0.069  | 0.20   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| Anthracene                                       | ND     | 0.090  | 0.20   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| Azobenzene                                       | ND     | 0.099  | 0.20   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| Benz(a)anthracene                                | ND     | 0.064  | 0.20   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| Benzo(a)pyrene                                   | ND     | 0.094  | 0.20   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| Benzo(b)fluoranthene                             | ND     | 0.11   | 0.20   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| Benzo(g,h,i)perylene                             | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| Benzo(k)fluoranthene                             | ND     | 0.075  | 0.20   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| Benzoic acid                                     | ND     | 0.12   | 0.50   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| Benzyl alcohol                                   | ND     | 0.082  | 0.20   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| Bis(2-chloroethoxy)methane                       | ND     | 0.076  | 0.20   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| Bis(2-chloroethyl)ether                          | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| Bis(2-ethylhexyl)phthalate                       | ND     | 0.21   | 0.50   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| 4-Bromophenyl phenyl ether                       | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| Butyl benzyl phthalate                           | 0.080  | 0.061  | 0.20   | J    | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| Carbazole                                        | ND     | 0.088  | 0.20   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| 4-Chloro-3-methylphenol                          | ND     | 0.084  | 0.50   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| 4-Chloroaniline                                  | ND     | 0.097  | 0.50   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |
| 2-Chloronaphthalene                              | ND     | 0.094  | 0.25   |      | mg/Kg | 1   | 7/30/2021 8:23:28 PM  | 61594               |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-01R-18

Project: Well Installations 2021

Collection Date: 7/22/2021 7:45:00 AM

Lab ID: 2107C60-002

Matrix: MEOH (SOIL)

Received Date: 7/23/2021 4:57:00 PM

| Analyses                               | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |      |      |       |    | Analyst: DAM         |          |
| 2-Chlorophenol                         | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 4-Chlorophenyl phenyl ether            | ND     | 0.084 | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Chrysene                               | ND     | 0.088 | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Di-n-butyl phthalate                   | ND     | 0.28  | 0.40 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Di-n-octyl phthalate                   | ND     | 0.13  | 0.40 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Dibenz(a,h)anthracene                  | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Dibenzofuran                           | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 1,2-Dichlorobenzene                    | ND     | 0.081 | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 1,3-Dichlorobenzene                    | ND     | 0.071 | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 1,4-Dichlorobenzene                    | ND     | 0.084 | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 3,3'-Dichlorobenzidine                 | ND     | 0.15  | 0.25 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Diethyl phthalate                      | 1.6    | 0.32  | 0.50 | B    | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Dimethyl phthalate                     | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 2,4-Dichlorophenol                     | ND     | 0.081 | 0.40 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 2,4-Dimethylphenol                     | ND     | 0.071 | 0.30 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 4,6-Dinitro-2-methylphenol             | ND     | 0.084 | 0.40 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 2,4-Dinitrophenol                      | ND     | 0.050 | 0.50 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 2,4-Dinitrotoluene                     | ND     | 0.12  | 0.50 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 2,6-Dinitrotoluene                     | ND     | 0.10  | 0.50 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Fluoranthene                           | ND     | 0.081 | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Fluorene                               | ND     | 0.089 | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Hexachlorobenzene                      | ND     | 0.089 | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Hexachlorobutadiene                    | ND     | 0.093 | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Hexachlorocyclopentadiene              | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Hexachloroethane                       | ND     | 0.088 | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Isophorone                             | ND     | 0.081 | 0.40 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 1-Methylnaphthalene                    | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 2-Methylnaphthalene                    | ND     | 0.082 | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 2-Methylphenol                         | ND     | 0.084 | 0.40 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 3+4-Methylphenol                       | ND     | 0.082 | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| N-Nitrosodi-n-propylamine              | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| N-Nitrosodimethylamine                 | ND     | 0.15  | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| N-Nitrosodiphenylamine                 | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Naphthalene                            | ND     | 0.094 | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 2-Nitroaniline                         | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 3-Nitroaniline                         | ND     | 0.12  | 0.20 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 4-Nitroaniline                         | ND     | 0.13  | 0.40 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Nitrobenzene                           | ND     | 0.082 | 0.40 |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-01R-18

Project: Well Installations 2021

Collection Date: 7/22/2021 7:45:00 AM

Lab ID: 2107C60-002

Matrix: MEOH (SOIL)

Received Date: 7/23/2021 4:57:00 PM

| Analyses                               | Result | MDL    | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|--------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |        |           |      |       |    | Analyst: <b>DAM</b>  |          |
| 2-Nitrophenol                          | ND     | 0.086  | 0.20      |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 4-Nitrophenol                          | ND     | 0.082  | 0.25      |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Pentachlorophenol                      | ND     | 0.086  | 0.40      |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Phenanthrene                           | ND     | 0.10   | 0.20      |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Phenol                                 | ND     | 0.077  | 0.20      |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Pyrene                                 | ND     | 0.075  | 0.20      |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Pyridine                               | ND     | 0.16   | 0.40      |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.091  | 0.20      |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 2,4,5-Trichlorophenol                  | ND     | 0.063  | 0.20      |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| 2,4,6-Trichlorophenol                  | ND     | 0.086  | 0.20      |      | mg/Kg | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Surr: 2-Fluorophenol                   | 46.1   |        | 20.3-74.1 |      | %Rec  | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Surr: Phenol-d5                        | 54.0   |        | 23.1-92.7 |      | %Rec  | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Surr: 2,4,6-Tribromophenol             | 91.1   |        | 17.3-122  |      | %Rec  | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Surr: Nitrobenzene-d5                  | 44.7   |        | 24.7-73.2 |      | %Rec  | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Surr: 2-Fluorobiphenyl                 | 48.1   |        | 21.5-90.1 |      | %Rec  | 1  | 7/30/2021 8:23:28 PM | 61594    |
| Surr: 4-Terphenyl-d14                  | 93.8   |        | 15-140    |      | %Rec  | 1  | 7/30/2021 8:23:28 PM | 61594    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |        |           |      |       |    | Analyst: <b>JMR</b>  |          |
| Benzene                                | 0.11   | 0.0052 | 0.013     |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| Toluene                                | 0.082  | 0.0035 | 0.027     |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| Ethylbenzene                           | 0.055  | 0.0066 | 0.027     |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| Methyl tert-butyl ether (MTBE)         | 0.017  | 0.015  | 0.027     | J    | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| 1,2,4-Trimethylbenzene                 | 0.11   | 0.0038 | 0.027     |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| 1,3,5-Trimethylbenzene                 | 0.017  | 0.0060 | 0.027     | J    | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| 1,2-Dichloroethane (EDC)               | ND     | 0.0061 | 0.027     |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| 1,2-Dibromoethane (EDB)                | ND     | 0.011  | 0.027     |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| Naphthalene                            | 0.013  | 0.010  | 0.054     | J    | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| 1-Methylnaphthalene                    | ND     | 0.031  | 0.11      |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| 2-Methylnaphthalene                    | ND     | 0.025  | 0.11      |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| Acetone                                | ND     | 0.088  | 0.40      |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| Bromobenzene                           | ND     | 0.0057 | 0.027     |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| Bromodichloromethane                   | ND     | 0.0034 | 0.027     |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| Bromoform                              | ND     | 0.0065 | 0.027     |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| Bromomethane                           | ND     | 0.045  | 0.081     |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| 2-Butanone                             | ND     | 0.12   | 0.27      |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| Carbon disulfide                       | ND     | 0.011  | 0.27      |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| Carbon tetrachloride                   | ND     | 0.0030 | 0.027     |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| Chlorobenzene                          | ND     | 0.0048 | 0.027     |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| Chloroethane                           | 0.016  | 0.010  | 0.054     | J    | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |
| Chloroform                             | ND     | 0.0038 | 0.027     |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM  | R80239   |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-01R-18

Project: Well Installations 2021

Collection Date: 7/22/2021 7:45:00 AM

Lab ID: 2107C60-002

Matrix: MEOH (SOIL)

Received Date: 7/23/2021 4:57:00 PM

| Analyses                    | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed       | Batch ID |
|-----------------------------|--------|--------|-------|------|-------|----|---------------------|----------|
| EPA METHOD 8260B: VOLATILES |        |        |       |      |       |    | Analyst: JMR        |          |
| Chloromethane               | ND     | 0.0094 | 0.081 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 2-Chlorotoluene             | ND     | 0.0036 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 4-Chlorotoluene             | ND     | 0.014  | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| cis-1,2-DCE                 | ND     | 0.013  | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| cis-1,3-Dichloropropene     | ND     | 0.0040 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 1,2-Dibromo-3-chloropropane | ND     | 0.012  | 0.054 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| Dibromochloromethane        | ND     | 0.0043 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| Dibromomethane              | ND     | 0.0063 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 1,2-Dichlorobenzene         | ND     | 0.0056 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 1,3-Dichlorobenzene         | ND     | 0.0051 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 1,4-Dichlorobenzene         | ND     | 0.0072 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| Dichlorodifluoromethane     | ND     | 0.010  | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 1,1-Dichloroethane          | 0.016  | 0.0078 | 0.027 | J    | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 1,1-Dichloroethene          | 0.010  | 0.0058 | 0.027 | J    | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 1,2-Dichloropropane         | ND     | 0.0052 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 1,3-Dichloropropane         | ND     | 0.0059 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 2,2-Dichloropropane         | ND     | 0.0038 | 0.054 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 1,1-Dichloropropene         | ND     | 0.0032 | 0.054 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| Hexachlorobutadiene         | ND     | 0.018  | 0.054 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 2-Hexanone                  | ND     | 0.012  | 0.27  |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| Isopropylbenzene            | 0.0068 | 0.0050 | 0.027 | J    | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 4-Isopropyltoluene          | ND     | 0.0069 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 4-Methyl-2-pentanone        | ND     | 0.031  | 0.27  |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| Methylene chloride          | ND     | 0.019  | 0.081 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| n-Butylbenzene              | 0.011  | 0.0072 | 0.081 | J    | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| n-Propylbenzene             | 0.023  | 0.0043 | 0.027 | J    | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| sec-Butylbenzene            | ND     | 0.022  | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| Styrene                     | ND     | 0.0037 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| tert-Butylbenzene           | ND     | 0.0062 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.0039 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 1,1,1,2,2-Tetrachloroethane | ND     | 0.0087 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| Tetrachloroethene (PCE)     | ND     | 0.0074 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| trans-1,2-DCE               | ND     | 0.0052 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| trans-1,3-Dichloropropene   | ND     | 0.0063 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 1,2,3-Trichlorobenzene      | ND     | 0.0042 | 0.054 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 1,2,4-Trichlorobenzene      | ND     | 0.0094 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 1,1,1-Trichloroethane       | ND     | 0.0059 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 1,1,2-Trichloroethane       | ND     | 0.0067 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| Trichloroethene (TCE)       | ND     | 0.0053 | 0.027 |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-01R-18

Project: Well Installations 2021

Collection Date: 7/22/2021 7:45:00 AM

Lab ID: 2107C60-002

Matrix: MEOH (SOIL)

Received Date: 7/23/2021 4:57:00 PM

| Analyses                                    | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed       | Batch ID |
|---------------------------------------------|--------|--------|--------|------|-------|----|---------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |        |        |      |       |    | Analyst: JMR        |          |
| Trichlorofluoromethane                      | ND     | 0.0061 | 0.027  |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| 1,2,3-Trichloropropane                      | ND     | 0.011  | 0.054  |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| Vinyl chloride                              | ND     | 0.0051 | 0.027  |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| Xylenes, Total                              | 0.23   | 0.014  | 0.054  |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| Surr: Dibromofluoromethane                  | 96.1   |        | 70-130 |      | %Rec  | 1  | 8/1/2021 4:17:57 AM | R80239   |
| Surr: 1,2-Dichloroethane-d4                 | 95.3   |        | 70-130 |      | %Rec  | 1  | 8/1/2021 4:17:57 AM | R80239   |
| Surr: Toluene-d8                            | 103    |        | 70-130 |      | %Rec  | 1  | 8/1/2021 4:17:57 AM | R80239   |
| Surr: 4-Bromofluorobenzene                  | 96.4   |        | 70-130 |      | %Rec  | 1  | 8/1/2021 4:17:57 AM | R80239   |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |        |        |      |       |    | Analyst: JMR        |          |
| Gasoline Range Organics (GRO)               | 6.9    | 0.75   | 2.7    |      | mg/Kg | 1  | 8/1/2021 4:17:57 AM | R80239   |
| Surr: BFB                                   | 98.7   | 0      | 70-130 |      | %Rec  | 1  | 8/1/2021 4:17:57 AM | R80239   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-02R-6

Project: Well Installations 2021

Collection Date: 7/22/2021 12:15:00 PM

Lab ID: 2107C60-003

Matrix: MEOH (SOIL)

Received Date: 7/23/2021 4:57:00 PM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF  | Date Analyzed         | Batch ID |
|--------------------------------------------------|--------|--------|--------|------|-------|-----|-----------------------|----------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>SB</b>    |          |
| Diesel Range Organics (DRO)                      | 41     | 4.7    | 9.5    |      | mg/Kg | 1   | 7/28/2021 10:55:40 AM | 61603    |
| Motor Oil Range Organics (MRO)                   | ND     | 48     | 48     |      | mg/Kg | 1   | 7/28/2021 10:55:40 AM | 61603    |
| Surr: DNOP                                       | 112    | 0      | 70-130 |      | %Rec  | 1   | 7/28/2021 10:55:40 AM | 61603    |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>ags</b>   |          |
| Mercury                                          | 0.0069 | 0.0026 | 0.032  | J    | mg/Kg | 1   | 7/28/2021 5:21:50 PM  | 61615    |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>ags</b>   |          |
| Arsenic                                          | ND     | 2.8    | 4.9    |      | mg/Kg | 2   | 7/29/2021 3:46:56 PM  | 61606    |
| Barium                                           | 410    | 0.12   | 0.19   |      | mg/Kg | 2   | 7/29/2021 3:46:56 PM  | 61606    |
| Cadmium                                          | ND     | 0.097  | 0.19   |      | mg/Kg | 2   | 7/29/2021 3:46:56 PM  | 61606    |
| Chromium                                         | 9.9    | 0.29   | 0.58   |      | mg/Kg | 2   | 7/29/2021 3:46:56 PM  | 61606    |
| Iron                                             | 16000  | 250    | 250    |      | mg/Kg | 100 | 10/15/2021 2:30:54 PM | 63296    |
| Lead                                             | 1.9    | 0.52   | 0.58   |      | mg/Kg | 2   | 7/29/2021 3:46:56 PM  | 61606    |
| Manganese                                        | 270    | 0.32   | 0.39   |      | mg/Kg | 2   | 7/29/2021 3:46:56 PM  | 61606    |
| Selenium                                         | ND     | 4.3    | 4.9    |      | mg/Kg | 2   | 8/4/2021 4:27:49 PM   | 61606    |
| Silver                                           | ND     | 0.28   | 0.49   |      | mg/Kg | 2   | 7/29/2021 3:46:56 PM  | 61606    |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>JME</b>   |          |
| Acenaphthene                                     | ND     | 0.089  | 0.20   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| Acenaphthylene                                   | ND     | 0.090  | 0.20   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| Aniline                                          | ND     | 0.069  | 0.20   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| Anthracene                                       | ND     | 0.090  | 0.20   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| Azobenzene                                       | ND     | 0.099  | 0.20   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| Benz(a)anthracene                                | ND     | 0.064  | 0.20   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| Benzo(a)pyrene                                   | ND     | 0.094  | 0.20   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| Benzo(b)fluoranthene                             | ND     | 0.11   | 0.20   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| Benzo(g,h,i)perylene                             | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| Benzo(k)fluoranthene                             | ND     | 0.075  | 0.20   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| Benzoic acid                                     | ND     | 0.12   | 0.50   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| Benzyl alcohol                                   | ND     | 0.081  | 0.20   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| Bis(2-chloroethoxy)methane                       | ND     | 0.076  | 0.20   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| Bis(2-chloroethyl)ether                          | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| Bis(2-ethylhexyl)phthalate                       | ND     | 0.21   | 0.50   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| 4-Bromophenyl phenyl ether                       | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| Butyl benzyl phthalate                           | ND     | 0.060  | 0.20   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| Carbazole                                        | ND     | 0.087  | 0.20   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| 4-Chloro-3-methylphenol                          | ND     | 0.084  | 0.50   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| 4-Chloroaniline                                  | ND     | 0.097  | 0.50   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |
| 2-Chloronaphthalene                              | ND     | 0.094  | 0.25   |      | mg/Kg | 1   | 8/17/2021 2:38:24 PM  | 61594    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-02R-6

Project: Well Installations 2021

Collection Date: 7/22/2021 12:15:00 PM

Lab ID: 2107C60-003

Matrix: MEOH (SOIL)

Received Date: 7/23/2021 4:57:00 PM

| Analyses                               | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |      |      |       |    | Analyst: JME         |          |
| 2-Chlorophenol                         | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 4-Chlorophenyl phenyl ether            | ND     | 0.084 | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Chrysene                               | ND     | 0.088 | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Di-n-butyl phthalate                   | 0.29   | 0.28  | 0.40 | J    | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Di-n-octyl phthalate                   | ND     | 0.13  | 0.40 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Dibenz(a,h)anthracene                  | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Dibenzofuran                           | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 1,2-Dichlorobenzene                    | ND     | 0.080 | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 1,3-Dichlorobenzene                    | ND     | 0.071 | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 1,4-Dichlorobenzene                    | ND     | 0.084 | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 3,3'-Dichlorobenzidine                 | ND     | 0.15  | 0.25 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Diethyl phthalate                      | 1.3    | 0.32  | 0.50 | B    | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Dimethyl phthalate                     | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 2,4-Dichlorophenol                     | ND     | 0.081 | 0.40 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 2,4-Dimethylphenol                     | ND     | 0.071 | 0.30 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 4,6-Dinitro-2-methylphenol             | ND     | 0.084 | 0.40 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 2,4-Dinitrophenol                      | ND     | 0.050 | 0.50 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 2,4-Dinitrotoluene                     | ND     | 0.12  | 0.50 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 2,6-Dinitrotoluene                     | ND     | 0.10  | 0.50 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Fluoranthene                           | ND     | 0.080 | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Fluorene                               | ND     | 0.089 | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Hexachlorobenzene                      | ND     | 0.088 | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Hexachlorobutadiene                    | ND     | 0.093 | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Hexachlorocyclopentadiene              | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Hexachloroethane                       | ND     | 0.088 | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Isophorone                             | ND     | 0.081 | 0.40 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 1-Methylnaphthalene                    | 0.19   | 0.091 | 0.20 | J    | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 2-Methylnaphthalene                    | ND     | 0.082 | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 2-Methylphenol                         | ND     | 0.084 | 0.40 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 3+4-Methylphenol                       | ND     | 0.082 | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| N-Nitrosodi-n-propylamine              | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| N-Nitrosodimethylamine                 | ND     | 0.15  | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| N-Nitrosodiphenylamine                 | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Naphthalene                            | 0.19   | 0.094 | 0.20 | J    | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 2-Nitroaniline                         | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 3-Nitroaniline                         | ND     | 0.12  | 0.20 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 4-Nitroaniline                         | ND     | 0.13  | 0.40 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Nitrobenzene                           | ND     | 0.081 | 0.40 |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-02R-6

Project: Well Installations 2021

Collection Date: 7/22/2021 12:15:00 PM

Lab ID: 2107C60-003

Matrix: MEOH (SOIL)

Received Date: 7/23/2021 4:57:00 PM

| Analyses                               | Result | MDL    | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|--------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |        |           |      |       |    | Analyst: JME         |          |
| 2-Nitrophenol                          | ND     | 0.086  | 0.20      |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 4-Nitrophenol                          | ND     | 0.082  | 0.25      |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Pentachlorophenol                      | ND     | 0.086  | 0.40      |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Phenanthrene                           | ND     | 0.10   | 0.20      |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Phenol                                 | ND     | 0.077  | 0.20      |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Pyrene                                 | ND     | 0.075  | 0.20      |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Pyridine                               | ND     | 0.16   | 0.40      |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.091  | 0.20      |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 2,4,5-Trichlorophenol                  | ND     | 0.063  | 0.20      |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| 2,4,6-Trichlorophenol                  | ND     | 0.086  | 0.20      |      | mg/Kg | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Surr: 2-Fluorophenol                   | 44.3   |        | 20.3-74.1 |      | %Rec  | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Surr: Phenol-d5                        | 48.3   |        | 23.1-92.7 |      | %Rec  | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Surr: 2,4,6-Tribromophenol             | 75.1   |        | 17.3-122  |      | %Rec  | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Surr: Nitrobenzene-d5                  | 39.1   |        | 24.7-73.2 |      | %Rec  | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Surr: 2-Fluorobiphenyl                 | 42.0   |        | 21.5-90.1 |      | %Rec  | 1  | 8/17/2021 2:38:24 PM | 61594    |
| Surr: 4-Terphenyl-d14                  | 75.9   |        | 15-140    |      | %Rec  | 1  | 8/17/2021 2:38:24 PM | 61594    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |        |           |      |       |    | Analyst: JMR         |          |
| Benzene                                | 0.027  | 0.0057 | 0.015     |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Toluene                                | 0.014  | 0.0038 | 0.030     | J    | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Ethylbenzene                           | 0.79   | 0.0072 | 0.030     |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Methyl tert-butyl ether (MTBE)         | ND     | 0.017  | 0.030     |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 1,2,4-Trimethylbenzene                 | 12     | 0.042  | 0.30      |      | mg/Kg | 10 | 8/1/2021 4:46:28 AM  | R80239   |
| 1,3,5-Trimethylbenzene                 | 0.022  | 0.0066 | 0.030     | J    | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 1,2-Dichloroethane (EDC)               | ND     | 0.0067 | 0.030     |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 1,2-Dibromoethane (EDB)                | ND     | 0.012  | 0.030     |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Naphthalene                            | 0.68   | 0.011  | 0.059     |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 1-Methylnaphthalene                    | 0.94   | 0.034  | 0.12      |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 2-Methylnaphthalene                    | 0.28   | 0.027  | 0.12      |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Acetone                                | ND     | 0.096  | 0.44      |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Bromobenzene                           | ND     | 0.0063 | 0.030     |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Bromodichloromethane                   | ND     | 0.0038 | 0.030     |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Bromoform                              | ND     | 0.0071 | 0.030     |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Bromomethane                           | ND     | 0.049  | 0.089     |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 2-Butanone                             | ND     | 0.13   | 0.30      |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Carbon disulfide                       | ND     | 0.012  | 0.30      |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Carbon tetrachloride                   | ND     | 0.0033 | 0.030     |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Chlorobenzene                          | ND     | 0.0053 | 0.030     |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Chloroethane                           | 0.046  | 0.011  | 0.059     | J    | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Chloroform                             | ND     | 0.0042 | 0.030     |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-02R-6

Project: Well Installations 2021

Collection Date: 7/22/2021 12:15:00 PM

Lab ID: 2107C60-003

Matrix: MEOH (SOIL)

Received Date: 7/23/2021 4:57:00 PM

| Analyses                    | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------|--------|--------|-------|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES |        |        |       |      |       |    | Analyst: JMR         |          |
| Chloromethane               | ND     | 0.010  | 0.089 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 2-Chlorotoluene             | ND     | 0.0040 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 4-Chlorotoluene             | ND     | 0.016  | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| cis-1,2-DCE                 | ND     | 0.015  | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| cis-1,3-Dichloropropene     | ND     | 0.0044 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 1,2-Dibromo-3-chloropropane | ND     | 0.013  | 0.059 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Dibromochloromethane        | ND     | 0.0047 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Dibromomethane              | ND     | 0.0069 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 1,2-Dichlorobenzene         | ND     | 0.0061 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 1,3-Dichlorobenzene         | ND     | 0.0056 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 1,4-Dichlorobenzene         | ND     | 0.0079 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Dichlorodifluoromethane     | ND     | 0.011  | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 1,1-Dichloroethane          | 0.021  | 0.0086 | 0.030 | J    | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 1,1-Dichloroethene          | ND     | 0.0063 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 1,2-Dichloropropane         | ND     | 0.0058 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 1,3-Dichloropropane         | ND     | 0.0065 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 2,2-Dichloropropane         | ND     | 0.0042 | 0.059 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 1,1-Dichloropropene         | ND     | 0.0036 | 0.059 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Hexachlorobutadiene         | ND     | 0.020  | 0.059 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 2-Hexanone                  | ND     | 0.013  | 0.30  |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Isopropylbenzene            | 0.24   | 0.0055 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 4-Isopropyltoluene          | 0.17   | 0.0076 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 4-Methyl-2-pentanone        | ND     | 0.034  | 0.30  |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Methylene chloride          | ND     | 0.021  | 0.089 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| n-Butylbenzene              | 0.88   | 0.0079 | 0.089 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| n-Propylbenzene             | 1.2    | 0.0048 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| sec-Butylbenzene            | 0.24   | 0.024  | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Styrene                     | ND     | 0.0040 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| tert-Butylbenzene           | ND     | 0.0068 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.0043 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.0096 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Tetrachloroethene (PCE)     | ND     | 0.0081 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| trans-1,2-DCE               | ND     | 0.0057 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| trans-1,3-Dichloropropene   | ND     | 0.0069 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 1,2,3-Trichlorobenzene      | ND     | 0.0046 | 0.059 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 1,2,4-Trichlorobenzene      | ND     | 0.010  | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 1,1,1-Trichloroethane       | ND     | 0.0065 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 1,1,2-Trichloroethane       | ND     | 0.0074 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Trichloroethene (TCE)       | ND     | 0.0058 | 0.030 |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |



## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-02R-6

Project: Well Installations 2021

Collection Date: 7/22/2021 12:15:00 PM

Lab ID: 2107C60-003

Matrix: MEOH (SOIL)

Received Date: 7/23/2021 4:57:00 PM

| Analyses                                    | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------------------|--------|--------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |        |        |      |       |    | Analyst: JMR         |          |
| Trichlorofluoromethane                      | ND     | 0.0067 | 0.030  |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| 1,2,3-Trichloropropane                      | ND     | 0.012  | 0.059  |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Vinyl chloride                              | ND     | 0.0056 | 0.030  |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Xylenes, Total                              | 1.7    | 0.016  | 0.059  |      | mg/Kg | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Surr: Dibromofluoromethane                  | 89.6   |        | 70-130 |      | %Rec  | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Surr: 1,2-Dichloroethane-d4                 | 93.1   |        | 70-130 |      | %Rec  | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Surr: Toluene-d8                            | 96.5   |        | 70-130 |      | %Rec  | 1  | 7/31/2021 6:40:56 AM | A80215   |
| Surr: 4-Bromofluorobenzene                  | 98.0   |        | 70-130 |      | %Rec  | 1  | 7/31/2021 6:40:56 AM | A80215   |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |        |        |      |       |    | Analyst: JMR         |          |
| Gasoline Range Organics (GRO)               | 260    | 8.2    | 30     |      | mg/Kg | 10 | 8/1/2021 4:46:28 AM  | R80239   |
| Surr: BFB                                   | 102    | 0      | 70-130 |      | %Rec  | 10 | 8/1/2021 4:46:28 AM  | R80239   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-02R-18

Project: Well Installations 2021

Collection Date: 7/22/2021 12:25:00 PM

Lab ID: 2107C60-004

Matrix: MEOH (SOIL)

Received Date: 7/23/2021 4:57:00 PM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF  | Date Analyzed         | Batch ID            |
|--------------------------------------------------|--------|--------|--------|------|-------|-----|-----------------------|---------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |     |                       | Analyst: <b>SB</b>  |
| Diesel Range Organics (DRO)                      | ND     | 4.6    | 9.4    |      | mg/Kg | 1   | 7/28/2021 11:05:18 AM | 61603               |
| Motor Oil Range Organics (MRO)                   | ND     | 47     | 47     |      | mg/Kg | 1   | 7/28/2021 11:05:18 AM | 61603               |
| Surr: DNOP                                       | 114    | 0      | 70-130 |      | %Rec  | 1   | 7/28/2021 11:05:18 AM | 61603               |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |     |                       | Analyst: <b>ags</b> |
| Mercury                                          | ND     | 0.0024 | 0.031  |      | mg/Kg | 1   | 7/28/2021 5:23:56 PM  | 61615               |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |     |                       | Analyst: <b>ags</b> |
| Arsenic                                          | ND     | 2.8    | 5.0    |      | mg/Kg | 2   | 7/29/2021 3:57:20 PM  | 61606               |
| Barium                                           | 230    | 0.12   | 0.20   |      | mg/Kg | 2   | 7/29/2021 3:57:20 PM  | 61606               |
| Cadmium                                          | ND     | 0.099  | 0.20   |      | mg/Kg | 2   | 7/29/2021 3:57:20 PM  | 61606               |
| Chromium                                         | 11     | 0.30   | 0.60   |      | mg/Kg | 2   | 7/29/2021 3:57:20 PM  | 61606               |
| Iron                                             | 22000  | 250    | 250    |      | mg/Kg | 100 | 10/15/2021 2:41:31 PM | 63296               |
| Lead                                             | 1.3    | 0.53   | 0.60   |      | mg/Kg | 2   | 7/29/2021 3:57:20 PM  | 61606               |
| Manganese                                        | 950    | 1.6    | 2.0    |      | mg/Kg | 10  | 10/15/2021 2:39:32 PM | 63296               |
| Selenium                                         | ND     | 4.4    | 5.0    |      | mg/Kg | 2   | 8/4/2021 4:30:04 PM   | 61606               |
| Silver                                           | ND     | 0.29   | 0.50   |      | mg/Kg | 2   | 7/29/2021 3:57:20 PM  | 61606               |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |     |                       | Analyst: <b>JME</b> |
| Acenaphthene                                     | ND     | 0.086  | 0.19   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| Acenaphthylene                                   | ND     | 0.087  | 0.19   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| Aniline                                          | ND     | 0.067  | 0.19   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| Anthracene                                       | ND     | 0.087  | 0.19   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| Azobenzene                                       | ND     | 0.096  | 0.19   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| Benz(a)anthracene                                | ND     | 0.062  | 0.19   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| Benzo(a)pyrene                                   | ND     | 0.091  | 0.19   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| Benzo(b)fluoranthene                             | ND     | 0.10   | 0.19   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| Benzo(g,h,i)perylene                             | ND     | 0.098  | 0.19   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| Benzo(k)fluoranthene                             | ND     | 0.072  | 0.19   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| Benzoic acid                                     | ND     | 0.12   | 0.48   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| Benzyl alcohol                                   | ND     | 0.079  | 0.19   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| Bis(2-chloroethoxy)methane                       | ND     | 0.074  | 0.19   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| Bis(2-chloroethyl)ether                          | ND     | 0.10   | 0.19   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.098  | 0.19   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| Bis(2-ethylhexyl)phthalate                       | ND     | 0.21   | 0.48   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| 4-Bromophenyl phenyl ether                       | ND     | 0.10   | 0.19   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| Butyl benzyl phthalate                           | ND     | 0.059  | 0.19   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| Carbazole                                        | ND     | 0.085  | 0.19   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| 4-Chloro-3-methylphenol                          | ND     | 0.081  | 0.48   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| 4-Chloroaniline                                  | ND     | 0.094  | 0.48   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |
| 2-Chloronaphthalene                              | ND     | 0.091  | 0.24   |      | mg/Kg | 1   | 8/17/2021 3:19:55 PM  | 61594               |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-02R-18

Project: Well Installations 2021

Collection Date: 7/22/2021 12:25:00 PM

Lab ID: 2107C60-004

Matrix: MEOH (SOIL)

Received Date: 7/23/2021 4:57:00 PM

| Analyses                               | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |      |      |       |    | Analyst: JME         |          |
| 2-Chlorophenol                         | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 4-Chlorophenyl phenyl ether            | ND     | 0.082 | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Chrysene                               | ND     | 0.085 | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Di-n-butyl phthalate                   | 0.38   | 0.27  | 0.39 | J    | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Di-n-octyl phthalate                   | ND     | 0.12  | 0.39 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Dibenz(a,h)anthracene                  | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Dibenzofuran                           | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 1,2-Dichlorobenzene                    | ND     | 0.078 | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 1,3-Dichlorobenzene                    | ND     | 0.069 | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 1,4-Dichlorobenzene                    | ND     | 0.082 | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 3,3'-Dichlorobenzidine                 | ND     | 0.14  | 0.24 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Diethyl phthalate                      | 1.6    | 0.31  | 0.48 | B    | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Dimethyl phthalate                     | ND     | 0.089 | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 2,4-Dichlorophenol                     | ND     | 0.078 | 0.39 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 2,4-Dimethylphenol                     | ND     | 0.069 | 0.29 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 4,6-Dinitro-2-methylphenol             | ND     | 0.081 | 0.39 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 2,4-Dinitrophenol                      | ND     | 0.048 | 0.48 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 2,4-Dinitrotoluene                     | ND     | 0.12  | 0.48 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 2,6-Dinitrotoluene                     | ND     | 0.098 | 0.48 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Fluoranthene                           | ND     | 0.078 | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Fluorene                               | ND     | 0.086 | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Hexachlorobenzene                      | ND     | 0.086 | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Hexachlorobutadiene                    | ND     | 0.090 | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Hexachlorocyclopentadiene              | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Hexachloroethane                       | ND     | 0.085 | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Isophorone                             | ND     | 0.079 | 0.39 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 1-Methylnaphthalene                    | ND     | 0.089 | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 2-Methylnaphthalene                    | ND     | 0.080 | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 2-Methylphenol                         | ND     | 0.081 | 0.39 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 3+4-Methylphenol                       | ND     | 0.080 | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| N-Nitrosodi-n-propylamine              | ND     | 0.089 | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| N-Nitrosodimethylamine                 | ND     | 0.14  | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| N-Nitrosodiphenylamine                 | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Naphthalene                            | ND     | 0.091 | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 2-Nitroaniline                         | ND     | 0.099 | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 3-Nitroaniline                         | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 4-Nitroaniline                         | ND     | 0.12  | 0.39 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Nitrobenzene                           | ND     | 0.079 | 0.39 |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-02R-18

Project: Well Installations 2021

Collection Date: 7/22/2021 12:25:00 PM

Lab ID: 2107C60-004

Matrix: MEOH (SOIL)

Received Date: 7/23/2021 4:57:00 PM

| Analyses                               | Result | MDL    | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|--------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |        |           |      |       |    | Analyst: JME         |          |
| 2-Nitrophenol                          | ND     | 0.083  | 0.19      |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 4-Nitrophenol                          | ND     | 0.079  | 0.24      |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Pentachlorophenol                      | ND     | 0.083  | 0.39      |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Phenanthrene                           | ND     | 0.098  | 0.19      |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Phenol                                 | ND     | 0.074  | 0.19      |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Pyrene                                 | ND     | 0.073  | 0.19      |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Pyridine                               | ND     | 0.16   | 0.39      |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.088  | 0.19      |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 2,4,5-Trichlorophenol                  | ND     | 0.061  | 0.19      |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| 2,4,6-Trichlorophenol                  | ND     | 0.083  | 0.19      |      | mg/Kg | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Surr: 2-Fluorophenol                   | 39.0   |        | 20.3-74.1 |      | %Rec  | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Surr: Phenol-d5                        | 41.7   |        | 23.1-92.7 |      | %Rec  | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Surr: 2,4,6-Tribromophenol             | 71.4   |        | 17.3-122  |      | %Rec  | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Surr: Nitrobenzene-d5                  | 38.1   |        | 24.7-73.2 |      | %Rec  | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Surr: 2-Fluorobiphenyl                 | 40.6   |        | 21.5-90.1 |      | %Rec  | 1  | 8/17/2021 3:19:55 PM | 61594    |
| Surr: 4-Terphenyl-d14                  | 78.9   |        | 15-140    |      | %Rec  | 1  | 8/17/2021 3:19:55 PM | 61594    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |        |           |      |       |    | Analyst: JMR         |          |
| Benzene                                | ND     | 0.0068 | 0.018     |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Toluene                                | 0.0062 | 0.0046 | 0.036     | J    | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Ethylbenzene                           | ND     | 0.0087 | 0.036     |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Methyl tert-butyl ether (MTBE)         | ND     | 0.020  | 0.036     |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1,2,4-Trimethylbenzene                 | 0.026  | 0.0050 | 0.036     | J    | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1,3,5-Trimethylbenzene                 | ND     | 0.0080 | 0.036     |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1,2-Dichloroethane (EDC)               | 0.014  | 0.0081 | 0.036     | J    | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1,2-Dibromoethane (EDB)                | ND     | 0.014  | 0.036     |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Naphthalene                            | ND     | 0.013  | 0.071     |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1-Methylnaphthalene                    | ND     | 0.041  | 0.14      |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 2-Methylnaphthalene                    | ND     | 0.033  | 0.14      |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Acetone                                | ND     | 0.12   | 0.53      |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Bromobenzene                           | ND     | 0.0075 | 0.036     |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Bromodichloromethane                   | ND     | 0.0045 | 0.036     |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Bromoform                              | ND     | 0.0086 | 0.036     |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Bromomethane                           | ND     | 0.059  | 0.11      |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 2-Butanone                             | ND     | 0.15   | 0.36      |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Carbon disulfide                       | ND     | 0.015  | 0.36      |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Carbon tetrachloride                   | ND     | 0.0040 | 0.036     |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Chlorobenzene                          | ND     | 0.0064 | 0.036     |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Chloroethane                           | ND     | 0.013  | 0.071     |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Chloroform                             | 0.015  | 0.0050 | 0.036     | J    | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-02R-18

Project: Well Installations 2021

Collection Date: 7/22/2021 12:25:00 PM

Lab ID: 2107C60-004

Matrix: MEOH (SOIL)

Received Date: 7/23/2021 4:57:00 PM

| Analyses                    | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------|--------|--------|-------|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES |        |        |       |      |       |    | Analyst: JMR         |          |
| Chloromethane               | ND     | 0.012  | 0.11  |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 2-Chlorotoluene             | ND     | 0.0048 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 4-Chlorotoluene             | ND     | 0.019  | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| cis-1,2-DCE                 | ND     | 0.018  | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| cis-1,3-Dichloropropene     | ND     | 0.0053 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1,2-Dibromo-3-chloropropane | ND     | 0.015  | 0.071 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Dibromochloromethane        | ND     | 0.0057 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Dibromomethane              | ND     | 0.0083 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1,2-Dichlorobenzene         | ND     | 0.0074 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1,3-Dichlorobenzene         | ND     | 0.0067 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1,4-Dichlorobenzene         | ND     | 0.0095 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Dichlorodifluoromethane     | ND     | 0.014  | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1,1-Dichloroethane          | ND     | 0.010  | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1,1-Dichloroethene          | ND     | 0.0076 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1,2-Dichloropropane         | ND     | 0.0069 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1,3-Dichloropropane         | ND     | 0.0078 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 2,2-Dichloropropane         | ND     | 0.0051 | 0.071 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1,1-Dichloropropene         | ND     | 0.0043 | 0.071 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Hexachlorobutadiene         | ND     | 0.024  | 0.071 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 2-Hexanone                  | ND     | 0.016  | 0.36  |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Isopropylbenzene            | ND     | 0.0066 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 4-Isopropyltoluene          | ND     | 0.0092 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 4-Methyl-2-pentanone        | ND     | 0.041  | 0.36  |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Methylene chloride          | ND     | 0.026  | 0.11  |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| n-Butylbenzene              | ND     | 0.0095 | 0.11  |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| n-Propylbenzene             | ND     | 0.0057 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| sec-Butylbenzene            | ND     | 0.029  | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Styrene                     | ND     | 0.0048 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| tert-Butylbenzene           | ND     | 0.0082 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.0052 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.011  | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Tetrachloroethene (PCE)     | ND     | 0.0097 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| trans-1,2-DCE               | ND     | 0.0069 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| trans-1,3-Dichloropropene   | ND     | 0.0083 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1,2,3-Trichlorobenzene      | ND     | 0.0055 | 0.071 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1,2,4-Trichlorobenzene      | ND     | 0.012  | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1,1,1-Trichloroethane       | ND     | 0.0078 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1,1,2-Trichloroethane       | ND     | 0.0089 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Trichloroethene (TCE)       | ND     | 0.0070 | 0.036 |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-02R-18

Project: Well Installations 2021

Collection Date: 7/22/2021 12:25:00 PM

Lab ID: 2107C60-004

Matrix: MEOH (SOIL)

Received Date: 7/23/2021 4:57:00 PM

| Analyses                                    | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------------------|--------|--------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |        |        |      |       |    | Analyst: JMR         |          |
| Trichlorofluoromethane                      | ND     | 0.0081 | 0.036  |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| 1,2,3-Trichloropropane                      | ND     | 0.015  | 0.071  |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Vinyl chloride                              | ND     | 0.0068 | 0.036  |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Xylenes, Total                              | ND     | 0.019  | 0.071  |      | mg/Kg | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Surr: Dibromofluoromethane                  | 101    |        | 70-130 |      | %Rec  | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Surr: 1,2-Dichloroethane-d4                 | 102    |        | 70-130 |      | %Rec  | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Surr: Toluene-d8                            | 99.2   |        | 70-130 |      | %Rec  | 1  | 7/31/2021 7:09:34 AM | A80215   |
| Surr: 4-Bromofluorobenzene                  | 97.9   |        | 70-130 |      | %Rec  | 1  | 7/31/2021 7:09:34 AM | A80215   |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |        |        |      |       |    | Analyst: JMR         |          |
| Gasoline Range Organics (GRO)               | ND     | 0.99   | 3.6    |      | mg/Kg | 1  | 8/1/2021 5:15:03 AM  | R80239   |
| Surr: BFB                                   | 98.6   | 0      | 70-130 |      | %Rec  | 1  | 8/1/2021 5:15:03 AM  | R80239   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MeOH BLank

Project: Well Installations 2021

Collection Date:

Lab ID: 2107C60-005

Matrix: MEOH BLAN

Received Date: 7/23/2021 4:57:00 PM

| Analyses                           | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------------------|--------|--------|-------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |       |      |       |    | Analyst: JMR         |          |
| Benzene                            | ND     | 0.0096 | 0.025 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Toluene                            | ND     | 0.0064 | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Ethylbenzene                       | ND     | 0.012  | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Methyl tert-butyl ether (MTBE)     | ND     | 0.028  | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 1,2,4-Trimethylbenzene             | 0.016  | 0.0071 | 0.050 | J    | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 1,3,5-Trimethylbenzene             | ND     | 0.011  | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 1,2-Dichloroethane (EDC)           | ND     | 0.011  | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 1,2-Dibromoethane (EDB)            | ND     | 0.020  | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Naphthalene                        | ND     | 0.019  | 0.10  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 1-Methylnaphthalene                | ND     | 0.057  | 0.20  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 2-Methylnaphthalene                | ND     | 0.046  | 0.20  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Acetone                            | ND     | 0.16   | 0.75  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Bromobenzene                       | ND     | 0.011  | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Bromodichloromethane               | ND     | 0.0064 | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Bromoform                          | ND     | 0.012  | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Bromomethane                       | ND     | 0.083  | 0.15  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 2-Butanone                         | ND     | 0.22   | 0.50  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Carbon disulfide                   | ND     | 0.021  | 0.50  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Carbon tetrachloride               | ND     | 0.0056 | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Chlorobenzene                      | ND     | 0.0090 | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Chloroethane                       | ND     | 0.019  | 0.10  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Chloroform                         | ND     | 0.0071 | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Chloromethane                      | ND     | 0.018  | 0.15  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 2-Chlorotoluene                    | ND     | 0.0067 | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 4-Chlorotoluene                    | ND     | 0.026  | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| cis-1,2-DCE                        | ND     | 0.025  | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| cis-1,3-Dichloropropene            | ND     | 0.0074 | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 1,2-Dibromo-3-chloropropane        | ND     | 0.022  | 0.10  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Dibromochloromethane               | ND     | 0.0080 | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Dibromomethane                     | ND     | 0.012  | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 1,2-Dichlorobenzene                | ND     | 0.010  | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 1,3-Dichlorobenzene                | ND     | 0.0094 | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 1,4-Dichlorobenzene                | ND     | 0.013  | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Dichlorodifluoromethane            | ND     | 0.019  | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 1,1-Dichloroethane                 | ND     | 0.015  | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 1,1-Dichloroethene                 | ND     | 0.011  | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 1,2-Dichloropropane                | ND     | 0.0097 | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 1,3-Dichloropropane                | ND     | 0.011  | 0.050 |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 2,2-Dichloropropane                | ND     | 0.0071 | 0.10  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2107C60

Date Reported: 10/21/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MeOH BLank

Project: Well Installations 2021

Collection Date:

Lab ID: 2107C60-005

Matrix: MEOH BLAN

Received Date: 7/23/2021 4:57:00 PM

| Analyses                           | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------------------|--------|--------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |        |      |       |    | Analyst: JMR         |          |
| 1,1-Dichloropropene                | ND     | 0.0060 | 0.10   |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Hexachlorobutadiene                | ND     | 0.034  | 0.10   |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 2-Hexanone                         | ND     | 0.022  | 0.50   |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Isopropylbenzene                   | ND     | 0.0093 | 0.050  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 4-Isopropyltoluene                 | ND     | 0.013  | 0.050  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 4-Methyl-2-pentanone               | ND     | 0.058  | 0.50   |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Methylene chloride                 | ND     | 0.036  | 0.15   |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| n-Butylbenzene                     | ND     | 0.013  | 0.15   |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| n-Propylbenzene                    | ND     | 0.0081 | 0.050  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| sec-Butylbenzene                   | ND     | 0.041  | 0.050  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Styrene                            | ND     | 0.0068 | 0.050  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| tert-Butylbenzene                  | ND     | 0.012  | 0.050  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 1,1,1,2-Tetrachloroethane          | ND     | 0.0073 | 0.050  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 1,1,2,2-Tetrachloroethane          | ND     | 0.016  | 0.050  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Tetrachloroethene (PCE)            | ND     | 0.014  | 0.050  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| trans-1,2-DCE                      | ND     | 0.0097 | 0.050  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| trans-1,3-Dichloropropene          | ND     | 0.012  | 0.050  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 1,2,3-Trichlorobenzene             | ND     | 0.0077 | 0.10   |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 1,2,4-Trichlorobenzene             | ND     | 0.017  | 0.050  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 1,1,1-Trichloroethane              | ND     | 0.011  | 0.050  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 1,1,2-Trichloroethane              | ND     | 0.013  | 0.050  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Trichloroethene (TCE)              | ND     | 0.0098 | 0.050  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Trichlorofluoromethane             | ND     | 0.011  | 0.050  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| 1,2,3-Trichloropropane             | ND     | 0.021  | 0.10   |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Vinyl chloride                     | ND     | 0.0095 | 0.050  |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Xylenes, Total                     | ND     | 0.026  | 0.10   |      | mg/Kg | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Surr: Dibromofluoromethane         | 98.3   |        | 70-130 |      | %Rec  | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Surr: 1,2-Dichloroethane-d4        | 104    |        | 70-130 |      | %Rec  | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Surr: Toluene-d8                   | 98.3   |        | 70-130 |      | %Rec  | 1  | 7/31/2021 7:38:07 AM | A80215   |
| Surr: 4-Bromofluorobenzene         | 98.5   |        | 70-130 |      | %Rec  | 1  | 7/31/2021 7:38:07 AM | A80215   |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2107C60

21-Oct-21

**Client:** Marathon  
**Project:** Well Installations 2021

| Sample ID: <b>MB-61603</b>     | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|--------------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>          | Batch ID: <b>61603</b>          | RunNo: <b>80141</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/27/2021</b>    | Analysis Date: <b>7/28/2021</b> | SeqNo: <b>2821624</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| 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                     | 9.8                             |                                                            | 10.00     |             | 98.1 | 70       | 130       |      |          |      |

| Sample ID: <b>LCS-61603</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>61603</b>          | RunNo: <b>80141</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/27/2021</b> | Analysis Date: <b>7/28/2021</b> | SeqNo: <b>2821625</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 50                              | 10                                                         | 50.00     | 0           | 101  | 68.9     | 141       |      |          |      |
| Surr: DNOP                  | 5.8                             |                                                            | 5.000     |             | 116  | 70       | 130       |      |          |      |

| Sample ID: <b>2107C60-001AMS</b> | SampType: <b>MS</b>             | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|----------------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>MKTF-01R-6</b>     | Batch ID: <b>61603</b>          | RunNo: <b>80142</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/27/2021</b>      | Analysis Date: <b>7/28/2021</b> | SeqNo: <b>2821658</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| Analyte                          | Result                          | PQL                                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO)      | 73                              | 9.2                                                        | 45.91     | 26.36       | 101  | 15       | 184       |      |          |      |
| Surr: DNOP                       | 5.2                             |                                                            | 4.591     |             | 113  | 70       | 130       |      |          |      |

| Sample ID: <b>2107C60-001AMSD</b> | SampType: <b>MSD</b>            | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|-----------------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>MKTF-01R-6</b>      | Batch ID: <b>61603</b>          | RunNo: <b>80142</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/27/2021</b>       | Analysis Date: <b>7/28/2021</b> | SeqNo: <b>2821659</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| Analyte                           | Result                          | PQL                                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO)       | 82                              | 9.9                                                        | 49.70     | 26.36       | 111  | 15       | 184       | 11.9 | 23.9     |      |
| Surr: DNOP                        | 5.6                             |                                                            | 4.970     |             | 112  | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2107C60

21-Oct-21

**Client:** Marathon  
**Project:** Well Installations 2021

| Sample ID: <b>100ng lcs</b> | SampType: <b>LCS</b>            |       |           | TestCode: <b>EPA Method 8260B: Volatiles</b> |      |                     |           |      |          |      |
|-----------------------------|---------------------------------|-------|-----------|----------------------------------------------|------|---------------------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>A80215</b>         |       |           | RunNo: <b>80215</b>                          |      |                     |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>7/30/2021</b> |       |           | SeqNo: <b>2824898</b>                        |      | Units: <b>mg/Kg</b> |           |      |          |      |
| 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                                            | 109  | 70                  | 130       |      |          |      |
| Chlorobenzene               | 1.0                             | 0.050 | 1.000     | 0                                            | 102  | 70                  | 130       |      |          |      |
| 1,1-Dichloroethene          | 1.0                             | 0.050 | 1.000     | 0                                            | 104  | 70                  | 130       |      |          |      |
| Trichloroethene (TCE)       | 1.1                             | 0.050 | 1.000     | 0                                            | 105  | 70                  | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 0.51                            |       | 0.5000    |                                              | 102  | 70                  | 130       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 0.53                            |       | 0.5000    |                                              | 105  | 70                  | 130       |      |          |      |
| Surr: Toluene-d8            | 0.53                            |       | 0.5000    |                                              | 105  | 70                  | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.50                            |       | 0.5000    |                                              | 100  | 70                  | 130       |      |          |      |

| Sample ID: <b>mb</b>           | SampType: <b>MBLK</b>           |       |           | TestCode: <b>EPA Method 8260B: Volatiles</b> |      |                     |           |      |          |      |
|--------------------------------|---------------------------------|-------|-----------|----------------------------------------------|------|---------------------|-----------|------|----------|------|
| Client ID: <b>PBS</b>          | Batch ID: <b>A80215</b>         |       |           | RunNo: <b>80215</b>                          |      |                     |           |      |          |      |
| Prep Date:                     | Analysis Date: <b>7/30/2021</b> |       |           | SeqNo: <b>2824900</b>                        |      | Units: <b>mg/Kg</b> |           |      |          |      |
| 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                              | 0.15  |           |                                              |      |                     |           |      |          |      |
| 2-Butanone                     | ND                              | 0.50  |           |                                              |      |                     |           |      |          |      |
| Carbon disulfide               | ND                              | 0.50  |           |                                              |      |                     |           |      |          |      |
| Carbon tetrachloride           | ND                              | 0.050 |           |                                              |      |                     |           |      |          |      |
| Chlorobenzene                  | ND                              | 0.050 |           |                                              |      |                     |           |      |          |      |
| 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2107C60

21-Oct-21

**Client:** Marathon  
**Project:** Well Installations 2021

| Sample ID: <b>mb</b>        | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8260B: Volatiles</b> |                     |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>A80215</b>         | RunNo: <b>80215</b>                          |                     |             |      |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>7/30/2021</b> | SeqNo: <b>2824900</b>                        | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2107C60

21-Oct-21

**Client:** Marathon  
**Project:** Well Installations 2021

| Sample ID: <b>mb</b>        | SampType: <b>MBLK</b>           |       | TestCode: <b>EPA Method 8260B: Volatiles</b> |             |                     |          |           |      |          |      |
|-----------------------------|---------------------------------|-------|----------------------------------------------|-------------|---------------------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>A80215</b>         |       | RunNo: <b>80215</b>                          |             |                     |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>7/30/2021</b> |       | SeqNo: <b>2824900</b>                        |             | Units: <b>mg/Kg</b> |          |           |      |          |      |
| 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  | 0.53                            |       | 0.5000                                       |             | 106                 | 70       | 130       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 0.53                            |       | 0.5000                                       |             | 106                 | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 0.49                            |       | 0.5000                                       |             | 98.9                | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.51                            |       | 0.5000                                       |             | 101                 | 70       | 130       |      |          |      |

### Qualifiers:

|     |                                                       |    |                                                 |
|-----|-------------------------------------------------------|----|-------------------------------------------------|
| *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
| D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
| 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 Quantitative Limit                          | RL | Reporting Limit                                 |
| S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2107C60

21-Oct-21

Client: Marathon

Project: Well Installations 2021

| Sample ID: <b>mb-61594</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |                     |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|--------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>61594</b>          | RunNo: <b>80191</b>                              |                     |             |      |          |           |      |          |      |
| Prep Date: <b>7/27/2021</b> | Analysis Date: <b>7/29/2021</b> | SeqNo: <b>2823725</b>                            | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| 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                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| Benz(a)anthracene           | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| Benzo(a)pyrene              | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| Benzo(b)fluoranthene        | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| Benzo(g,h,i)perylene        | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| Benzo(k)fluoranthene        | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| Benzoic acid                | ND                              | 0.50                                             |                     |             |      |          |           |      |          |      |
| Benzyl alcohol              | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| Bis(2-chloroethoxy)methane  | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| Bis(2-chloroethyl)ether     | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| Bis(2-chloroisopropyl)ether | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| Bis(2-ethylhexyl)phthalate  | 0.24                            | 0.50                                             |                     |             |      |          |           |      |          | J    |
| 4-Bromophenyl phenyl ether  | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| Butyl benzyl phthalate      | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| Carbazole                   | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| 4-Chloro-3-methylphenol     | ND                              | 0.50                                             |                     |             |      |          |           |      |          |      |
| 4-Chloroaniline             | ND                              | 0.50                                             |                     |             |      |          |           |      |          |      |
| 2-Chloronaphthalene         | ND                              | 0.25                                             |                     |             |      |          |           |      |          |      |
| 2-Chlorophenol              | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| 4-Chlorophenyl phenyl ether | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| Chrysene                    | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| Di-n-butyl phthalate        | 0.52                            | 0.40                                             |                     |             |      |          |           |      |          |      |
| Di-n-octyl phthalate        | ND                              | 0.40                                             |                     |             |      |          |           |      |          |      |
| Dibenz(a,h)anthracene       | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| Dibenzofuran                | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| 1,2-Dichlorobenzene         | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| 1,3-Dichlorobenzene         | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| 1,4-Dichlorobenzene         | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| 3,3'-Dichlorobenzidine      | ND                              | 0.25                                             |                     |             |      |          |           |      |          |      |
| Diethyl phthalate           | 2.7                             | 0.50                                             |                     |             |      |          |           |      |          |      |
| Dimethyl phthalate          | ND                              | 0.20                                             |                     |             |      |          |           |      |          |      |
| 2,4-Dichlorophenol          | ND                              | 0.40                                             |                     |             |      |          |           |      |          |      |
| 2,4-Dimethylphenol          | ND                              | 0.30                                             |                     |             |      |          |           |      |          |      |
| 4,6-Dinitro-2-methylphenol  | ND                              | 0.40                                             |                     |             |      |          |           |      |          |      |
| 2,4-Dinitrophenol           | ND                              | 0.50                                             |                     |             |      |          |           |      |          |      |

## 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2107C60

21-Oct-21

Client: Marathon

Project: Well Installations 2021

| Sample ID: <b>mb-61594</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|--------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>61594</b>          | RunNo: <b>80191</b>                              |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/27/2021</b> | Analysis Date: <b>7/29/2021</b> | SeqNo: <b>2823725</b> Units: <b>mg/Kg</b>        |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                              | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 2,4-Dinitrotoluene          | ND                              | 0.50                                             |           |             |      |          |           |      |          |      |
| 2,6-Dinitrotoluene          | ND                              | 0.50                                             |           |             |      |          |           |      |          |      |
| Fluoranthene                | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Fluorene                    | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Hexachlorobenzene           | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Hexachlorobutadiene         | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Hexachlorocyclopentadiene   | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Hexachloroethane            | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Indeno(1,2,3-cd)pyrene      | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Isophorone                  | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| 1-Methylnaphthalene         | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 2-Methylnaphthalene         | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 2-Methylphenol              | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| 3+4-Methylphenol            | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| N-Nitrosodi-n-propylamine   | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| N-Nitrosodimethylamine      | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| N-Nitrosodiphenylamine      | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Naphthalene                 | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 2-Nitroaniline              | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 3-Nitroaniline              | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 4-Nitroaniline              | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| Nitrobenzene                | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| 2-Nitrophenol               | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 4-Nitrophenol               | ND                              | 0.25                                             |           |             |      |          |           |      |          |      |
| Pentachlorophenol           | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| Phenanthrene                | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Phenol                      | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Pyrene                      | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Pyridine                    | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| 1,2,4-Trichlorobenzene      | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 2,4,5-Trichlorophenol       | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 2,4,6-Trichlorophenol       | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Surr: 2-Fluorophenol        | 1.4                             |                                                  | 3.330     |             | 41.4 | 20.3     | 74.1      |      |          |      |
| Surr: Phenol-d5             | 1.8                             |                                                  | 3.330     |             | 53.6 | 23.1     | 92.7      |      |          |      |
| Surr: 2,4,6-Tribromophenol  | 2.5                             |                                                  | 3.330     |             | 74.9 | 17.3     | 122       |      |          |      |
| Surr: Nitrobenzene-d5       | 0.67                            |                                                  | 1.670     |             | 40.0 | 24.7     | 73.2      |      |          |      |
| Surr: 2-Fluorobiphenyl      | 0.83                            |                                                  | 1.670     |             | 49.9 | 21.5     | 90.1      |      |          |      |
| Surr: 4-Terphenyl-d14       | 1.4                             |                                                  | 1.670     |             | 86.4 | 15       | 140       |      |          |      |

## 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2107C60

21-Oct-21

**Client:** Marathon  
**Project:** Well Installations 2021

| Sample ID: <b>Ics-61594</b> | SampType: <b>LCS</b>            |      |           | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |      |                     |           |      |          |      |
|-----------------------------|---------------------------------|------|-----------|--------------------------------------------------|------|---------------------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>61594</b>          |      |           | RunNo: <b>80191</b>                              |      |                     |           |      |          |      |
| Prep Date: <b>7/27/2021</b> | Analysis Date: <b>7/29/2021</b> |      |           | SeqNo: <b>2823726</b>                            |      | Units: <b>mg/Kg</b> |           |      |          |      |
| Analyte                     | Result                          | PQL  | SPK value | SPK Ref Val                                      | %REC | LowLimit            | HighLimit | %RPD | RPDLimit | Qual |
| Acenaphthene                | 1.3                             | 0.20 | 1.670     | 0                                                | 76.1 | 22.9                | 109       |      |          |      |
| 4-Chloro-3-methylphenol     | 2.4                             | 0.50 | 3.330     | 0                                                | 72.5 | 24.2                | 109       |      |          |      |
| 2-Chlorophenol              | 2.2                             | 0.20 | 3.330     | 0                                                | 65.2 | 18.8                | 103       |      |          |      |
| 1,4-Dichlorobenzene         | 0.96                            | 0.20 | 1.670     | 0                                                | 57.7 | 18.8                | 89.5      |      |          |      |
| 2,4-Dinitrotoluene          | 1.3                             | 0.50 | 1.670     | 0                                                | 77.5 | 20.2                | 94.5      |      |          |      |
| N-Nitrosodi-n-propylamine   | 1.2                             | 0.20 | 1.670     | 0                                                | 73.5 | 19.2                | 96.9      |      |          |      |
| 4-Nitrophenol               | 3.7                             | 0.25 | 3.330     | 0                                                | 113  | 25                  | 118       |      |          |      |
| Pentachlorophenol           | 2.7                             | 0.40 | 3.330     | 0                                                | 81.9 | 24.1                | 107       |      |          |      |
| Phenol                      | 2.5                             | 0.20 | 3.330     | 0                                                | 76.3 | 17.8                | 112       |      |          |      |
| Pyrene                      | 1.7                             | 0.20 | 1.670     | 0                                                | 103  | 25.9                | 125       |      |          |      |
| 1,2,4-Trichlorobenzene      | 0.91                            | 0.20 | 1.670     | 0                                                | 54.4 | 18.5                | 92.8      |      |          |      |
| Surr: 2-Fluorophenol        | 1.6                             |      | 3.330     |                                                  | 48.2 | 20.3                | 74.1      |      |          |      |
| Surr: Phenol-d5             | 2.1                             |      | 3.330     |                                                  | 63.7 | 23.1                | 92.7      |      |          |      |
| Surr: 2,4,6-Tribromophenol  | 2.6                             |      | 3.330     |                                                  | 79.5 | 17.3                | 122       |      |          |      |
| Surr: Nitrobenzene-d5       | 0.83                            |      | 1.670     |                                                  | 50.0 | 24.7                | 73.2      |      |          |      |
| Surr: 2-Fluorobiphenyl      | 0.98                            |      | 1.670     |                                                  | 58.7 | 21.5                | 90.1      |      |          |      |
| Surr: 4-Terphenyl-d14       | 1.5                             |      | 1.670     |                                                  | 87.9 | 15                  | 140       |      |          |      |

| Sample ID: <b>2107c60-001ams</b> | SampType: <b>MS</b>             |      |           | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |      |                     |           |      |          |      |
|----------------------------------|---------------------------------|------|-----------|--------------------------------------------------|------|---------------------|-----------|------|----------|------|
| Client ID: <b>MKTF-01R-6</b>     | Batch ID: <b>61594</b>          |      |           | RunNo: <b>80191</b>                              |      |                     |           |      |          |      |
| Prep Date: <b>7/27/2021</b>      | Analysis Date: <b>7/29/2021</b> |      |           | SeqNo: <b>2823728</b>                            |      | Units: <b>mg/Kg</b> |           |      |          |      |
| Analyte                          | Result                          | PQL  | SPK value | SPK Ref Val                                      | %REC | LowLimit            | HighLimit | %RPD | RPDLimit | Qual |
| Acenaphthene                     | 0.66                            | 0.20 | 1.666     | 0                                                | 39.7 | 24.8                | 111       |      |          |      |
| 4-Chloro-3-methylphenol          | 1.5                             | 0.50 | 3.322     | 0                                                | 46.5 | 40.7                | 97.8      |      |          |      |
| 2-Chlorophenol                   | 1.4                             | 0.20 | 3.322     | 0                                                | 42.0 | 21.2                | 91.6      |      |          |      |
| 1,4-Dichlorobenzene              | 0.45                            | 0.20 | 1.666     | 0                                                | 26.8 | 17.8                | 74.2      |      |          |      |
| 2,4-Dinitrotoluene               | 0.61                            | 0.50 | 1.666     | 0                                                | 36.4 | 36.5                | 81.5      |      |          | S    |
| N-Nitrosodi-n-propylamine        | 0.71                            | 0.20 | 1.666     | 0                                                | 42.7 | 25.5                | 85.2      |      |          |      |
| 4-Nitrophenol                    | 2.8                             | 0.25 | 3.322     | 0                                                | 83.8 | 15                  | 143       |      |          |      |
| Pentachlorophenol                | 2.6                             | 0.40 | 3.322     | 0                                                | 78.5 | 15                  | 116       |      |          |      |
| Phenol                           | 1.6                             | 0.20 | 3.322     | 0.09255                                          | 44.8 | 24.8                | 94.5      |      |          |      |
| Pyrene                           | 1.4                             | 0.20 | 1.666     | 0                                                | 85.0 | 42                  | 112       |      |          |      |
| 1,2,4-Trichlorobenzene           | 0.57                            | 0.20 | 1.666     | 0                                                | 33.9 | 18.5                | 85.3      |      |          |      |
| Surr: 2-Fluorophenol             | 1.3                             |      | 3.322     |                                                  | 39.7 | 20.3                | 74.1      |      |          |      |
| Surr: Phenol-d5                  | 1.5                             |      | 3.322     |                                                  | 45.8 | 23.1                | 92.7      |      |          |      |
| Surr: 2,4,6-Tribromophenol       | 2.5                             |      | 3.322     |                                                  | 75.8 | 17.3                | 122       |      |          |      |
| Surr: Nitrobenzene-d5            | 0.60                            |      | 1.666     |                                                  | 36.2 | 24.7                | 73.2      |      |          |      |
| Surr: 2-Fluorobiphenyl           | 0.61                            |      | 1.666     |                                                  | 36.8 | 21.5                | 90.1      |      |          |      |

## 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2107C60

21-Oct-21

Client: Marathon

Project: Well Installations 2021

| Sample ID: <b>2107c60-001ams</b> | SampType: <b>MS</b>             | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |                     |             |      |          |           |      |          |      |
|----------------------------------|---------------------------------|--------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>MKTF-01R-6</b>     | Batch ID: <b>61594</b>          | RunNo: <b>80191</b>                              |                     |             |      |          |           |      |          |      |
| Prep Date: <b>7/27/2021</b>      | Analysis Date: <b>7/29/2021</b> | SeqNo: <b>2823728</b>                            | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| Analyte                          | Result                          | PQL                                              | SPK value           | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Terphenyl-d14            | 1.5                             |                                                  | 1.666               |             | 88.5 | 15       | 140       |      |          |      |

| Sample ID: <b>2107C60-001AMSD</b> | SampType: <b>MSD</b>            | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |                     |             |      |          |           |      |          |      |
|-----------------------------------|---------------------------------|--------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>MKTF-01R-6</b>      | Batch ID: <b>61594</b>          | RunNo: <b>80233</b>                              |                     |             |      |          |           |      |          |      |
| Prep Date: <b>7/27/2021</b>       | Analysis Date: <b>7/30/2021</b> | SeqNo: <b>2825940</b>                            | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| Analyte                           | Result                          | PQL                                              | SPK value           | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Acenaphthene                      | 0.78                            | 0.20                                             | 1.638               | 0           | 47.9 | 24.8     | 111       | 17.0 | 20       |      |
| 4-Chloro-3-methylphenol           | 1.7                             | 0.49                                             | 3.266               | 0           | 53.5 | 40.7     | 97.8      | 12.3 | 20       |      |
| 2-Chlorophenol                    | 1.5                             | 0.20                                             | 3.266               | 0           | 45.8 | 21.2     | 91.6      | 6.90 | 20       |      |
| 1,4-Dichlorobenzene               | 0.50                            | 0.20                                             | 1.638               | 0           | 30.3 | 17.8     | 74.2      | 10.7 | 20       |      |
| 2,4-Dinitrotoluene                | 0.56                            | 0.49                                             | 1.638               | 0           | 34.5 | 36.5     | 81.5      | 6.98 | 20       | S    |
| N-Nitrosodi-n-propylamine         | 0.85                            | 0.20                                             | 1.638               | 0           | 52.1 | 25.5     | 85.2      | 18.3 | 20       |      |
| 4-Nitrophenol                     | 2.9                             | 0.25                                             | 3.266               | 0           | 89.6 | 15       | 143       | 4.96 | 20       |      |
| Pentachlorophenol                 | 2.3                             | 0.39                                             | 3.266               | 0           | 70.9 | 15       | 116       | 11.8 | 20       |      |
| Phenol                            | 1.8                             | 0.20                                             | 3.266               | 0.09255     | 53.7 | 24.8     | 94.5      | 15.5 | 20       |      |
| Pyrene                            | 1.2                             | 0.20                                             | 1.638               | 0           | 72.2 | 42       | 112       | 18.0 | 20       |      |
| 1,2,4-Trichlorobenzene            | 0.62                            | 0.20                                             | 1.638               | 0           | 37.6 | 18.5     | 85.3      | 8.45 | 20       |      |
| Surr: 2-Fluorophenol              | 1.4                             |                                                  | 3.266               |             | 42.4 | 20.3     | 74.1      | 0    | 0        |      |
| Surr: Phenol-d5                   | 1.8                             |                                                  | 3.266               |             | 55.5 | 23.1     | 92.7      | 0    | 0        |      |
| Surr: 2,4,6-Tribromophenol        | 2.4                             |                                                  | 3.266               |             | 74.1 | 17.3     | 122       | 0    | 0        |      |
| Surr: Nitrobenzene-d5             | 0.62                            |                                                  | 1.638               |             | 37.9 | 24.7     | 73.2      | 0    | 0        |      |
| Surr: 2-Fluorobiphenyl            | 0.72                            |                                                  | 1.638               |             | 43.8 | 21.5     | 90.1      | 0    | 0        |      |
| Surr: 4-Terphenyl-d14             | 1.3                             |                                                  | 1.638               |             | 81.6 | 15       | 140       | 0    | 0        |      |

| Sample ID: <b>MB-61917</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |                    |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|--------------------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>61917</b>          | RunNo: <b>80565</b>                              |                    |             |      |          |           |      |          |      |
| Prep Date: <b>8/11/2021</b> | Analysis Date: <b>8/17/2021</b> | SeqNo: <b>2842284</b>                            | Units: <b>%Rec</b> |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                              | SPK value          | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 2-Fluorophenol        | 2.4                             |                                                  | 3.330              |             | 72.8 | 20.3     | 74.1      |      |          |      |
| Surr: Phenol-d5             | 2.8                             |                                                  | 3.330              |             | 84.3 | 23.1     | 92.7      |      |          |      |
| Surr: 2,4,6-Tribromophenol  | 2.6                             |                                                  | 3.330              |             | 79.0 | 17.3     | 122       |      |          |      |
| Surr: Nitrobenzene-d5       | 1.1                             |                                                  | 1.670              |             | 68.2 | 24.7     | 73.2      |      |          |      |
| Surr: 2-Fluorobiphenyl      | 1.3                             |                                                  | 1.670              |             | 78.4 | 21.5     | 90.1      |      |          |      |
| Surr: 4-Terphenyl-d14       | 1.6                             |                                                  | 1.670              |             | 93.8 | 15       | 140       |      |          |      |

## 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2107C60

21-Oct-21

Client: Marathon

Project: Well Installations 2021

|                            |        |                          |           |                                           |      |             |           |      |          |      |
|----------------------------|--------|--------------------------|-----------|-------------------------------------------|------|-------------|-----------|------|----------|------|
| Sample ID: LCS-61917       |        | SampType: LCS            |           | TestCode: EPA Method 8270C: Semivolatiles |      |             |           |      |          |      |
| Client ID: LCSS            |        | Batch ID: 61917          |           | RunNo: 80565                              |      |             |           |      |          |      |
| Prep Date: 8/11/2021       |        | Analysis Date: 8/17/2021 |           | SeqNo: 2843316                            |      | Units: %Rec |           |      |          |      |
| Analyte                    | Result | PQL                      | SPK value | SPK Ref Val                               | %REC | LowLimit    | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 2-Fluorophenol       | 2.3    |                          | 3.330     |                                           | 68.1 | 20.3        | 74.1      |      |          |      |
| Surr: Phenol-d5            | 2.7    |                          | 3.330     |                                           | 80.8 | 23.1        | 92.7      |      |          |      |
| Surr: 2,4,6-Tribromophenol | 2.4    |                          | 3.330     |                                           | 70.6 | 17.3        | 122       |      |          |      |
| Surr: Nitrobenzene-d5      | 1.2    |                          | 1.670     |                                           | 69.1 | 24.7        | 73.2      |      |          |      |
| Surr: 2-Fluorobiphenyl     | 1.3    |                          | 1.670     |                                           | 76.5 | 21.5        | 90.1      |      |          |      |
| Surr: 4-Terphenyl-d14      | 1.6    |                          | 1.670     |                                           | 93.0 | 15          | 140       |      |          |      |

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 Quantitative Limit

S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2107C60

21-Oct-21

**Client:** Marathon  
**Project:** Well Installations 2021

| Sample ID: <b>MB-61615</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 7471B: Mercury</b> |                     |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|--------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>61615</b>          | RunNo: <b>80155</b>                        |                     |             |      |          |           |      |          |      |
| Prep Date: <b>7/28/2021</b> | Analysis Date: <b>7/28/2021</b> | SeqNo: <b>2822326</b>                      | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                        | SPK value           | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury                     | ND                              | 0.033                                      |                     |             |      |          |           |      |          |      |

| Sample ID: <b>LL LCS-61615</b> | SampType: <b>LC SLL</b>         | TestCode: <b>EPA Method 7471B: Mercury</b> |                     |             |      |          |           |      |          |      |
|--------------------------------|---------------------------------|--------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>BatchQC</b>      | Batch ID: <b>61615</b>          | RunNo: <b>80155</b>                        |                     |             |      |          |           |      |          |      |
| Prep Date: <b>7/28/2021</b>    | Analysis Date: <b>7/28/2021</b> | SeqNo: <b>2822327</b>                      | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| Analyte                        | Result                          | PQL                                        | SPK value           | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury                        | 0.0073                          | 0.033                                      | 0.006660            | 0           | 110  | 70       | 130       |      |          | J    |

| Sample ID: <b>LCS-61615</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 7471B: Mercury</b> |                     |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|--------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>61615</b>          | RunNo: <b>80155</b>                        |                     |             |      |          |           |      |          |      |
| Prep Date: <b>7/28/2021</b> | Analysis Date: <b>7/28/2021</b> | SeqNo: <b>2822328</b>                      | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                        | SPK value           | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury                     | 0.16                            | 0.033                                      | 0.1667              | 0           | 97.5 | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2107C60

21-Oct-21

**Client:** Marathon  
**Project:** Well Installations 2021

| Sample ID: <b>MB-61606</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 6010B: Soil Metals</b> |                     |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>61606</b>          | RunNo: <b>80177</b>                            |                     |             |      |          |           |      |          |      |
| Prep Date: <b>7/27/2021</b> | Analysis Date: <b>7/29/2021</b> | SeqNo: <b>2823032</b>                          | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                            | SPK value           | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Arsenic                     | ND                              | 2.5                                            |                     |             |      |          |           |      |          |      |
| Barium                      | ND                              | 0.10                                           |                     |             |      |          |           |      |          |      |
| Cadmium                     | ND                              | 0.10                                           |                     |             |      |          |           |      |          |      |
| Chromium                    | ND                              | 0.30                                           |                     |             |      |          |           |      |          |      |
| Lead                        | 0.27                            | 0.30                                           |                     |             |      |          |           |      |          | J    |
| Manganese                   | ND                              | 0.20                                           |                     |             |      |          |           |      |          |      |
| Silver                      | ND                              | 0.25                                           |                     |             |      |          |           |      |          |      |

| Sample ID: <b>LCS-61606</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 6010B: Soil Metals</b> |                     |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>61606</b>          | RunNo: <b>80177</b>                            |                     |             |      |          |           |      |          |      |
| Prep Date: <b>7/27/2021</b> | Analysis Date: <b>7/29/2021</b> | SeqNo: <b>2823034</b>                          | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                            | SPK value           | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Arsenic                     | 21                              | 2.5                                            | 25.00               | 0           | 83.6 | 80       | 120       |      |          |      |
| Barium                      | 23                              | 0.10                                           | 25.00               | 0           | 90.1 | 80       | 120       |      |          |      |
| Cadmium                     | 23                              | 0.10                                           | 25.00               | 0           | 91.0 | 80       | 120       |      |          |      |
| Chromium                    | 23                              | 0.30                                           | 25.00               | 0           | 91.1 | 80       | 120       |      |          |      |
| Lead                        | 22                              | 0.30                                           | 25.00               | 0           | 88.7 | 80       | 120       |      |          |      |
| Manganese                   | 22                              | 0.20                                           | 25.00               | 0           | 89.9 | 80       | 120       |      |          |      |
| Silver                      | 4.5                             | 0.25                                           | 5.000               | 0           | 90.1 | 80       | 120       |      |          |      |

| Sample ID: <b>MB-61606</b>  | SampType: <b>MBLK</b>          | TestCode: <b>EPA Method 6010B: Soil Metals</b> |                     |             |      |          |           |      |          |      |
|-----------------------------|--------------------------------|------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>61606</b>         | RunNo: <b>80278</b>                            |                     |             |      |          |           |      |          |      |
| Prep Date: <b>7/27/2021</b> | Analysis Date: <b>8/3/2021</b> | SeqNo: <b>2828128</b>                          | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| Analyte                     | Result                         | PQL                                            | SPK value           | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Selenium                    | ND                             | 2.5                                            |                     |             |      |          |           |      |          |      |

| Sample ID: <b>LCS-61606</b> | SampType: <b>LCS</b>           | TestCode: <b>EPA Method 6010B: Soil Metals</b> |                     |             |      |          |           |      |          |      |
|-----------------------------|--------------------------------|------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>61606</b>         | RunNo: <b>80278</b>                            |                     |             |      |          |           |      |          |      |
| Prep Date: <b>7/27/2021</b> | Analysis Date: <b>8/3/2021</b> | SeqNo: <b>2828130</b>                          | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| Analyte                     | Result                         | PQL                                            | SPK value           | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Selenium                    | 22                             | 2.5                                            | 25.00               | 0           | 87.8 | 80       | 120       |      |          |      |

| Sample ID: <b>MB-61606</b>  | SampType: <b>MBLK</b>          | TestCode: <b>EPA Method 6010B: Soil Metals</b> |                     |             |      |          |           |      |          |      |
|-----------------------------|--------------------------------|------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>61606</b>         | RunNo: <b>80309</b>                            |                     |             |      |          |           |      |          |      |
| Prep Date: <b>7/27/2021</b> | Analysis Date: <b>8/4/2021</b> | SeqNo: <b>2829277</b>                          | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit



**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2107C60

21-Oct-21

**Client:** Marathon  
**Project:** Well Installations 2021

| Sample ID: <b>MB-61606</b>  | SampType: <b>MBLK</b>          | TestCode: <b>EPA Method 6010B: Soil Metals</b> |           |             |      |          |           |      |          |      |
|-----------------------------|--------------------------------|------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>61606</b>         | RunNo: <b>80309</b>                            |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/27/2021</b> | Analysis Date: <b>8/4/2021</b> | SeqNo: <b>2829277</b> Units: <b>mg/Kg</b>      |           |             |      |          |           |      |          |      |
| Analyte                     | Result                         | PQL                                            | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Selenium                    | ND                             | 2.5                                            |           |             |      |          |           |      |          |      |

| Sample ID: <b>LCS-61606</b> | SampType: <b>LCS</b>           | TestCode: <b>EPA Method 6010B: Soil Metals</b> |           |             |      |          |           |      |          |      |
|-----------------------------|--------------------------------|------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>61606</b>         | RunNo: <b>80309</b>                            |           |             |      |          |           |      |          |      |
| Prep Date: <b>7/27/2021</b> | Analysis Date: <b>8/4/2021</b> | SeqNo: <b>2829279</b> Units: <b>mg/Kg</b>      |           |             |      |          |           |      |          |      |
| Analyte                     | Result                         | PQL                                            | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Selenium                    | 21                             | 2.5                                            | 25.00     | 0           | 83.4 | 80       | 120       |      |          |      |

| Sample ID: <b>MB-63296</b>   | SampType: <b>MBLK</b>            | TestCode: <b>EPA Method 6010B: Soil Metals</b> |           |             |      |          |           |      |          |      |
|------------------------------|----------------------------------|------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>        | Batch ID: <b>63296</b>           | RunNo: <b>82121</b>                            |           |             |      |          |           |      |          |      |
| Prep Date: <b>10/13/2021</b> | Analysis Date: <b>10/15/2021</b> | SeqNo: <b>2909447</b> Units: <b>mg/Kg</b>      |           |             |      |          |           |      |          |      |
| Analyte                      | Result                           | PQL                                            | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Iron                         | ND                               | 2.5                                            |           |             |      |          |           |      |          |      |
| Manganese                    | ND                               | 0.20                                           |           |             |      |          |           |      |          |      |

| Sample ID: <b>LCS-63296</b>  | SampType: <b>LCS</b>             | TestCode: <b>EPA Method 6010B: Soil Metals</b> |           |             |      |          |           |      |          |      |
|------------------------------|----------------------------------|------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>       | Batch ID: <b>63296</b>           | RunNo: <b>82121</b>                            |           |             |      |          |           |      |          |      |
| Prep Date: <b>10/13/2021</b> | Analysis Date: <b>10/15/2021</b> | SeqNo: <b>2909449</b> Units: <b>mg/Kg</b>      |           |             |      |          |           |      |          |      |
| Analyte                      | Result                           | PQL                                            | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Iron                         | 24                               | 2.5                                            | 25.00     | 0           | 97.6 | 80       | 120       |      |          |      |
| Manganese                    | 23                               | 0.20                                           | 25.00     | 0           | 90.5 | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2107C60

21-Oct-21

**Client:** Marathon  
**Project:** Well Installations 2021

| Sample ID: <b>2107c60-001ams</b> | SampType: <b>MS</b>            | TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b> |                     |             |      |          |           |      |          |      |
|----------------------------------|--------------------------------|-------------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>MKTF-01R-6</b>     | Batch ID: <b>R80239</b>        | RunNo: <b>80239</b>                                   |                     |             |      |          |           |      |          |      |
| Prep Date:                       | Analysis Date: <b>8/1/2021</b> | SeqNo: <b>2826335</b>                                 | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| Analyte                          | Result                         | PQL                                                   | SPK value           | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO)    | 1200                           | 48                                                    | 241.4               | 1086        | 61.2 | 64.4     | 124       |      |          | S    |
| Surr: BFB                        | 4700                           |                                                       | 4829                |             | 96.7 | 70       | 130       |      |          |      |

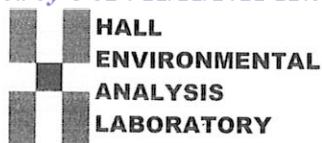
| Sample ID: <b>2107c60-001amsd</b> | SampType: <b>MSD</b>           | TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b> |                     |             |      |          |           |      |          |      |
|-----------------------------------|--------------------------------|-------------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>MKTF-01R-6</b>      | Batch ID: <b>R80239</b>        | RunNo: <b>80239</b>                                   |                     |             |      |          |           |      |          |      |
| Prep Date:                        | Analysis Date: <b>8/1/2021</b> | SeqNo: <b>2826336</b>                                 | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| Analyte                           | Result                         | PQL                                                   | SPK value           | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO)     | 1300                           | 48                                                    | 241.4               | 1086        | 86.1 | 64.4     | 124       | 4.76 | 20       |      |
| Surr: BFB                         | 4700                           |                                                       | 4829                |             | 97.8 | 70       | 130       | 0    | 0        |      |

| Sample ID: <b>mb</b>          | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b> |                     |             |      |          |           |      |          |      |
|-------------------------------|---------------------------------|-------------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>         | Batch ID: <b>R80239</b>         | RunNo: <b>80239</b>                                   |                     |             |      |          |           |      |          |      |
| Prep Date:                    | Analysis Date: <b>7/31/2021</b> | SeqNo: <b>2830117</b>                                 | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| Analyte                       | Result                          | PQL                                                   | SPK value           | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND                              | 5.0                                                   |                     |             |      |          |           |      |          |      |
| Surr: BFB                     | 490                             |                                                       | 500.0               |             | 98.9 | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit



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

## Sample Log-In Check List

Client Name: **Marathon**Work Order Number: **2107C60**RcptNo: **1**Received By: **Desiree Dominguez** 7/23/2021 4:57:00 PMCompleted By: **Isaiah Ortiz** 7/26/2021 9:18:14 AM

Reviewed By:

JR 7/26/21

ID  
I-0XChain 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  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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 ☐
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:

(&lt;2 or &gt;12 unless noted)

Adjusted?

Checked by: SPA 7.26.21

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: \_\_\_\_\_

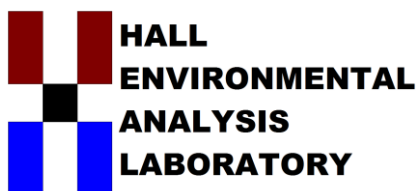
Client Instructions: \_\_\_\_\_

16. Additional remarks:

17. Cooler Information

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|-----------|---------|-----------|-------------|---------|-----------|-----------|
| 1         | 5.1     | Good      | Not Present |         |           |           |





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

September 24, 2021

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

RE: MKTF Well Installation

OrderNo.: 2108857

Dear Lesli Alexander:

Hall Environmental Analysis Laboratory received 11 sample(s) on 8/17/2021 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](http://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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109



## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: RW-2R (16.5-17")

Project: MKTF Well Installation

Collection Date: 8/13/2021 2:35:00 PM

Lab ID: 2108857-001

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF  | Date Analyzed         | Batch ID |
|--------------------------------------------------|--------|--------|--------|------|-------|-----|-----------------------|----------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>SB</b>    |          |
| Diesel Range Organics (DRO)                      | 86     | 4.8    | 9.6    |      | mg/Kg | 1   | 8/18/2021 5:26:48 PM  | 62028    |
| Motor Oil Range Organics (MRO)                   | ND     | 48     | 48     |      | mg/Kg | 1   | 8/18/2021 5:26:48 PM  | 62028    |
| Surr: DNOP                                       | 125    | 0      | 70-130 |      | %Rec  | 1   | 8/18/2021 5:26:48 PM  | 62028    |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>ags</b>   |          |
| Mercury                                          | ND     | 0.0025 | 0.032  |      | mg/Kg | 1   | 9/1/2021 11:00:05 AM  | 62296    |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>JLF</b>   |          |
| Arsenic                                          | 1.7    | 1.4    | 2.4    | J    | mg/Kg | 1   | 8/18/2021 2:27:40 PM  | 62031    |
| Barium                                           | 190    | 0.058  | 0.096  |      | mg/Kg | 1   | 8/18/2021 2:27:40 PM  | 62031    |
| Cadmium                                          | ND     | 0.048  | 0.096  |      | mg/Kg | 1   | 8/18/2021 2:27:40 PM  | 62031    |
| Chromium                                         | 8.1    | 0.14   | 0.29   |      | mg/Kg | 1   | 8/18/2021 2:27:40 PM  | 62031    |
| Iron                                             | 13000  | 240    | 240    |      | mg/Kg | 100 | 9/22/2021 3:34:29 PM  | 62031    |
| Lead                                             | 1.0    | 0.26   | 0.29   |      | mg/Kg | 1   | 8/18/2021 4:57:16 PM  | 62031    |
| Manganese                                        | 560    | 1.6    | 1.9    |      | mg/Kg | 10  | 9/22/2021 3:32:24 PM  | 62031    |
| Selenium                                         | ND     | 2.1    | 2.4    |      | mg/Kg | 1   | 8/18/2021 2:27:40 PM  | 62031    |
| Silver                                           | ND     | 0.14   | 0.24   |      | mg/Kg | 1   | 8/18/2021 2:27:40 PM  | 62031    |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>DAM</b>   |          |
| Acenaphthene                                     | ND     | 0.087  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Acenaphthylene                                   | ND     | 0.088  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Aniline                                          | ND     | 0.067  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Anthracene                                       | ND     | 0.088  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Azobenzene                                       | ND     | 0.097  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Benz(a)anthracene                                | ND     | 0.063  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Benzo(a)pyrene                                   | ND     | 0.092  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Benzo(b)fluoranthene                             | ND     | 0.10   | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Benzo(g,h,i)perylene                             | ND     | 0.099  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Benzo(k)fluoranthene                             | ND     | 0.073  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Benzoic acid                                     | ND     | 0.12   | 0.97   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Benzyl alcohol                                   | ND     | 0.080  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Bis(2-chloroethoxy)methane                       | ND     | 0.075  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Bis(2-chloroethyl)ether                          | ND     | 0.10   | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.099  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Bis(2-ethylhexyl)phthalate                       | ND     | 0.21   | 0.49   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| 4-Bromophenyl phenyl ether                       | ND     | 0.10   | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Butyl benzyl phthalate                           | ND     | 0.059  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Carbazole                                        | ND     | 0.086  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| 4-Chloro-3-methylphenol                          | ND     | 0.082  | 0.49   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| 4-Chloroaniline                                  | ND     | 0.095  | 0.49   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| 2-Chloronaphthalene                              | ND     | 0.092  | 0.24   |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: RW-2R (16.5-17")

Project: MKTF Well Installation

Collection Date: 8/13/2021 2:35:00 PM

Lab ID: 2108857-001

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                        | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed         | Batch ID |
|---------------------------------|--------|-------|------|------|-------|----|-----------------------|----------|
| EPA METHOD 8270C: SEMIVOLATILES |        |       |      |      |       |    | Analyst: DAM          |          |
| 2-Chlorophenol                  | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| 4-Chlorophenyl phenyl ether     | ND     | 0.083 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| Chrysene                        | ND     | 0.086 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| Di-n-butyl phthalate            | 0.34   | 0.27  | 0.39 | J    | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| Di-n-octyl phthalate            | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| Dibenz(a,h)anthracene           | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| Dibenzofuran                    | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| 1,2-Dichlorobenzene             | ND     | 0.079 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| 1,3-Dichlorobenzene             | ND     | 0.069 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| 1,4-Dichlorobenzene             | ND     | 0.083 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| 3,3'-Dichlorobenzidine          | ND     | 0.15  | 0.24 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| Diethyl phthalate               | ND     | 0.32  | 0.49 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| Dimethyl phthalate              | ND     | 0.090 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| 2,4-Dichlorophenol              | ND     | 0.079 | 0.39 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| 2,4-Dimethylphenol              | 0.13   | 0.069 | 0.29 | J    | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.082 | 0.39 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| 2,4-Dinitrophenol               | ND     | 0.049 | 0.49 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| 2,4-Dinitrotoluene              | ND     | 0.12  | 0.49 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| 2,6-Dinitrotoluene              | ND     | 0.099 | 0.49 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| Fluoranthene                    | ND     | 0.079 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| Fluorene                        | ND     | 0.087 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| Hexachlorobenzene               | ND     | 0.087 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| Hexachlorobutadiene             | ND     | 0.091 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| Hexachlorocyclopentadiene       | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| Hexachloroethane                | ND     | 0.086 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| Indeno(1,2,3-cd)pyrene          | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| Isophorone                      | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| 1-Methylnaphthalene             | 0.20   | 0.090 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| 2-Methylnaphthalene             | 0.34   | 0.080 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| 2-Methylphenol                  | 0.25   | 0.082 | 0.39 | J    | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| 3+4-Methylphenol                | ND     | 0.081 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| N-Nitrosodi-n-propylamine       | ND     | 0.090 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| N-Nitrosodimethylamine          | ND     | 0.14  | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| N-Nitrosodiphenylamine          | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| Naphthalene                     | 0.40   | 0.092 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| 2-Nitroaniline                  | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| 3-Nitroaniline                  | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| 4-Nitroaniline                  | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |
| Nitrobenzene                    | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 8/26/2021 10:11:03 PM | 62128    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: RW-2R (16.5-17")

Project: MKTF Well Installation

Collection Date: 8/13/2021 2:35:00 PM

Lab ID: 2108857-001

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                               | Result | MDL   | RL        | Qual | Units | DF  | Date Analyzed         | Batch ID |
|----------------------------------------|--------|-------|-----------|------|-------|-----|-----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |           |      |       |     | Analyst: <b>DAM</b>   |          |
| 2-Nitrophenol                          | ND     | 0.084 | 0.19      |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| 4-Nitrophenol                          | ND     | 0.080 | 0.24      |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Pentachlorophenol                      | ND     | 0.084 | 0.39      |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Phenanthrene                           | ND     | 0.10  | 0.19      |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Phenol                                 | 0.27   | 0.075 | 0.19      |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Pyrene                                 | ND     | 0.074 | 0.19      |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Pyridine                               | ND     | 0.16  | 0.39      |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.089 | 0.19      |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| 2,4,5-Trichlorophenol                  | ND     | 0.062 | 0.19      |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| 2,4,6-Trichlorophenol                  | ND     | 0.084 | 0.19      |      | mg/Kg | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Surr: 2-Fluorophenol                   | 0      |       | 20.3-74.1 | S    | %Rec  | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Surr: Phenol-d5                        | 65.9   |       | 23.1-92.7 |      | %Rec  | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Surr: 2,4,6-Tribromophenol             | 66.6   |       | 17.3-122  |      | %Rec  | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Surr: Nitrobenzene-d5                  | 49.2   |       | 24.7-73.2 |      | %Rec  | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Surr: 2-Fluorobiphenyl                 | 53.0   |       | 21.5-90.1 |      | %Rec  | 1   | 8/26/2021 10:11:03 PM | 62128    |
| Surr: 4-Terphenyl-d14                  | 70.1   |       | 15-140    |      | %Rec  | 1   | 8/26/2021 10:11:03 PM | 62128    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |       |           |      |       |     | Analyst: <b>RAA</b>   |          |
| Benzene                                | 9.7    | 0.023 | 0.060     |      | mg/Kg | 5   | 8/24/2021 5:49:46 PM  | 62009    |
| Toluene                                | 44     | 0.31  | 2.4       |      | mg/Kg | 100 | 8/25/2021 1:27:21 PM  | 62009    |
| Ethylbenzene                           | 13     | 0.58  | 2.4       |      | mg/Kg | 100 | 8/25/2021 1:27:21 PM  | 62009    |
| Methyl tert-butyl ether (MTBE)         | ND     | 0.067 | 0.12      |      | mg/Kg | 5   | 8/24/2021 5:49:46 PM  | 62009    |
| 1,2,4-Trimethylbenzene                 | 20     | 0.34  | 2.4       |      | mg/Kg | 100 | 8/25/2021 1:27:21 PM  | 62009    |
| 1,3,5-Trimethylbenzene                 | 7.6    | 0.027 | 0.12      |      | mg/Kg | 5   | 8/24/2021 5:49:46 PM  | 62009    |
| 1,2-Dichloroethane (EDC)               | ND     | 0.027 | 0.12      |      | mg/Kg | 5   | 8/24/2021 5:49:46 PM  | 62009    |
| 1,2-Dibromoethane (EDB)                | ND     | 0.047 | 0.12      |      | mg/Kg | 5   | 8/24/2021 5:49:46 PM  | 62009    |
| Naphthalene                            | 1.0    | 0.044 | 0.24      |      | mg/Kg | 5   | 8/24/2021 5:49:46 PM  | 62009    |
| 1-Methylnaphthalene                    | 0.42   | 0.14  | 0.48      | J    | mg/Kg | 5   | 8/24/2021 5:49:46 PM  | 62009    |
| 2-Methylnaphthalene                    | 0.72   | 0.11  | 0.48      |      | mg/Kg | 5   | 8/24/2021 5:49:46 PM  | 62009    |
| Acetone                                | ND     | 0.39  | 1.8       |      | mg/Kg | 5   | 8/24/2021 5:49:46 PM  | 62009    |
| Bromobenzene                           | ND     | 0.025 | 0.12      |      | mg/Kg | 5   | 8/24/2021 5:49:46 PM  | 62009    |
| Bromodichloromethane                   | ND     | 0.015 | 0.12      |      | mg/Kg | 5   | 8/24/2021 5:49:46 PM  | 62009    |
| Bromoform                              | ND     | 0.029 | 0.12      |      | mg/Kg | 5   | 8/24/2021 5:49:46 PM  | 62009    |
| Bromomethane                           | ND     | 0.20  | 0.36      |      | mg/Kg | 5   | 8/24/2021 5:49:46 PM  | 62009    |
| 2-Butanone                             | ND     | 0.52  | 1.2       |      | mg/Kg | 5   | 8/24/2021 5:49:46 PM  | 62009    |
| Carbon disulfide                       | ND     | 0.049 | 1.2       |      | mg/Kg | 5   | 8/24/2021 5:49:46 PM  | 62009    |
| Carbon tetrachloride                   | ND     | 0.013 | 0.12      |      | mg/Kg | 5   | 8/24/2021 5:49:46 PM  | 62009    |
| Chlorobenzene                          | 0.10   | 0.021 | 0.12      | J    | mg/Kg | 5   | 8/24/2021 5:49:46 PM  | 62009    |
| Chloroethane                           | ND     | 0.045 | 0.24      |      | mg/Kg | 5   | 8/24/2021 5:49:46 PM  | 62009    |
| Chloroform                             | ND     | 0.017 | 0.12      |      | mg/Kg | 5   | 8/24/2021 5:49:46 PM  | 62009    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: RW-2R (16.5-17')

Project: MKTF Well Installation

Collection Date: 8/13/2021 2:35:00 PM

Lab ID: 2108857-001

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                    | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES |        |       |      |      |       |    | Analyst: RAA         |          |
| Chloromethane               | 0.19   | 0.042 | 0.36 | J    | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 2-Chlorotoluene             | ND     | 0.016 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 4-Chlorotoluene             | ND     | 0.063 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| cis-1,2-DCE                 | ND     | 0.059 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| cis-1,3-Dichloropropene     | ND     | 0.018 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 1,2-Dibromo-3-chloropropane | ND     | 0.052 | 0.24 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| Dibromochloromethane        | ND     | 0.019 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| Dibromomethane              | ND     | 0.028 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 1,2-Dichlorobenzene         | ND     | 0.025 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 1,3-Dichlorobenzene         | ND     | 0.023 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 1,4-Dichlorobenzene         | ND     | 0.032 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| Dichlorodifluoromethane     | ND     | 0.046 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 1,1-Dichloroethane          | ND     | 0.035 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 1,1-Dichloroethene          | ND     | 0.026 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 1,2-Dichloropropane         | ND     | 0.023 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 1,3-Dichloropropane         | ND     | 0.026 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 2,2-Dichloropropane         | ND     | 0.017 | 0.24 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 1,1-Dichloropropene         | ND     | 0.014 | 0.24 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| Hexachlorobutadiene         | ND     | 0.081 | 0.24 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 2-Hexanone                  | ND     | 0.052 | 1.2  |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| Isopropylbenzene            | 3.5    | 0.022 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 4-Isopropyltoluene          | 1.2    | 0.031 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 4-Methyl-2-pentanone        | ND     | 0.14  | 1.2  |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| Methylene chloride          | ND     | 0.086 | 0.36 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| n-Butylbenzene              | 1.6    | 0.032 | 0.36 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| n-Propylbenzene             | 5.3    | 0.019 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| sec-Butylbenzene            | 1.6    | 0.098 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| Styrene                     | ND     | 0.016 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| tert-Butylbenzene           | 0.047  | 0.028 | 0.12 | J    | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.018 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.039 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| Tetrachloroethene (PCE)     | ND     | 0.033 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| trans-1,2-DCE               | ND     | 0.023 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| trans-1,3-Dichloropropene   | ND     | 0.028 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 1,2,3-Trichlorobenzene      | ND     | 0.018 | 0.24 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 1,2,4-Trichlorobenzene      | ND     | 0.041 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 1,1,1-Trichloroethane       | ND     | 0.026 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| 1,1,2-Trichloroethane       | ND     | 0.030 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |
| Trichloroethene (TCE)       | ND     | 0.023 | 0.12 |      | mg/Kg | 5  | 8/24/2021 5:49:46 PM | 62009    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: RW-2R (16.5-17")

Project: MKTF Well Installation

Collection Date: 8/13/2021 2:35:00 PM

Lab ID: 2108857-001

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                                    | Result | MDL   | RL     | Qual | Units | DF  | Date Analyzed        | Batch ID |
|---------------------------------------------|--------|-------|--------|------|-------|-----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |       |        |      |       |     | Analyst: RAA         |          |
| Trichlorofluoromethane                      | ND     | 0.027 | 0.12   |      | mg/Kg | 5   | 8/24/2021 5:49:46 PM | 62009    |
| 1,2,3-Trichloropropane                      | ND     | 0.050 | 0.24   |      | mg/Kg | 5   | 8/24/2021 5:49:46 PM | 62009    |
| Vinyl chloride                              | ND     | 0.023 | 0.12   |      | mg/Kg | 5   | 8/24/2021 5:49:46 PM | 62009    |
| Xylenes, Total                              | 72     | 1.3   | 4.8    |      | mg/Kg | 100 | 8/25/2021 1:27:21 PM | 62009    |
| Surr: Dibromofluoromethane                  | 73.6   |       | 70-130 |      | %Rec  | 5   | 8/24/2021 5:49:46 PM | 62009    |
| Surr: 1,2-Dichloroethane-d4                 | 75.7   |       | 70-130 |      | %Rec  | 5   | 8/24/2021 5:49:46 PM | 62009    |
| Surr: Toluene-d8                            | 124    |       | 70-130 |      | %Rec  | 5   | 8/24/2021 5:49:46 PM | 62009    |
| Surr: 4-Bromofluorobenzene                  | 134    |       | 70-130 | S    | %Rec  | 5   | 8/24/2021 5:49:46 PM | 62009    |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |       |        |      |       |     | Analyst: RAA         |          |
| Gasoline Range Organics (GRO)               | 1900   | 66    | 240    |      | mg/Kg | 100 | 8/25/2021 1:27:21 PM | 62009    |
| Surr: BFB                                   | 102    | 0     | 70-130 |      | %Rec  | 100 | 8/25/2021 1:27:21 PM | 62009    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: RW-2R (32.5-33')

Project: MKTF Well Installation

Collection Date: 8/13/2021 4:10:00 PM

Lab ID: 2108857-002

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF  | Date Analyzed         | Batch ID            |
|--------------------------------------------------|--------|--------|--------|------|-------|-----|-----------------------|---------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |     |                       | Analyst: <b>SB</b>  |
| Diesel Range Organics (DRO)                      | ND     | 4.6    | 9.2    |      | mg/Kg | 1   | 8/18/2021 5:36:29 PM  | 62028               |
| Motor Oil Range Organics (MRO)                   | ND     | 46     | 46     |      | mg/Kg | 1   | 8/18/2021 5:36:29 PM  | 62028               |
| Surr: DNOP                                       | 131    | 0      | 70-130 | S    | %Rec  | 1   | 8/18/2021 5:36:29 PM  | 62028               |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |     |                       | Analyst: <b>ags</b> |
| Mercury                                          | 0.0049 | 0.0026 | 0.032  | J    | mg/Kg | 1   | 9/1/2021 11:02:14 AM  | 62296               |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |     |                       | Analyst: <b>JLF</b> |
| Arsenic                                          | ND     | 15     | 26     |      | mg/Kg | 10  | 8/18/2021 3:52:45 PM  | 62031               |
| Barium                                           | 1700   | 0.62   | 1.0    |      | mg/Kg | 10  | 8/18/2021 3:52:45 PM  | 62031               |
| Cadmium                                          | ND     | 0.52   | 1.0    |      | mg/Kg | 10  | 8/18/2021 3:52:45 PM  | 62031               |
| Chromium                                         | 7.9    | 1.6    | 3.1    |      | mg/Kg | 10  | 8/18/2021 3:52:45 PM  | 62031               |
| Iron                                             | 14000  | 260    | 260    |      | mg/Kg | 100 | 9/22/2021 3:43:21 PM  | 62031               |
| Lead                                             | 8.1    | 2.8    | 3.1    |      | mg/Kg | 10  | 8/18/2021 5:00:04 PM  | 62031               |
| Manganese                                        | 1300   | 1.7    | 2.1    |      | mg/Kg | 10  | 8/18/2021 3:52:45 PM  | 62031               |
| Selenium                                         | ND     | 23     | 26     |      | mg/Kg | 10  | 8/18/2021 3:52:45 PM  | 62031               |
| Silver                                           | ND     | 1.5    | 2.6    |      | mg/Kg | 10  | 8/18/2021 3:52:45 PM  | 62031               |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |     |                       | Analyst: <b>DAM</b> |
| Acenaphthene                                     | ND     | 0.086  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| Acenaphthylene                                   | ND     | 0.087  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| Aniline                                          | ND     | 0.066  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| Anthracene                                       | ND     | 0.087  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| Azobenzene                                       | ND     | 0.096  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| Benz(a)anthracene                                | ND     | 0.062  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| Benzo(a)pyrene                                   | ND     | 0.090  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| Benzo(b)fluoranthene                             | ND     | 0.10   | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| Benzo(g,h,i)perylene                             | ND     | 0.098  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| Benzo(k)fluoranthene                             | ND     | 0.072  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| Benzoic acid                                     | ND     | 0.12   | 0.96   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| Benzyl alcohol                                   | ND     | 0.079  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| Bis(2-chloroethoxy)methane                       | ND     | 0.073  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| Bis(2-chloroethyl)ether                          | ND     | 0.10   | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.097  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| Bis(2-ethylhexyl)phthalate                       | ND     | 0.21   | 0.48   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| 4-Bromophenyl phenyl ether                       | ND     | 0.10   | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| Butyl benzyl phthalate                           | ND     | 0.058  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| Carbazole                                        | ND     | 0.084  | 0.19   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| 4-Chloro-3-methylphenol                          | ND     | 0.081  | 0.48   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| 4-Chloroaniline                                  | ND     | 0.093  | 0.48   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |
| 2-Chloronaphthalene                              | ND     | 0.091  | 0.24   |      | mg/Kg | 1   | 8/26/2021 10:52:30 PM | 62128               |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: RW-2R (32.5-33')

Project: MKTF Well Installation

Collection Date: 8/13/2021 4:10:00 PM

Lab ID: 2108857-002

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                               | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------------|--------|-------|------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |      |      |       |    | Analyst: DAM          |          |
| 2-Chlorophenol                         | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 4-Chlorophenyl phenyl ether            | ND     | 0.081 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Chrysene                               | ND     | 0.085 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Di-n-butyl phthalate                   | ND     | 0.27  | 0.38 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Di-n-octyl phthalate                   | ND     | 0.12  | 0.38 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Dibenz(a,h)anthracene                  | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Dibenzofuran                           | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 1,2-Dichlorobenzene                    | ND     | 0.077 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 1,3-Dichlorobenzene                    | ND     | 0.068 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 1,4-Dichlorobenzene                    | ND     | 0.081 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 3,3'-Dichlorobenzidine                 | ND     | 0.14  | 0.24 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Diethyl phthalate                      | ND     | 0.31  | 0.48 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Dimethyl phthalate                     | ND     | 0.089 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 2,4-Dichlorophenol                     | ND     | 0.078 | 0.38 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 2,4-Dimethylphenol                     | ND     | 0.068 | 0.29 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 4,6-Dinitro-2-methylphenol             | ND     | 0.081 | 0.38 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 2,4-Dinitrophenol                      | ND     | 0.048 | 0.48 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 2,4-Dinitrotoluene                     | ND     | 0.12  | 0.48 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 2,6-Dinitrotoluene                     | ND     | 0.097 | 0.48 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Fluoranthene                           | ND     | 0.077 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Fluorene                               | ND     | 0.085 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Hexachlorobenzene                      | ND     | 0.085 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Hexachlorobutadiene                    | ND     | 0.090 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Hexachlorocyclopentadiene              | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Hexachloroethane                       | ND     | 0.085 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Isophorone                             | ND     | 0.078 | 0.38 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 1-Methylnaphthalene                    | ND     | 0.088 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 2-Methylnaphthalene                    | ND     | 0.079 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 2-Methylphenol                         | ND     | 0.081 | 0.38 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 3+4-Methylphenol                       | ND     | 0.079 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| N-Nitrosodi-n-propylamine              | ND     | 0.089 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| N-Nitrosodimethylamine                 | ND     | 0.14  | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| N-Nitrosodiphenylamine                 | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Naphthalene                            | ND     | 0.090 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 2-Nitroaniline                         | ND     | 0.098 | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 3-Nitroaniline                         | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 4-Nitroaniline                         | ND     | 0.12  | 0.38 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Nitrobenzene                           | ND     | 0.079 | 0.38 |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: RW-2R (32.5-33')

Project: MKTF Well Installation

Collection Date: 8/13/2021 4:10:00 PM

Lab ID: 2108857-002

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                               | Result | MDL    | RL        | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------------|--------|--------|-----------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |        |           |      |       |    | Analyst: <b>DAM</b>   |          |
| 2-Nitrophenol                          | ND     | 0.083  | 0.19      |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 4-Nitrophenol                          | ND     | 0.079  | 0.24      |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Pentachlorophenol                      | ND     | 0.083  | 0.38      |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Phenanthrene                           | ND     | 0.098  | 0.19      |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Phenol                                 | ND     | 0.074  | 0.19      |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Pyrene                                 | ND     | 0.073  | 0.19      |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Pyridine                               | ND     | 0.15   | 0.38      |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.088  | 0.19      |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 2,4,5-Trichlorophenol                  | ND     | 0.061  | 0.19      |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| 2,4,6-Trichlorophenol                  | ND     | 0.082  | 0.19      |      | mg/Kg | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Surr: 2-Fluorophenol                   | 42.8   |        | 20.3-74.1 |      | %Rec  | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Surr: Phenol-d5                        | 49.8   |        | 23.1-92.7 |      | %Rec  | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Surr: 2,4,6-Tribromophenol             | 75.5   |        | 17.3-122  |      | %Rec  | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Surr: Nitrobenzene-d5                  | 36.8   |        | 24.7-73.2 |      | %Rec  | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Surr: 2-Fluorobiphenyl                 | 37.0   |        | 21.5-90.1 |      | %Rec  | 1  | 8/26/2021 10:52:30 PM | 62128    |
| Surr: 4-Terphenyl-d14                  | 75.2   |        | 15-140    |      | %Rec  | 1  | 8/26/2021 10:52:30 PM | 62128    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |        |           |      |       |    | Analyst: <b>RAA</b>   |          |
| Benzene                                | 1.0    | 0.0059 | 0.015     |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| Toluene                                | 0.041  | 0.0039 | 0.031     |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| Ethylbenzene                           | 0.070  | 0.0074 | 0.031     |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| Methyl tert-butyl ether (MTBE)         | 0.037  | 0.017  | 0.031     |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| 1,2,4-Trimethylbenzene                 | 0.067  | 0.0043 | 0.031     |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| 1,3,5-Trimethylbenzene                 | 0.019  | 0.0069 | 0.031     | J    | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| 1,2-Dichloroethane (EDC)               | ND     | 0.0070 | 0.031     |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| 1,2-Dibromoethane (EDB)                | ND     | 0.012  | 0.031     |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| Naphthalene                            | 0.018  | 0.011  | 0.061     | J    | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| 1-Methylnaphthalene                    | ND     | 0.035  | 0.12      |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| 2-Methylnaphthalene                    | ND     | 0.028  | 0.12      |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| Acetone                                | 0.27   | 0.10   | 0.46      | J    | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| Bromobenzene                           | ND     | 0.0065 | 0.031     |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| Bromodichloromethane                   | 0.0095 | 0.0039 | 0.031     | J    | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| Bromoform                              | ND     | 0.0074 | 0.031     |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| Bromomethane                           | ND     | 0.051  | 0.092     |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| 2-Butanone                             | ND     | 0.13   | 0.31      |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| Carbon disulfide                       | ND     | 0.013  | 0.31      |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| Carbon tetrachloride                   | ND     | 0.0034 | 0.031     |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| Chlorobenzene                          | 0.0072 | 0.0055 | 0.031     | J    | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| Chloroethane                           | ND     | 0.011  | 0.061     |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |
| Chloroform                             | 0.0088 | 0.0043 | 0.031     | J    | mg/Kg | 1  | 8/25/2021 1:54:40 PM  | 62009    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: RW-2R (32.5-33')

Project: MKTF Well Installation

Collection Date: 8/13/2021 4:10:00 PM

Lab ID: 2108857-002

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                           | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------------------|--------|--------|-------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |       |      |       |    | Analyst: RAA         |          |
| Chloromethane                      | ND     | 0.011  | 0.092 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 2-Chlorotoluene                    | ND     | 0.0041 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 4-Chlorotoluene                    | ND     | 0.016  | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| cis-1,2-DCE                        | ND     | 0.015  | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| cis-1,3-Dichloropropene            | ND     | 0.0045 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 1,2-Dibromo-3-chloropropane        | ND     | 0.013  | 0.061 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| Dibromochloromethane               | ND     | 0.0049 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| Dibromomethane                     | ND     | 0.0071 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 1,2-Dichlorobenzene                | ND     | 0.0063 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 1,3-Dichlorobenzene                | ND     | 0.0058 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 1,4-Dichlorobenzene                | ND     | 0.0082 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| Dichlorodifluoromethane            | ND     | 0.012  | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 1,1-Dichloroethane                 | ND     | 0.0089 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 1,1-Dichloroethene                 | ND     | 0.0065 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 1,2-Dichloropropane                | ND     | 0.0059 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 1,3-Dichloropropane                | ND     | 0.0067 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 2,2-Dichloropropane                | ND     | 0.0043 | 0.061 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 1,1-Dichloropropene                | ND     | 0.0037 | 0.061 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| Hexachlorobutadiene                | ND     | 0.021  | 0.061 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 2-Hexanone                         | 0.095  | 0.013  | 0.31  | J    | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| Isopropylbenzene                   | 0.0068 | 0.0057 | 0.031 | J    | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 4-Isopropyltoluene                 | ND     | 0.0079 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 4-Methyl-2-pentanone               | ND     | 0.036  | 0.31  |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| Methylene chloride                 | ND     | 0.022  | 0.092 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| n-Butylbenzene                     | 0.0092 | 0.0082 | 0.092 | J    | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| n-Propylbenzene                    | 0.017  | 0.0049 | 0.031 | J    | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| sec-Butylbenzene                   | ND     | 0.025  | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| Styrene                            | ND     | 0.0042 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| tert-Butylbenzene                  | ND     | 0.0071 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 1,1,1,2-Tetrachloroethane          | ND     | 0.0045 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 1,1,2,2-Tetrachloroethane          | ND     | 0.0099 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| Tetrachloroethene (PCE)            | ND     | 0.0084 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| trans-1,2-DCE                      | ND     | 0.0059 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| trans-1,3-Dichloropropene          | ND     | 0.0072 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 1,2,3-Trichlorobenzene             | ND     | 0.0047 | 0.061 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 1,2,4-Trichlorobenzene             | ND     | 0.011  | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 1,1,1-Trichloroethane              | ND     | 0.0067 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 1,1,2-Trichloroethane              | ND     | 0.0076 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| Trichloroethene (TCE)              | ND     | 0.0060 | 0.031 |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: RW-2R (32.5-33')

Project: MKTF Well Installation

Collection Date: 8/13/2021 4:10:00 PM

Lab ID: 2108857-002

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                                    | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------------------|--------|--------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |        |        |      |       |    | Analyst: RAA         |          |
| Trichlorofluoromethane                      | ND     | 0.0069 | 0.031  |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| 1,2,3-Trichloropropane                      | ND     | 0.013  | 0.061  |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| Vinyl chloride                              | ND     | 0.0058 | 0.031  |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| Xylenes, Total                              | 0.17   | 0.016  | 0.061  |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| Surr: Dibromofluoromethane                  | 97.9   |        | 70-130 |      | %Rec  | 1  | 8/25/2021 1:54:40 PM | 62009    |
| Surr: 1,2-Dichloroethane-d4                 | 109    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 1:54:40 PM | 62009    |
| Surr: Toluene-d8                            | 105    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 1:54:40 PM | 62009    |
| Surr: 4-Bromofluorobenzene                  | 110    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 1:54:40 PM | 62009    |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |        |        |      |       |    | Analyst: RAA         |          |
| Gasoline Range Organics (GRO)               | 12     | 0.85   | 3.1    |      | mg/Kg | 1  | 8/25/2021 1:54:40 PM | 62009    |
| Surr: BFB                                   | 102    | 0      | 70-130 |      | %Rec  | 1  | 8/25/2021 1:54:40 PM | 62009    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: BD1-08132021

Project: MKTF Well Installation

Collection Date: 8/13/2021

Lab ID: 2108857-003

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF  | Date Analyzed         | Batch ID            |
|--------------------------------------------------|--------|--------|--------|------|-------|-----|-----------------------|---------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |     |                       | Analyst: <b>SB</b>  |
| Diesel Range Organics (DRO)                      | 100    | 4.8    | 9.7    |      | mg/Kg | 1   | 8/18/2021 5:46:13 PM  | 62028               |
| Motor Oil Range Organics (MRO)                   | ND     | 48     | 48     |      | mg/Kg | 1   | 8/18/2021 5:46:13 PM  | 62028               |
| Surr: DNOP                                       | 125    | 0      | 70-130 |      | %Rec  | 1   | 8/18/2021 5:46:13 PM  | 62028               |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |     |                       | Analyst: <b>ags</b> |
| Mercury                                          | ND     | 0.0025 | 0.031  |      | mg/Kg | 1   | 9/1/2021 11:04:24 AM  | 62296               |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |     |                       | Analyst: <b>JLF</b> |
| Arsenic                                          | ND     | 1.4    | 2.4    |      | mg/Kg | 1   | 8/18/2021 2:32:13 PM  | 62031               |
| Barium                                           | 220    | 0.059  | 0.098  |      | mg/Kg | 1   | 8/18/2021 2:32:13 PM  | 62031               |
| Cadmium                                          | ND     | 0.049  | 0.098  |      | mg/Kg | 1   | 8/18/2021 2:32:13 PM  | 62031               |
| Chromium                                         | 7.2    | 0.15   | 0.29   |      | mg/Kg | 1   | 8/18/2021 2:32:13 PM  | 62031               |
| Iron                                             | 11000  | 240    | 240    |      | mg/Kg | 100 | 9/22/2021 3:47:42 PM  | 62031               |
| Lead                                             | 1.5    | 0.26   | 0.29   |      | mg/Kg | 1   | 8/18/2021 5:05:47 PM  | 62031               |
| Manganese                                        | 370    | 1.6    | 2.0    |      | mg/Kg | 10  | 9/22/2021 3:45:37 PM  | 62031               |
| Selenium                                         | ND     | 2.1    | 2.4    |      | mg/Kg | 1   | 8/18/2021 2:32:13 PM  | 62031               |
| Silver                                           | ND     | 0.14   | 0.24   |      | mg/Kg | 1   | 8/18/2021 2:32:13 PM  | 62031               |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |     |                       | Analyst: <b>DAM</b> |
| Acenaphthene                                     | ND     | 0.084  | 0.19   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| Acenaphthylene                                   | ND     | 0.085  | 0.19   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| Aniline                                          | ND     | 0.065  | 0.19   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| Anthracene                                       | ND     | 0.085  | 0.19   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| Azobenzene                                       | ND     | 0.094  | 0.19   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| Benz(a)anthracene                                | ND     | 0.061  | 0.19   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| Benzo(a)pyrene                                   | ND     | 0.089  | 0.19   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| Benzo(b)fluoranthene                             | ND     | 0.10   | 0.19   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| Benzo(g,h,i)perylene                             | ND     | 0.096  | 0.19   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| Benzo(k)fluoranthene                             | ND     | 0.071  | 0.19   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| Benzoic acid                                     | ND     | 0.12   | 0.94   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| Benzyl alcohol                                   | ND     | 0.077  | 0.19   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| Bis(2-chloroethoxy)methane                       | ND     | 0.072  | 0.19   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| Bis(2-chloroethyl)ether                          | ND     | 0.098  | 0.19   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.096  | 0.19   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| Bis(2-ethylhexyl)phthalate                       | ND     | 0.20   | 0.47   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| 4-Bromophenyl phenyl ether                       | ND     | 0.098  | 0.19   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| Butyl benzyl phthalate                           | ND     | 0.057  | 0.19   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| Carbazole                                        | ND     | 0.083  | 0.19   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| 4-Chloro-3-methylphenol                          | ND     | 0.079  | 0.47   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| 4-Chloroaniline                                  | ND     | 0.092  | 0.47   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |
| 2-Chloronaphthalene                              | ND     | 0.089  | 0.24   |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128               |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: BD1-08132021

Project: MKTF Well Installation

Collection Date: 8/13/2021

Lab ID: 2108857-003

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                               | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------------|--------|-------|------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |      |      |       |    | Analyst: DAM          |          |
| 2-Chlorophenol                         | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| 4-Chlorophenyl phenyl ether            | ND     | 0.080 | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| Chrysene                               | ND     | 0.083 | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| Di-n-butyl phthalate                   | ND     | 0.26  | 0.38 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| Di-n-octyl phthalate                   | ND     | 0.12  | 0.38 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| Dibenz(a,h)anthracene                  | ND     | 0.099 | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| Dibenzofuran                           | ND     | 0.098 | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| 1,2-Dichlorobenzene                    | ND     | 0.076 | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| 1,3-Dichlorobenzene                    | ND     | 0.067 | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| 1,4-Dichlorobenzene                    | ND     | 0.080 | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| 3,3'-Dichlorobenzidine                 | ND     | 0.14  | 0.24 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| Diethyl phthalate                      | ND     | 0.31  | 0.47 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| Dimethyl phthalate                     | ND     | 0.087 | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| 2,4-Dichlorophenol                     | ND     | 0.076 | 0.38 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| 2,4-Dimethylphenol                     | 0.087  | 0.067 | 0.28 | J    | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| 4,6-Dinitro-2-methylphenol             | ND     | 0.079 | 0.38 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| 2,4-Dinitrophenol                      | ND     | 0.047 | 0.47 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| 2,4-Dinitrotoluene                     | ND     | 0.11  | 0.47 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| 2,6-Dinitrotoluene                     | ND     | 0.096 | 0.47 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| Fluoranthene                           | ND     | 0.076 | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| Fluorene                               | ND     | 0.084 | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| Hexachlorobenzene                      | ND     | 0.084 | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| Hexachlorobutadiene                    | ND     | 0.088 | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| Hexachlorocyclopentadiene              | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| Hexachloroethane                       | ND     | 0.083 | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| Isophorone                             | ND     | 0.077 | 0.38 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| 1-Methylnaphthalene                    | 0.12   | 0.087 | 0.19 | J    | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| 2-Methylnaphthalene                    | 0.21   | 0.078 | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| 2-Methylphenol                         | 0.11   | 0.079 | 0.38 | J    | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| 3+4-Methylphenol                       | ND     | 0.078 | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| N-Nitrosodi-n-propylamine              | ND     | 0.087 | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| N-Nitrosodimethylamine                 | ND     | 0.14  | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| N-Nitrosodiphenylamine                 | ND     | 0.098 | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| Naphthalene                            | 0.22   | 0.089 | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| 2-Nitroaniline                         | ND     | 0.096 | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| 3-Nitroaniline                         | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| 4-Nitroaniline                         | ND     | 0.12  | 0.38 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |
| Nitrobenzene                           | ND     | 0.077 | 0.38 |      | mg/Kg | 1  | 8/26/2021 11:33:49 PM | 62128    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: BD1-08132021

Project: MKTF Well Installation

Collection Date: 8/13/2021

Lab ID: 2108857-003

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                               | Result | MDL   | RL        | Qual | Units | DF  | Date Analyzed         | Batch ID |
|----------------------------------------|--------|-------|-----------|------|-------|-----|-----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |           |      |       |     | Analyst: <b>DAM</b>   |          |
| 2-Nitrophenol                          | ND     | 0.081 | 0.19      |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128    |
| 4-Nitrophenol                          | ND     | 0.077 | 0.24      |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128    |
| Pentachlorophenol                      | ND     | 0.081 | 0.38      |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128    |
| Phenanthrene                           | ND     | 0.096 | 0.19      |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128    |
| Phenol                                 | 0.12   | 0.073 | 0.19      | J    | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128    |
| Pyrene                                 | ND     | 0.071 | 0.19      |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128    |
| Pyridine                               | ND     | 0.15  | 0.38      |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.086 | 0.19      |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128    |
| 2,4,5-Trichlorophenol                  | ND     | 0.060 | 0.19      |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128    |
| 2,4,6-Trichlorophenol                  | ND     | 0.081 | 0.19      |      | mg/Kg | 1   | 8/26/2021 11:33:49 PM | 62128    |
| Surr: 2-Fluorophenol                   | 0      |       | 20.3-74.1 | S    | %Rec  | 1   | 8/26/2021 11:33:49 PM | 62128    |
| Surr: Phenol-d5                        | 48.9   |       | 23.1-92.7 |      | %Rec  | 1   | 8/26/2021 11:33:49 PM | 62128    |
| Surr: 2,4,6-Tribromophenol             | 55.6   |       | 17.3-122  |      | %Rec  | 1   | 8/26/2021 11:33:49 PM | 62128    |
| Surr: Nitrobenzene-d5                  | 39.4   |       | 24.7-73.2 |      | %Rec  | 1   | 8/26/2021 11:33:49 PM | 62128    |
| Surr: 2-Fluorobiphenyl                 | 39.9   |       | 21.5-90.1 |      | %Rec  | 1   | 8/26/2021 11:33:49 PM | 62128    |
| Surr: 4-Terphenyl-d14                  | 60.3   |       | 15-140    |      | %Rec  | 1   | 8/26/2021 11:33:49 PM | 62128    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |       |           |      |       |     | Analyst: <b>RAA</b>   |          |
| Benzene                                | 8.2    | 0.023 | 0.058     |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM  | 62009    |
| Toluene                                | 38     | 0.30  | 2.3       |      | mg/Kg | 100 | 8/25/2021 2:22:04 PM  | 62009    |
| Ethylbenzene                           | 12     | 0.57  | 2.3       |      | mg/Kg | 100 | 8/25/2021 2:22:04 PM  | 62009    |
| Methyl tert-butyl ether (MTBE)         | ND     | 0.066 | 0.12      |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM  | 62009    |
| 1,2,4-Trimethylbenzene                 | 18     | 0.33  | 2.3       |      | mg/Kg | 100 | 8/25/2021 2:22:04 PM  | 62009    |
| 1,3,5-Trimethylbenzene                 | 7.4    | 0.026 | 0.12      |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM  | 62009    |
| 1,2-Dichloroethane (EDC)               | ND     | 0.027 | 0.12      |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM  | 62009    |
| 1,2-Dibromoethane (EDB)                | ND     | 0.046 | 0.12      |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM  | 62009    |
| Naphthalene                            | 1.0    | 0.043 | 0.23      |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM  | 62009    |
| 1-Methylnaphthalene                    | 0.44   | 0.13  | 0.47      | J    | mg/Kg | 5   | 8/24/2021 6:44:19 PM  | 62009    |
| 2-Methylnaphthalene                    | 0.79   | 0.11  | 0.47      |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM  | 62009    |
| Acetone                                | ND     | 0.38  | 1.8       |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM  | 62009    |
| Bromobenzene                           | ND     | 0.025 | 0.12      |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM  | 62009    |
| Bromodichloromethane                   | ND     | 0.015 | 0.12      |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM  | 62009    |
| Bromoform                              | ND     | 0.028 | 0.12      |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM  | 62009    |
| Bromomethane                           | ND     | 0.19  | 0.35      |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM  | 62009    |
| 2-Butanone                             | ND     | 0.51  | 1.2       |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM  | 62009    |
| Carbon disulfide                       | ND     | 0.048 | 1.2       |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM  | 62009    |
| Carbon tetrachloride                   | ND     | 0.013 | 0.12      |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM  | 62009    |
| Chlorobenzene                          | ND     | 0.021 | 0.12      |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM  | 62009    |
| Chloroethane                           | ND     | 0.044 | 0.23      |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM  | 62009    |
| Chloroform                             | ND     | 0.017 | 0.12      |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM  | 62009    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: BD1-08132021

Project: MKTF Well Installation

Collection Date: 8/13/2021

Lab ID: 2108857-003

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                    | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES |        |       |      |      |       |    | Analyst: RAA         |          |
| Chloromethane               | 0.17   | 0.041 | 0.35 | J    | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 2-Chlorotoluene             | ND     | 0.016 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 4-Chlorotoluene             | ND     | 0.061 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| cis-1,2-DCE                 | ND     | 0.058 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| cis-1,3-Dichloropropene     | ND     | 0.017 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 1,2-Dibromo-3-chloropropane | ND     | 0.050 | 0.23 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| Dibromochloromethane        | ND     | 0.019 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| Dibromomethane              | ND     | 0.027 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 1,2-Dichlorobenzene         | ND     | 0.024 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 1,3-Dichlorobenzene         | ND     | 0.022 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 1,4-Dichlorobenzene         | ND     | 0.031 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| Dichlorodifluoromethane     | ND     | 0.045 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 1,1-Dichloroethane          | ND     | 0.034 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 1,1-Dichloroethene          | ND     | 0.025 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 1,2-Dichloropropane         | ND     | 0.023 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 1,3-Dichloropropane         | ND     | 0.026 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 2,2-Dichloropropane         | ND     | 0.017 | 0.23 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 1,1-Dichloropropene         | ND     | 0.014 | 0.23 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| Hexachlorobutadiene         | ND     | 0.080 | 0.23 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 2-Hexanone                  | ND     | 0.051 | 1.2  |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| Isopropylbenzene            | 3.1    | 0.022 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 4-Isopropyltoluene          | 1.2    | 0.030 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 4-Methyl-2-pentanone        | ND     | 0.14  | 1.2  |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| Methylene chloride          | ND     | 0.085 | 0.35 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| n-Butylbenzene              | 1.6    | 0.031 | 0.35 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| n-Propylbenzene             | 5.0    | 0.019 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| sec-Butylbenzene            | 1.5    | 0.096 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| Styrene                     | ND     | 0.016 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| tert-Butylbenzene           | 0.043  | 0.027 | 0.12 | J    | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.017 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.038 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| Tetrachloroethene (PCE)     | ND     | 0.032 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| trans-1,2-DCE               | ND     | 0.023 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| trans-1,3-Dichloropropene   | ND     | 0.027 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 1,2,3-Trichlorobenzene      | ND     | 0.018 | 0.23 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 1,2,4-Trichlorobenzene      | ND     | 0.041 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 1,1,1-Trichloroethane       | ND     | 0.026 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| 1,1,2-Trichloroethane       | ND     | 0.029 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |
| Trichloroethene (TCE)       | ND     | 0.023 | 0.12 |      | mg/Kg | 5  | 8/24/2021 6:44:19 PM | 62009    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: BD1-08132021

Project: MKTF Well Installation

Collection Date: 8/13/2021

Lab ID: 2108857-003

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                                    | Result | MDL   | RL     | Qual | Units | DF  | Date Analyzed        | Batch ID     |
|---------------------------------------------|--------|-------|--------|------|-------|-----|----------------------|--------------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |       |        |      |       |     |                      | Analyst: RAA |
| Trichlorofluoromethane                      | ND     | 0.027 | 0.12   |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM | 62009        |
| 1,2,3-Trichloropropane                      | ND     | 0.049 | 0.23   |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM | 62009        |
| Vinyl chloride                              | ND     | 0.022 | 0.12   |      | mg/Kg | 5   | 8/24/2021 6:44:19 PM | 62009        |
| Xylenes, Total                              | 65     | 1.2   | 4.7    |      | mg/Kg | 100 | 8/25/2021 2:22:04 PM | 62009        |
| Surr: Dibromofluoromethane                  | 76.5   |       | 70-130 |      | %Rec  | 5   | 8/24/2021 6:44:19 PM | 62009        |
| Surr: 1,2-Dichloroethane-d4                 | 79.5   |       | 70-130 |      | %Rec  | 5   | 8/24/2021 6:44:19 PM | 62009        |
| Surr: Toluene-d8                            | 130    |       | 70-130 |      | %Rec  | 5   | 8/24/2021 6:44:19 PM | 62009        |
| Surr: 4-Bromofluorobenzene                  | 141    |       | 70-130 | S    | %Rec  | 5   | 8/24/2021 6:44:19 PM | 62009        |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |       |        |      |       |     |                      | Analyst: RAA |
| Gasoline Range Organics (GRO)               | 1900   | 65    | 230    |      | mg/Kg | 100 | 8/25/2021 2:22:04 PM | 62009        |
| Surr: BFB                                   | 103    | 0     | 70-130 |      | %Rec  | 100 | 8/25/2021 2:22:04 PM | 62009        |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-17R-(6.5-7')

Project: MKTF Well Installation

Collection Date: 8/14/2021 11:02:00 AM

Lab ID: 2108857-004

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF  | Date Analyzed         | Batch ID |
|--------------------------------------------------|--------|--------|--------|------|-------|-----|-----------------------|----------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>SB</b>    |          |
| Diesel Range Organics (DRO)                      | 200    | 4.9    | 10     |      | mg/Kg | 1   | 8/20/2021 4:02:00 PM  | 62028    |
| Motor Oil Range Organics (MRO)                   | ND     | 50     | 50     |      | mg/Kg | 1   | 8/20/2021 4:02:00 PM  | 62028    |
| Surr: DNOP                                       | 124    | 0      | 70-130 |      | %Rec  | 1   | 8/20/2021 4:02:00 PM  | 62028    |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>ags</b>   |          |
| Mercury                                          | 0.023  | 0.0028 | 0.035  | J    | mg/Kg | 1   | 9/1/2021 11:06:34 AM  | 62296    |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>JLF</b>   |          |
| Arsenic                                          | ND     | 7.3    | 13     |      | mg/Kg | 5   | 8/18/2021 3:05:25 PM  | 62031    |
| Barium                                           | 810    | 0.31   | 0.51   |      | mg/Kg | 5   | 8/18/2021 3:05:25 PM  | 62031    |
| Cadmium                                          | ND     | 0.26   | 0.51   |      | mg/Kg | 5   | 8/18/2021 3:05:25 PM  | 62031    |
| Chromium                                         | 7.8    | 0.77   | 1.5    |      | mg/Kg | 5   | 8/18/2021 3:05:25 PM  | 62031    |
| Iron                                             | 11000  | 260    | 260    |      | mg/Kg | 100 | 9/22/2021 3:49:47 PM  | 62031    |
| Lead                                             | 2.7    | 1.4    | 1.5    |      | mg/Kg | 5   | 8/18/2021 5:07:15 PM  | 62031    |
| Manganese                                        | 880    | 0.85   | 1.0    |      | mg/Kg | 5   | 8/18/2021 3:05:25 PM  | 62031    |
| Selenium                                         | ND     | 11     | 13     |      | mg/Kg | 5   | 8/18/2021 3:05:25 PM  | 62031    |
| Silver                                           | 0.95   | 0.75   | 1.3    | J    | mg/Kg | 5   | 8/18/2021 3:05:25 PM  | 62031    |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>DAM</b>   |          |
| Acenaphthene                                     | ND     | 0.88   | 2.0    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Acenaphthylene                                   | ND     | 0.89   | 2.0    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Aniline                                          | ND     | 0.68   | 2.0    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Anthracene                                       | ND     | 0.89   | 2.0    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Azobenzene                                       | ND     | 0.99   | 2.0    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Benz(a)anthracene                                | ND     | 0.64   | 2.0    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Benzo(a)pyrene                                   | ND     | 0.93   | 2.0    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Benzo(b)fluoranthene                             | ND     | 1.1    | 2.0    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Benzo(g,h,i)perylene                             | ND     | 1.0    | 2.0    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Benzo(k)fluoranthene                             | ND     | 0.74   | 2.0    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Benzoic acid                                     | ND     | 1.2    | 9.9    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Benzyl alcohol                                   | ND     | 0.81   | 2.0    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Bis(2-chloroethoxy)methane                       | ND     | 0.76   | 2.0    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Bis(2-chloroethyl)ether                          | ND     | 1.0    | 2.0    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Bis(2-chloroisopropyl)ether                      | ND     | 1.0    | 2.0    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Bis(2-ethylhexyl)phthalate                       | ND     | 2.1    | 4.9    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| 4-Bromophenyl phenyl ether                       | ND     | 1.0    | 2.0    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Butyl benzyl phthalate                           | ND     | 0.60   | 2.0    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Carbazole                                        | ND     | 0.87   | 2.0    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| 4-Chloro-3-methylphenol                          | ND     | 0.83   | 4.9    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| 4-Chloroaniline                                  | ND     | 0.96   | 4.9    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| 2-Chloronaphthalene                              | ND     | 0.94   | 2.5    | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-17R-(6.5-7')

Project: MKTF Well Installation

Collection Date: 8/14/2021 11:02:00 AM

Lab ID: 2108857-004

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                               | Result | MDL  | RL  | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------------|--------|------|-----|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |      |     |      |       |    | Analyst: DAM          |          |
| 2-Chlorophenol                         | ND     | 1.1  | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| 4-Chlorophenyl phenyl ether            | ND     | 0.84 | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| Chrysene                               | ND     | 0.87 | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| Di-n-butyl phthalate                   | ND     | 2.8  | 3.9 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| Di-n-octyl phthalate                   | ND     | 1.3  | 3.9 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| Dibenz(a,h)anthracene                  | ND     | 1.0  | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| Dibenzofuran                           | ND     | 1.0  | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| 1,2-Dichlorobenzene                    | ND     | 0.80 | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| 1,3-Dichlorobenzene                    | ND     | 0.70 | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| 1,4-Dichlorobenzene                    | ND     | 0.84 | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| 3,3'-Dichlorobenzidine                 | ND     | 1.5  | 2.5 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| Diethyl phthalate                      | ND     | 3.2  | 4.9 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| Dimethyl phthalate                     | ND     | 0.91 | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| 2,4-Dichlorophenol                     | ND     | 0.80 | 3.9 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| 2,4-Dimethylphenol                     | ND     | 0.70 | 3.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| 4,6-Dinitro-2-methylphenol             | ND     | 0.83 | 3.9 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| 2,4-Dinitrophenol                      | ND     | 0.50 | 4.9 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| 2,4-Dinitrotoluene                     | ND     | 1.2  | 4.9 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| 2,6-Dinitrotoluene                     | ND     | 1.0  | 4.9 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| Fluoranthene                           | ND     | 0.80 | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| Fluorene                               | ND     | 0.88 | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| Hexachlorobenzene                      | ND     | 0.88 | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| Hexachlorobutadiene                    | ND     | 0.93 | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| Hexachlorocyclopentadiene              | ND     | 1.1  | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| Hexachloroethane                       | ND     | 0.87 | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 1.1  | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| Isophorone                             | ND     | 0.81 | 3.9 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| 1-Methylnaphthalene                    | 1.3    | 0.91 | 2.0 | JD   | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| 2-Methylnaphthalene                    | 2.5    | 0.82 | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| 2-Methylphenol                         | ND     | 0.83 | 3.9 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| 3+4-Methylphenol                       | ND     | 0.82 | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| N-Nitrosodi-n-propylamine              | ND     | 0.91 | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| N-Nitrosodimethylamine                 | ND     | 1.5  | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| N-Nitrosodiphenylamine                 | ND     | 1.0  | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| Naphthalene                            | 3.4    | 0.93 | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| 2-Nitroaniline                         | ND     | 1.0  | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| 3-Nitroaniline                         | ND     | 1.2  | 2.0 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| 4-Nitroaniline                         | ND     | 1.3  | 3.9 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |
| Nitrobenzene                           | ND     | 0.81 | 3.9 | D    | mg/Kg | 10 | 8/27/2021 12:15:12 AM | 62128    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-17R-(6.5-7')

Project: MKTF Well Installation

Collection Date: 8/14/2021 11:02:00 AM

Lab ID: 2108857-004

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                               | Result | MDL   | RL        | Qual | Units | DF  | Date Analyzed         | Batch ID |
|----------------------------------------|--------|-------|-----------|------|-------|-----|-----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |           |      |       |     | Analyst: DAM          |          |
| 2-Nitrophenol                          | ND     | 0.85  | 2.0       | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| 4-Nitrophenol                          | ND     | 0.81  | 2.5       | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Pentachlorophenol                      | ND     | 0.85  | 3.9       | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Phenanthrene                           | ND     | 1.0   | 2.0       | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Phenol                                 | ND     | 0.76  | 2.0       | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Pyrene                                 | ND     | 0.75  | 2.0       | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Pyridine                               | ND     | 1.6   | 3.9       | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.91  | 2.0       | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| 2,4,5-Trichlorophenol                  | ND     | 0.63  | 2.0       | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| 2,4,6-Trichlorophenol                  | ND     | 0.85  | 2.0       | D    | mg/Kg | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Surr: 2-Fluorophenol                   | 0      |       | 20.3-74.1 | SD   | %Rec  | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Surr: Phenol-d5                        | 0      |       | 23.1-92.7 | SD   | %Rec  | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Surr: 2,4,6-Tribromophenol             | 0      |       | 17.3-122  | SD   | %Rec  | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Surr: Nitrobenzene-d5                  | 0      |       | 24.7-73.2 | SD   | %Rec  | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Surr: 2-Fluorobiphenyl                 | 0      |       | 21.5-90.1 | SD   | %Rec  | 10  | 8/27/2021 12:15:12 AM | 62128    |
| Surr: 4-Terphenyl-d14                  | 0      |       | 15-140    | SD   | %Rec  | 10  | 8/27/2021 12:15:12 AM | 62128    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |       |           |      |       |     | Analyst: RAA          |          |
| Benzene                                | 11     | 0.025 | 0.064     |      | mg/Kg | 5   | 8/24/2021 9:54:13 PM  | 62086    |
| Toluene                                | 150    | 0.33  | 2.6       |      | mg/Kg | 100 | 8/25/2021 2:49:27 PM  | 62086    |
| Ethylbenzene                           | 17     | 0.63  | 2.6       |      | mg/Kg | 100 | 8/25/2021 2:49:27 PM  | 62086    |
| Methyl tert-butyl ether (MTBE)         | 0.088  | 0.072 | 0.13      | J    | mg/Kg | 5   | 8/24/2021 9:54:13 PM  | 62086    |
| 1,2,4-Trimethylbenzene                 | 29     | 0.36  | 2.6       |      | mg/Kg | 100 | 8/25/2021 2:49:27 PM  | 62086    |
| 1,3,5-Trimethylbenzene                 | 8.2    | 0.029 | 0.13      |      | mg/Kg | 5   | 8/24/2021 9:54:13 PM  | 62086    |
| 1,2-Dichloroethane (EDC)               | ND     | 0.029 | 0.13      |      | mg/Kg | 5   | 8/24/2021 9:54:13 PM  | 62086    |
| 1,2-Dibromoethane (EDB)                | ND     | 0.050 | 0.13      |      | mg/Kg | 5   | 8/24/2021 9:54:13 PM  | 62086    |
| Naphthalene                            | 3.6    | 0.048 | 0.26      |      | mg/Kg | 5   | 8/24/2021 9:54:13 PM  | 62086    |
| 1-Methylnaphthalene                    | 0.97   | 0.15  | 0.51      |      | mg/Kg | 5   | 8/24/2021 9:54:13 PM  | 62086    |
| 2-Methylnaphthalene                    | 2.2    | 0.12  | 0.51      |      | mg/Kg | 5   | 8/24/2021 9:54:13 PM  | 62086    |
| Acetone                                | ND     | 0.42  | 1.9       |      | mg/Kg | 5   | 8/24/2021 9:54:13 PM  | 62086    |
| Bromobenzene                           | ND     | 0.027 | 0.13      |      | mg/Kg | 5   | 8/24/2021 9:54:13 PM  | 62086    |
| Bromodichloromethane                   | ND     | 0.016 | 0.13      |      | mg/Kg | 5   | 8/24/2021 9:54:13 PM  | 62086    |
| Bromoform                              | ND     | 0.031 | 0.13      |      | mg/Kg | 5   | 8/24/2021 9:54:13 PM  | 62086    |
| Bromomethane                           | ND     | 0.21  | 0.38      |      | mg/Kg | 5   | 8/24/2021 9:54:13 PM  | 62086    |
| 2-Butanone                             | ND     | 0.56  | 1.3       |      | mg/Kg | 5   | 8/24/2021 9:54:13 PM  | 62086    |
| Carbon disulfide                       | ND     | 0.053 | 1.3       |      | mg/Kg | 5   | 8/24/2021 9:54:13 PM  | 62086    |
| Carbon tetrachloride                   | ND     | 0.014 | 0.13      |      | mg/Kg | 5   | 8/24/2021 9:54:13 PM  | 62086    |
| Chlorobenzene                          | 0.11   | 0.023 | 0.13      | J    | mg/Kg | 5   | 8/24/2021 9:54:13 PM  | 62086    |
| Chloroethane                           | ND     | 0.048 | 0.26      |      | mg/Kg | 5   | 8/24/2021 9:54:13 PM  | 62086    |
| Chloroform                             | ND     | 0.018 | 0.13      |      | mg/Kg | 5   | 8/24/2021 9:54:13 PM  | 62086    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-17R-(6.5-7')

Project: MKTF Well Installation

Collection Date: 8/14/2021 11:02:00 AM

Lab ID: 2108857-004

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                    | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES |        |       |      |      |       |    | Analyst: RAA         |          |
| Chloromethane               | ND     | 0.045 | 0.38 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 2-Chlorotoluene             | ND     | 0.017 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 4-Chlorotoluene             | ND     | 0.067 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| cis-1,2-DCE                 | ND     | 0.064 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| cis-1,3-Dichloropropene     | ND     | 0.019 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 1,2-Dibromo-3-chloropropane | ND     | 0.055 | 0.26 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| Dibromochloromethane        | ND     | 0.021 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| Dibromomethane              | ND     | 0.030 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 1,2-Dichlorobenzene         | ND     | 0.027 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 1,3-Dichlorobenzene         | ND     | 0.024 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 1,4-Dichlorobenzene         | ND     | 0.034 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| Dichlorodifluoromethane     | ND     | 0.050 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 1,1-Dichloroethane          | ND     | 0.037 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 1,1-Dichloroethene          | ND     | 0.028 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 1,2-Dichloropropane         | ND     | 0.025 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 1,3-Dichloropropane         | ND     | 0.028 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 2,2-Dichloropropane         | 0.036  | 0.018 | 0.26 | J    | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 1,1-Dichloropropene         | ND     | 0.015 | 0.26 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| Hexachlorobutadiene         | ND     | 0.087 | 0.26 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 2-Hexanone                  | ND     | 0.056 | 1.3  |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| Isopropylbenzene            | 1.7    | 0.024 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 4-Isopropyltoluene          | 0.18   | 0.033 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 4-Methyl-2-pentanone        | ND     | 0.15  | 1.3  |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| Methylene chloride          | ND     | 0.093 | 0.38 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| n-Butylbenzene              | 1.9    | 0.034 | 0.38 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| n-Propylbenzene             | 6.2    | 0.021 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| sec-Butylbenzene            | 0.70   | 0.11  | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| Styrene                     | 0.030  | 0.017 | 0.13 | J    | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| tert-Butylbenzene           | ND     | 0.030 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.019 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.042 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| Tetrachloroethene (PCE)     | ND     | 0.035 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| trans-1,2-DCE               | ND     | 0.025 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| trans-1,3-Dichloropropene   | ND     | 0.030 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 1,2,3-Trichlorobenzene      | ND     | 0.020 | 0.26 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 1,2,4-Trichlorobenzene      | ND     | 0.045 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 1,1,1-Trichloroethane       | ND     | 0.028 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| 1,1,2-Trichloroethane       | ND     | 0.032 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |
| Trichloroethene (TCE)       | ND     | 0.025 | 0.13 |      | mg/Kg | 5  | 8/24/2021 9:54:13 PM | 62086    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-17R-(6.5-7')

Project: MKTF Well Installation

Collection Date: 8/14/2021 11:02:00 AM

Lab ID: 2108857-004

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                                    | Result | MDL   | RL     | Qual | Units | DF  | Date Analyzed        | Batch ID |
|---------------------------------------------|--------|-------|--------|------|-------|-----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |       |        |      |       |     | Analyst: RAA         |          |
| Trichlorofluoromethane                      | ND     | 0.029 | 0.13   |      | mg/Kg | 5   | 8/24/2021 9:54:13 PM | 62086    |
| 1,2,3-Trichloropropane                      | ND     | 0.054 | 0.26   |      | mg/Kg | 5   | 8/24/2021 9:54:13 PM | 62086    |
| Vinyl chloride                              | ND     | 0.024 | 0.13   |      | mg/Kg | 5   | 8/24/2021 9:54:13 PM | 62086    |
| Xylenes, Total                              | 92     | 1.3   | 5.1    |      | mg/Kg | 100 | 8/25/2021 2:49:27 PM | 62086    |
| Surr: Dibromofluoromethane                  | 77.6   |       | 70-130 |      | %Rec  | 5   | 8/24/2021 9:54:13 PM | 62086    |
| Surr: 1,2-Dichloroethane-d4                 | 89.9   |       | 70-130 |      | %Rec  | 5   | 8/24/2021 9:54:13 PM | 62086    |
| Surr: Toluene-d8                            | 118    |       | 70-130 |      | %Rec  | 5   | 8/24/2021 9:54:13 PM | 62086    |
| Surr: 4-Bromofluorobenzene                  | 120    |       | 70-130 |      | %Rec  | 5   | 8/24/2021 9:54:13 PM | 62086    |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |       |        |      |       |     | Analyst: RAA         |          |
| Gasoline Range Organics (GRO)               | 2100   | 71    | 260    |      | mg/Kg | 100 | 8/25/2021 2:49:27 PM | 62086    |
| Surr: BFB                                   | 102    | 0     | 70-130 |      | %Rec  | 100 | 8/25/2021 2:49:27 PM | 62086    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-17R-(20.5-21')

Project: MKTF Well Installation

Collection Date: 8/14/2021 11:40:00 AM

Lab ID: 2108857-005

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF  | Date Analyzed         | Batch ID            |
|--------------------------------------------------|--------|--------|--------|------|-------|-----|-----------------------|---------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |     |                       | Analyst: <b>SB</b>  |
| Diesel Range Organics (DRO)                      | ND     | 4.9    | 9.9    |      | mg/Kg | 1   | 8/18/2021 5:55:56 PM  | 62028               |
| Motor Oil Range Organics (MRO)                   | ND     | 49     | 49     |      | mg/Kg | 1   | 8/18/2021 5:55:56 PM  | 62028               |
| Surr: DNOP                                       | 133    | 0      | 70-130 | S    | %Rec  | 1   | 8/18/2021 5:55:56 PM  | 62028               |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |     |                       | Analyst: <b>ags</b> |
| Mercury                                          | ND     | 0.0028 | 0.035  |      | mg/Kg | 1   | 9/1/2021 11:08:43 AM  | 62296               |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |     |                       | Analyst: <b>JLF</b> |
| Arsenic                                          | ND     | 7.2    | 13     |      | mg/Kg | 5   | 8/18/2021 3:09:35 PM  | 62031               |
| Barium                                           | 170    | 0.31   | 0.51   |      | mg/Kg | 5   | 8/18/2021 3:09:35 PM  | 62031               |
| Cadmium                                          | ND     | 0.26   | 0.51   |      | mg/Kg | 5   | 8/18/2021 3:09:35 PM  | 62031               |
| Chromium                                         | 12     | 0.77   | 1.5    |      | mg/Kg | 5   | 8/18/2021 3:09:35 PM  | 62031               |
| Iron                                             | 18000  | 260    | 260    |      | mg/Kg | 100 | 9/22/2021 3:52:16 PM  | 62031               |
| Lead                                             | 3.3    | 1.4    | 1.5    |      | mg/Kg | 5   | 8/18/2021 5:08:36 PM  | 62031               |
| Manganese                                        | 300    | 0.85   | 1.0    |      | mg/Kg | 5   | 8/18/2021 3:09:35 PM  | 62031               |
| Selenium                                         | ND     | 11     | 13     |      | mg/Kg | 5   | 8/18/2021 3:09:35 PM  | 62031               |
| Silver                                           | ND     | 0.74   | 1.3    |      | mg/Kg | 5   | 8/18/2021 3:09:35 PM  | 62031               |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |     |                       | Analyst: <b>DAM</b> |
| Acenaphthene                                     | ND     | 0.088  | 0.20   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| Acenaphthylene                                   | ND     | 0.089  | 0.20   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| Aniline                                          | ND     | 0.068  | 0.20   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| Anthracene                                       | ND     | 0.089  | 0.20   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| Azobenzene                                       | ND     | 0.099  | 0.20   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| Benz(a)anthracene                                | ND     | 0.064  | 0.20   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| Benzo(a)pyrene                                   | ND     | 0.093  | 0.20   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| Benzo(b)fluoranthene                             | ND     | 0.11   | 0.20   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| Benzo(g,h,i)perylene                             | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| Benzo(k)fluoranthene                             | ND     | 0.074  | 0.20   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| Benzoic acid                                     | ND     | 0.12   | 0.99   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| Benzyl alcohol                                   | ND     | 0.081  | 0.20   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| Bis(2-chloroethoxy)methane                       | ND     | 0.076  | 0.20   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| Bis(2-chloroethyl)ether                          | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| Bis(2-ethylhexyl)phthalate                       | ND     | 0.21   | 0.49   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| 4-Bromophenyl phenyl ether                       | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| Butyl benzyl phthalate                           | ND     | 0.060  | 0.20   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| Carbazole                                        | ND     | 0.087  | 0.20   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| 4-Chloro-3-methylphenol                          | ND     | 0.083  | 0.49   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| 4-Chloroaniline                                  | ND     | 0.096  | 0.49   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |
| 2-Chloronaphthalene                              | ND     | 0.094  | 0.25   |      | mg/Kg | 1   | 8/27/2021 12:56:29 AM | 62128               |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-17R-(20.5-21')

Project: MKTF Well Installation

Collection Date: 8/14/2021 11:40:00 AM

Lab ID: 2108857-005

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                        | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed         | Batch ID |
|---------------------------------|--------|-------|------|------|-------|----|-----------------------|----------|
| EPA METHOD 8270C: SEMIVOLATILES |        |       |      |      |       |    | Analyst: DAM          |          |
| 2-Chlorophenol                  | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 4-Chlorophenyl phenyl ether     | ND     | 0.084 | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Chrysene                        | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Di-n-butyl phthalate            | 0.39   | 0.28  | 0.39 | J    | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Di-n-octyl phthalate            | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Dibenz(a,h)anthracene           | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Dibenzofuran                    | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 1,2-Dichlorobenzene             | ND     | 0.080 | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 1,3-Dichlorobenzene             | ND     | 0.070 | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 1,4-Dichlorobenzene             | ND     | 0.084 | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 3,3'-Dichlorobenzidine          | ND     | 0.15  | 0.25 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Diethyl phthalate               | ND     | 0.32  | 0.49 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Dimethyl phthalate              | ND     | 0.091 | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 2,4-Dichlorophenol              | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 2,4-Dimethylphenol              | ND     | 0.070 | 0.30 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.083 | 0.39 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 2,4-Dinitrophenol               | ND     | 0.050 | 0.49 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 2,4-Dinitrotoluene              | ND     | 0.12  | 0.49 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 2,6-Dinitrotoluene              | ND     | 0.10  | 0.49 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Fluoranthene                    | ND     | 0.080 | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Fluorene                        | ND     | 0.088 | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Hexachlorobenzene               | ND     | 0.088 | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Hexachlorobutadiene             | ND     | 0.093 | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Hexachlorocyclopentadiene       | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Hexachloroethane                | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Indeno(1,2,3-cd)pyrene          | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Isophorone                      | ND     | 0.081 | 0.39 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 1-Methylnaphthalene             | ND     | 0.091 | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 2-Methylnaphthalene             | ND     | 0.082 | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 2-Methylphenol                  | ND     | 0.083 | 0.39 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 3+4-Methylphenol                | ND     | 0.082 | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| N-Nitrosodi-n-propylamine       | ND     | 0.091 | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| N-Nitrosodimethylamine          | ND     | 0.15  | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| N-Nitrosodiphenylamine          | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Naphthalene                     | ND     | 0.093 | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 2-Nitroaniline                  | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 3-Nitroaniline                  | ND     | 0.12  | 0.20 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 4-Nitroaniline                  | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Nitrobenzene                    | ND     | 0.081 | 0.39 |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-17R-(20.5-21')

Project: MKTF Well Installation

Collection Date: 8/14/2021 11:40:00 AM

Lab ID: 2108857-005

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                               | Result | MDL    | RL        | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------------|--------|--------|-----------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |        |           |      |       |    | Analyst: <b>DAM</b>   |          |
| 2-Nitrophenol                          | ND     | 0.085  | 0.20      |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 4-Nitrophenol                          | ND     | 0.081  | 0.25      |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Pentachlorophenol                      | ND     | 0.085  | 0.39      |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Phenanthrene                           | ND     | 0.10   | 0.20      |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Phenol                                 | ND     | 0.076  | 0.20      |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Pyrene                                 | ND     | 0.075  | 0.20      |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Pyridine                               | ND     | 0.16   | 0.39      |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.091  | 0.20      |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 2,4,5-Trichlorophenol                  | ND     | 0.063  | 0.20      |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| 2,4,6-Trichlorophenol                  | ND     | 0.085  | 0.20      |      | mg/Kg | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Surr: 2-Fluorophenol                   | 49.7   |        | 20.3-74.1 |      | %Rec  | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Surr: Phenol-d5                        | 60.0   |        | 23.1-92.7 |      | %Rec  | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Surr: 2,4,6-Tribromophenol             | 70.7   |        | 17.3-122  |      | %Rec  | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Surr: Nitrobenzene-d5                  | 45.8   |        | 24.7-73.2 |      | %Rec  | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Surr: 2-Fluorobiphenyl                 | 55.2   |        | 21.5-90.1 |      | %Rec  | 1  | 8/27/2021 12:56:29 AM | 62128    |
| Surr: 4-Terphenyl-d14                  | 71.8   |        | 15-140    |      | %Rec  | 1  | 8/27/2021 12:56:29 AM | 62128    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |        |           |      |       |    | Analyst: <b>RAA</b>   |          |
| Benzene                                | ND     | 0.0050 | 0.013     |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Toluene                                | 0.0045 | 0.0033 | 0.026     | J    | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Ethylbenzene                           | ND     | 0.0063 | 0.026     |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Methyl tert-butyl ether (MTBE)         | 0.021  | 0.015  | 0.026     | J    | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1,2,4-Trimethylbenzene                 | ND     | 0.0036 | 0.026     |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1,3,5-Trimethylbenzene                 | ND     | 0.0058 | 0.026     |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1,2-Dichloroethane (EDC)               | ND     | 0.0059 | 0.026     |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1,2-Dibromoethane (EDB)                | ND     | 0.010  | 0.026     |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Naphthalene                            | ND     | 0.0096 | 0.052     |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1-Methylnaphthalene                    | ND     | 0.030  | 0.10      |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 2-Methylnaphthalene                    | ND     | 0.024  | 0.10      |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Acetone                                | ND     | 0.084  | 0.39      |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Bromobenzene                           | ND     | 0.0055 | 0.026     |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Bromodichloromethane                   | ND     | 0.0033 | 0.026     |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Bromoform                              | ND     | 0.0062 | 0.026     |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Bromomethane                           | ND     | 0.043  | 0.078     |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 2-Butanone                             | ND     | 0.11   | 0.26      |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Carbon disulfide                       | ND     | 0.011  | 0.26      |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Carbon tetrachloride                   | ND     | 0.0029 | 0.026     |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Chlorobenzene                          | ND     | 0.0046 | 0.026     |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Chloroethane                           | ND     | 0.0097 | 0.052     |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Chloroform                             | ND     | 0.0037 | 0.026     |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-17R-(20.5-21')

Project: MKTF Well Installation

Collection Date: 8/14/2021 11:40:00 AM

Lab ID: 2108857-005

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                    | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed         | Batch ID |
|-----------------------------|--------|--------|-------|------|-------|----|-----------------------|----------|
| EPA METHOD 8260B: VOLATILES |        |        |       |      |       |    | Analyst: RAA          |          |
| Chloromethane               | ND     | 0.0091 | 0.078 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 2-Chlorotoluene             | ND     | 0.0035 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 4-Chlorotoluene             | ND     | 0.014  | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| cis-1,2-DCE                 | ND     | 0.013  | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| cis-1,3-Dichloropropene     | ND     | 0.0038 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1,2-Dibromo-3-chloropropane | ND     | 0.011  | 0.052 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Dibromochloromethane        | ND     | 0.0041 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Dibromomethane              | ND     | 0.0060 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1,2-Dichlorobenzene         | ND     | 0.0054 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1,3-Dichlorobenzene         | ND     | 0.0049 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1,4-Dichlorobenzene         | ND     | 0.0069 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Dichlorodifluoromethane     | ND     | 0.010  | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1,1-Dichloroethane          | ND     | 0.0075 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1,1-Dichloroethene          | ND     | 0.0055 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1,2-Dichloropropane         | ND     | 0.0050 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1,3-Dichloropropane         | ND     | 0.0057 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 2,2-Dichloropropane         | ND     | 0.0037 | 0.052 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1,1-Dichloropropene         | ND     | 0.0031 | 0.052 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Hexachlorobutadiene         | ND     | 0.018  | 0.052 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 2-Hexanone                  | ND     | 0.011  | 0.26  |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Isopropylbenzene            | ND     | 0.0048 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 4-Isopropyltoluene          | ND     | 0.0067 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 4-Methyl-2-pentanone        | ND     | 0.030  | 0.26  |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Methylene chloride          | ND     | 0.019  | 0.078 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| n-Butylbenzene              | ND     | 0.0069 | 0.078 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| n-Propylbenzene             | ND     | 0.0042 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| sec-Butylbenzene            | ND     | 0.021  | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Styrene                     | ND     | 0.0035 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| tert-Butylbenzene           | ND     | 0.0060 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.0038 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.0084 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Tetrachloroethene (PCE)     | ND     | 0.0071 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| trans-1,2-DCE               | ND     | 0.0050 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| trans-1,3-Dichloropropene   | ND     | 0.0061 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1,2,3-Trichlorobenzene      | ND     | 0.0040 | 0.052 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1,2,4-Trichlorobenzene      | ND     | 0.0090 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1,1,1-Trichloroethane       | ND     | 0.0057 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1,1,2-Trichloroethane       | ND     | 0.0065 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Trichloroethene (TCE)       | ND     | 0.0051 | 0.026 |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-17R-(20.5-21')

Project: MKTF Well Installation

Collection Date: 8/14/2021 11:40:00 AM

Lab ID: 2108857-005

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                                    | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed         | Batch ID |
|---------------------------------------------|--------|--------|--------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |        |        |      |       |    | Analyst: RAA          |          |
| Trichlorofluoromethane                      | ND     | 0.0059 | 0.026  |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| 1,2,3-Trichloropropane                      | ND     | 0.011  | 0.052  |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Vinyl chloride                              | ND     | 0.0049 | 0.026  |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Xylenes, Total                              | ND     | 0.014  | 0.052  |      | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Surr: Dibromofluoromethane                  | 102    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Surr: 1,2-Dichloroethane-d4                 | 111    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Surr: Toluene-d8                            | 101    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Surr: 4-Bromofluorobenzene                  | 105    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 12:35:58 AM | 62086    |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |        |        |      |       |    | Analyst: RAA          |          |
| Gasoline Range Organics (GRO)               | 0.75   | 0.72   | 2.6    | J    | mg/Kg | 1  | 8/25/2021 12:35:58 AM | 62086    |
| Surr: BFB                                   | 98.7   | 0      | 70-130 |      | %Rec  | 1  | 8/25/2021 12:35:58 AM | 62086    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-18R-(9.5-10')

Project: MKTF Well Installation

Collection Date: 8/14/2021 2:30:00 PM

Lab ID: 2108857-006

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF  | Date Analyzed         | Batch ID |
|--------------------------------------------------|--------|--------|--------|------|-------|-----|-----------------------|----------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>SB</b>    |          |
| Diesel Range Organics (DRO)                      | 830    | 4.6    | 9.3    |      | mg/Kg | 1   | 8/28/2021 10:00:48 AM | 62245    |
| Motor Oil Range Organics (MRO)                   | ND     | 46     | 46     |      | mg/Kg | 1   | 8/28/2021 10:00:48 AM | 62245    |
| Surr: DNOP                                       | 108    | 0      | 70-130 |      | %Rec  | 1   | 8/28/2021 10:00:48 AM | 62245    |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>ags</b>   |          |
| Mercury                                          | 0.0090 | 0.0026 | 0.033  | J    | mg/Kg | 1   | 9/1/2021 11:10:52 AM  | 62296    |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>JLF</b>   |          |
| Arsenic                                          | ND     | 13     | 24     |      | mg/Kg | 10  | 8/18/2021 3:54:48 PM  | 62031    |
| Barium                                           | 1200   | 0.57   | 0.95   |      | mg/Kg | 10  | 8/18/2021 3:54:48 PM  | 62031    |
| Cadmium                                          | ND     | 0.48   | 0.95   |      | mg/Kg | 10  | 8/18/2021 3:54:48 PM  | 62031    |
| Chromium                                         | 3.8    | 1.4    | 2.9    |      | mg/Kg | 10  | 8/18/2021 3:54:48 PM  | 62031    |
| Iron                                             | 7700   | 240    | 240    |      | mg/Kg | 100 | 9/22/2021 3:56:35 PM  | 62031    |
| Lead                                             | 3.5    | 2.5    | 2.9    |      | mg/Kg | 10  | 8/18/2021 5:09:57 PM  | 62031    |
| Manganese                                        | 7200   | 16     | 19     |      | mg/Kg | 100 | 9/22/2021 3:56:35 PM  | 62031    |
| Selenium                                         | ND     | 21     | 24     |      | mg/Kg | 10  | 8/18/2021 3:54:48 PM  | 62031    |
| Silver                                           | 1.8    | 1.4    | 2.4    | J    | mg/Kg | 10  | 8/18/2021 3:54:48 PM  | 62031    |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>DAM</b>   |          |
| Acenaphthene                                     | ND     | 0.085  | 0.19   |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| Acenaphthylene                                   | ND     | 0.086  | 0.19   |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| Aniline                                          | ND     | 0.066  | 0.19   |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| Anthracene                                       | 0.12   | 0.086  | 0.19   | J    | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| Azobenzene                                       | ND     | 0.095  | 0.19   |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| Benz(a)anthracene                                | ND     | 0.061  | 0.19   |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| Benzo(a)pyrene                                   | ND     | 0.090  | 0.19   |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| Benzo(b)fluoranthene                             | ND     | 0.10   | 0.19   |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| Benzo(g,h,i)perylene                             | ND     | 0.097  | 0.19   |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| Benzo(k)fluoranthene                             | ND     | 0.071  | 0.19   |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| Benzoic acid                                     | ND     | 0.12   | 0.95   |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| Benzyl alcohol                                   | ND     | 0.078  | 0.19   |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| Bis(2-chloroethoxy)methane                       | ND     | 0.073  | 0.19   |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| Bis(2-chloroethyl)ether                          | ND     | 0.099  | 0.19   |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.097  | 0.19   |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| Bis(2-ethylhexyl)phthalate                       | 0.41   | 0.20   | 0.47   | J    | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| 4-Bromophenyl phenyl ether                       | ND     | 0.099  | 0.19   |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| Butyl benzyl phthalate                           | ND     | 0.058  | 0.19   |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| Carbazole                                        | ND     | 0.084  | 0.19   |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| 4-Chloro-3-methylphenol                          | ND     | 0.080  | 0.47   |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| 4-Chloroaniline                                  | ND     | 0.092  | 0.47   |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |
| 2-Chloronaphthalene                              | ND     | 0.090  | 0.24   |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM  | 62128    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-18R-(9.5-10')

Project: MKTF Well Installation

Collection Date: 8/14/2021 2:30:00 PM

Lab ID: 2108857-006

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                        | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed         | Batch ID |
|---------------------------------|--------|-------|------|------|-------|----|-----------------------|----------|
| EPA METHOD 8270C: SEMIVOLATILES |        |       |      |      |       |    | Analyst: DAM          |          |
| 2-Chlorophenol                  | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| 4-Chlorophenyl phenyl ether     | ND     | 0.081 | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| Chrysene                        | ND     | 0.084 | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| Di-n-butyl phthalate            | 0.28   | 0.27  | 0.38 | J    | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| Di-n-octyl phthalate            | ND     | 0.12  | 0.38 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| Dibenz(a,h)anthracene           | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| Dibenzofuran                    | ND     | 0.099 | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| 1,2-Dichlorobenzene             | ND     | 0.077 | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| 1,3-Dichlorobenzene             | ND     | 0.068 | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| 1,4-Dichlorobenzene             | ND     | 0.081 | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| 3,3'-Dichlorobenzidine          | ND     | 0.14  | 0.24 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| Diethyl phthalate               | ND     | 0.31  | 0.47 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| Dimethyl phthalate              | ND     | 0.088 | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| 2,4-Dichlorophenol              | ND     | 0.077 | 0.38 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| 2,4-Dimethylphenol              | ND     | 0.068 | 0.28 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.080 | 0.38 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| 2,4-Dinitrophenol               | ND     | 0.048 | 0.47 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| 2,4-Dinitrotoluene              | ND     | 0.12  | 0.47 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| 2,6-Dinitrotoluene              | ND     | 0.097 | 0.47 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| Fluoranthene                    | ND     | 0.077 | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| Fluorene                        | 0.48   | 0.085 | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| Hexachlorobenzene               | ND     | 0.085 | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| Hexachlorobutadiene             | ND     | 0.089 | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| Hexachlorocyclopentadiene       | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| Hexachloroethane                | ND     | 0.084 | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| Indeno(1,2,3-cd)pyrene          | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| Isophorone                      | ND     | 0.078 | 0.38 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| 1-Methylnaphthalene             | 3.0    | 0.087 | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| 2-Methylnaphthalene             | 4.4    | 0.78  | 1.9  | D    | mg/Kg | 10 | 8/30/2021 12:00:28 PM | 62128    |
| 2-Methylphenol                  | ND     | 0.080 | 0.38 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| 3+4-Methylphenol                | ND     | 0.078 | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| N-Nitrosodi-n-propylamine       | ND     | 0.088 | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| N-Nitrosodimethylamine          | ND     | 0.14  | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| N-Nitrosodiphenylamine          | ND     | 0.099 | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| Naphthalene                     | 3.2    | 0.089 | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| 2-Nitroaniline                  | ND     | 0.097 | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| 3-Nitroaniline                  | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| 4-Nitroaniline                  | ND     | 0.12  | 0.38 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |
| Nitrobenzene                    | ND     | 0.078 | 0.38 |      | mg/Kg | 1  | 8/27/2021 1:38:01 AM  | 62128    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-18R-(9.5-10')

Project: MKTF Well Installation

Collection Date: 8/14/2021 2:30:00 PM

Lab ID: 2108857-006

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                               | Result | MDL   | RL        | Qual | Units | DF  | Date Analyzed        | Batch ID |
|----------------------------------------|--------|-------|-----------|------|-------|-----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |           |      |       |     | Analyst: <b>DAM</b>  |          |
| 2-Nitrophenol                          | ND     | 0.082 | 0.19      |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM | 62128    |
| 4-Nitrophenol                          | ND     | 0.078 | 0.24      |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM | 62128    |
| Pentachlorophenol                      | ND     | 0.082 | 0.38      |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM | 62128    |
| Phenanthrene                           | 1.2    | 0.097 | 0.19      |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM | 62128    |
| Phenol                                 | 0.13   | 0.073 | 0.19      | J    | mg/Kg | 1   | 8/27/2021 1:38:01 AM | 62128    |
| Pyrene                                 | 0.17   | 0.072 | 0.19      | J    | mg/Kg | 1   | 8/27/2021 1:38:01 AM | 62128    |
| Pyridine                               | ND     | 0.15  | 0.38      |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM | 62128    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.087 | 0.19      |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM | 62128    |
| 2,4,5-Trichlorophenol                  | ND     | 0.061 | 0.19      |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM | 62128    |
| 2,4,6-Trichlorophenol                  | ND     | 0.082 | 0.19      |      | mg/Kg | 1   | 8/27/2021 1:38:01 AM | 62128    |
| Surr: 2-Fluorophenol                   | 0      |       | 20.3-74.1 | S    | %Rec  | 1   | 8/27/2021 1:38:01 AM | 62128    |
| Surr: Phenol-d5                        | 79.8   |       | 23.1-92.7 |      | %Rec  | 1   | 8/27/2021 1:38:01 AM | 62128    |
| Surr: 2,4,6-Tribromophenol             | 77.2   |       | 17.3-122  |      | %Rec  | 1   | 8/27/2021 1:38:01 AM | 62128    |
| Surr: Nitrobenzene-d5                  | 60.7   |       | 24.7-73.2 |      | %Rec  | 1   | 8/27/2021 1:38:01 AM | 62128    |
| Surr: 2-Fluorobiphenyl                 | 63.1   |       | 21.5-90.1 |      | %Rec  | 1   | 8/27/2021 1:38:01 AM | 62128    |
| Surr: 4-Terphenyl-d14                  | 72.7   |       | 15-140    |      | %Rec  | 1   | 8/27/2021 1:38:01 AM | 62128    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |       |           |      |       |     | Analyst: <b>RAA</b>  |          |
| Benzene                                | 6.1    | 0.029 | 0.076     |      | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |
| Toluene                                | 98     | 0.39  | 3.0       |      | mg/Kg | 100 | 8/25/2021 3:16:51 PM | 62086    |
| Ethylbenzene                           | 25     | 0.74  | 3.0       |      | mg/Kg | 100 | 8/25/2021 3:16:51 PM | 62086    |
| Methyl tert-butyl ether (MTBE)         | 0.096  | 0.086 | 0.15      | J    | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |
| 1,2,4-Trimethylbenzene                 | 52     | 0.43  | 3.0       |      | mg/Kg | 100 | 8/25/2021 3:16:51 PM | 62086    |
| 1,3,5-Trimethylbenzene                 | 16     | 0.68  | 3.0       |      | mg/Kg | 100 | 8/25/2021 3:16:51 PM | 62086    |
| 1,2-Dichloroethane (EDC)               | ND     | 0.035 | 0.15      |      | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |
| 1,2-Dibromoethane (EDB)                | ND     | 0.060 | 0.15      |      | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |
| Naphthalene                            | 9.4    | 0.057 | 0.30      |      | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |
| 1-Methylnaphthalene                    | 7.3    | 0.17  | 0.61      |      | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |
| 2-Methylnaphthalene                    | 12     | 0.14  | 0.61      |      | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |
| Acetone                                | ND     | 0.50  | 2.3       |      | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |
| Bromobenzene                           | ND     | 0.032 | 0.15      |      | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |
| Bromodichloromethane                   | ND     | 0.019 | 0.15      |      | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |
| Bromoform                              | ND     | 0.037 | 0.15      |      | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |
| Bromomethane                           | ND     | 0.25  | 0.46      |      | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |
| 2-Butanone                             | ND     | 0.66  | 1.5       |      | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |
| Carbon disulfide                       | ND     | 0.063 | 1.5       |      | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |
| Carbon tetrachloride                   | ND     | 0.017 | 0.15      |      | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |
| Chlorobenzene                          | 0.10   | 0.027 | 0.15      | J    | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |
| Chloroethane                           | ND     | 0.057 | 0.30      |      | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |
| Chloroform                             | ND     | 0.022 | 0.15      |      | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-18R-(9.5-10')

Project: MKTF Well Installation

Collection Date: 8/14/2021 2:30:00 PM

Lab ID: 2108857-006

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                    | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES |        |       |      |      |       |    | Analyst: RAA         |          |
| Chloromethane               | 0.41   | 0.053 | 0.46 | J    | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 2-Chlorotoluene             | ND     | 0.020 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 4-Chlorotoluene             | ND     | 0.080 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| cis-1,2-DCE                 | ND     | 0.075 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| cis-1,3-Dichloropropene     | ND     | 0.023 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 1,2-Dibromo-3-chloropropane | ND     | 0.066 | 0.30 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| Dibromochloromethane        | ND     | 0.024 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| Dibromomethane              | ND     | 0.036 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 1,2-Dichlorobenzene         | ND     | 0.032 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 1,3-Dichlorobenzene         | ND     | 0.029 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 1,4-Dichlorobenzene         | ND     | 0.041 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| Dichlorodifluoromethane     | ND     | 0.059 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 1,1-Dichloroethane          | ND     | 0.044 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 1,1-Dichloroethene          | ND     | 0.033 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 1,2-Dichloropropane         | ND     | 0.030 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 1,3-Dichloropropane         | ND     | 0.033 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 2,2-Dichloropropane         | ND     | 0.022 | 0.30 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 1,1-Dichloropropene         | ND     | 0.018 | 0.30 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| Hexachlorobutadiene         | ND     | 0.10  | 0.30 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 2-Hexanone                  | ND     | 0.066 | 1.5  |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| Isopropylbenzene            | 3.0    | 0.028 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 4-Isopropyltoluene          | 0.74   | 0.039 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 4-Methyl-2-pentanone        | ND     | 0.18  | 1.5  |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| Methylene chloride          | ND     | 0.11  | 0.46 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| n-Butylbenzene              | 4.3    | 0.041 | 0.46 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| n-Propylbenzene             | 12     | 0.025 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| sec-Butylbenzene            | 1.7    | 0.13  | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| Styrene                     | 0.042  | 0.021 | 0.15 | J    | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| tert-Butylbenzene           | ND     | 0.035 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.022 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.049 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| Tetrachloroethene (PCE)     | ND     | 0.042 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| trans-1,2-DCE               | ND     | 0.029 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| trans-1,3-Dichloropropene   | ND     | 0.036 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 1,2,3-Trichlorobenzene      | ND     | 0.024 | 0.30 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 1,2,4-Trichlorobenzene      | ND     | 0.053 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 1,1,1-Trichloroethane       | ND     | 0.034 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| 1,1,2-Trichloroethane       | ND     | 0.038 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |
| Trichloroethene (TCE)       | ND     | 0.030 | 0.15 |      | mg/Kg | 5  | 8/25/2021 1:02:56 AM | 62086    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-18R-(9.5-10')

Project: MKTF Well Installation

Collection Date: 8/14/2021 2:30:00 PM

Lab ID: 2108857-006

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                                    | Result | MDL   | RL     | Qual | Units | DF  | Date Analyzed        | Batch ID |
|---------------------------------------------|--------|-------|--------|------|-------|-----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |       |        |      |       |     | Analyst: <b>RAA</b>  |          |
| Trichlorofluoromethane                      | ND     | 0.034 | 0.15   |      | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |
| 1,2,3-Trichloropropane                      | ND     | 0.064 | 0.30   |      | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |
| Vinyl chloride                              | ND     | 0.029 | 0.15   |      | mg/Kg | 5   | 8/25/2021 1:02:56 AM | 62086    |
| Xylenes, Total                              | 130    | 1.6   | 6.1    |      | mg/Kg | 100 | 8/25/2021 3:16:51 PM | 62086    |
| Surr: Dibromofluoromethane                  | 79.2   |       | 70-130 |      | %Rec  | 5   | 8/25/2021 1:02:56 AM | 62086    |
| Surr: 1,2-Dichloroethane-d4                 | 92.3   |       | 70-130 |      | %Rec  | 5   | 8/25/2021 1:02:56 AM | 62086    |
| Surr: Toluene-d8                            | 122    |       | 70-130 |      | %Rec  | 5   | 8/25/2021 1:02:56 AM | 62086    |
| Surr: 4-Bromofluorobenzene                  | 153    |       | 70-130 | S    | %Rec  | 5   | 8/25/2021 1:02:56 AM | 62086    |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |       |        |      |       |     | Analyst: <b>RAA</b>  |          |
| Gasoline Range Organics (GRO)               | 2400   | 84    | 300    |      | mg/Kg | 100 | 8/25/2021 3:16:51 PM | 62086    |
| Surr: BFB                                   | 105    | 0     | 70-130 |      | %Rec  | 100 | 8/25/2021 3:16:51 PM | 62086    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-18R-(25.5-26')

Project: MKTF Well Installation

Collection Date: 8/14/2021 3:20:00 PM

Lab ID: 2108857-007

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF  | Date Analyzed        | Batch ID            |
|--------------------------------------------------|--------|--------|--------|------|-------|-----|----------------------|---------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |     |                      | Analyst: <b>SB</b>  |
| Diesel Range Organics (DRO)                      | 260    | 4.7    | 9.5    |      | mg/Kg | 1   | 8/18/2021 6:15:27 PM | 62028               |
| Motor Oil Range Organics (MRO)                   | ND     | 47     | 47     |      | mg/Kg | 1   | 8/18/2021 6:15:27 PM | 62028               |
| Surr: DNOP                                       | 128    | 0      | 70-130 |      | %Rec  | 1   | 8/18/2021 6:15:27 PM | 62028               |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |     |                      | Analyst: <b>ags</b> |
| Mercury                                          | 0.0030 | 0.0026 | 0.033  | J    | mg/Kg | 1   | 9/1/2021 11:13:01 AM | 62296               |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |     |                      | Analyst: <b>JLF</b> |
| Arsenic                                          | ND     | 2.8    | 4.9    |      | mg/Kg | 2   | 8/18/2021 3:13:54 PM | 62031               |
| Barium                                           | 280    | 0.12   | 0.20   |      | mg/Kg | 2   | 8/18/2021 3:13:54 PM | 62031               |
| Cadmium                                          | ND     | 0.098  | 0.20   |      | mg/Kg | 2   | 8/18/2021 3:13:54 PM | 62031               |
| Chromium                                         | 8.1    | 0.29   | 0.59   |      | mg/Kg | 2   | 8/18/2021 3:13:54 PM | 62031               |
| Iron                                             | 12000  | 240    | 240    |      | mg/Kg | 100 | 9/22/2021 3:58:46 PM | 62031               |
| Lead                                             | ND     | 0.52   | 0.59   |      | mg/Kg | 2   | 8/18/2021 5:11:19 PM | 62031               |
| Manganese                                        | 560    | 0.81   | 0.98   |      | mg/Kg | 5   | 8/18/2021 3:16:07 PM | 62031               |
| Selenium                                         | ND     | 4.3    | 4.9    |      | mg/Kg | 2   | 8/18/2021 3:13:54 PM | 62031               |
| Silver                                           | ND     | 0.28   | 0.49   |      | mg/Kg | 2   | 8/18/2021 3:13:54 PM | 62031               |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |     |                      | Analyst: <b>DAM</b> |
| Acenaphthene                                     | ND     | 0.088  | 0.20   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| Acenaphthylene                                   | ND     | 0.089  | 0.20   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| Aniline                                          | ND     | 0.068  | 0.20   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| Anthracene                                       | ND     | 0.089  | 0.20   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| Azobenzene                                       | ND     | 0.098  | 0.20   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| Benz(a)anthracene                                | ND     | 0.063  | 0.20   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| Benzo(a)pyrene                                   | ND     | 0.093  | 0.20   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| Benzo(b)fluoranthene                             | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| Benzo(g,h,i)perylene                             | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| Benzo(k)fluoranthene                             | ND     | 0.074  | 0.20   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| Benzoic acid                                     | ND     | 0.12   | 0.98   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| Benzyl alcohol                                   | ND     | 0.081  | 0.20   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| Bis(2-chloroethoxy)methane                       | ND     | 0.075  | 0.20   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| Bis(2-chloroethyl)ether                          | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| Bis(2-ethylhexyl)phthalate                       | ND     | 0.21   | 0.49   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| 4-Bromophenyl phenyl ether                       | ND     | 0.10   | 0.20   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| Butyl benzyl phthalate                           | ND     | 0.060  | 0.20   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| Carbazole                                        | ND     | 0.087  | 0.20   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| 4-Chloro-3-methylphenol                          | ND     | 0.083  | 0.49   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| 4-Chloroaniline                                  | ND     | 0.096  | 0.49   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |
| 2-Chloronaphthalene                              | ND     | 0.093  | 0.25   |      | mg/Kg | 1   | 8/27/2021 2:19:21 AM | 62128               |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-18R-(25.5-26')

Project: MKTF Well Installation

Collection Date: 8/14/2021 3:20:00 PM

Lab ID: 2108857-007

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                               | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |      |      |       |    | Analyst: DAM         |          |
| 2-Chlorophenol                         | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 4-Chlorophenyl phenyl ether            | ND     | 0.084 | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Chrysene                               | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Di-n-butyl phthalate                   | ND     | 0.27  | 0.39 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Di-n-octyl phthalate                   | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Dibenz(a,h)anthracene                  | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Dibenzofuran                           | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 1,2-Dichlorobenzene                    | ND     | 0.080 | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 1,3-Dichlorobenzene                    | ND     | 0.070 | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 1,4-Dichlorobenzene                    | ND     | 0.084 | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 3,3'-Dichlorobenzidine                 | ND     | 0.15  | 0.25 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Diethyl phthalate                      | ND     | 0.32  | 0.49 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Dimethyl phthalate                     | ND     | 0.091 | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 2,4-Dichlorophenol                     | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 2,4-Dimethylphenol                     | ND     | 0.070 | 0.30 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 4,6-Dinitro-2-methylphenol             | ND     | 0.083 | 0.39 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 2,4-Dinitrophenol                      | ND     | 0.050 | 0.49 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 2,4-Dinitrotoluene                     | ND     | 0.12  | 0.49 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 2,6-Dinitrotoluene                     | ND     | 0.10  | 0.49 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Fluoranthene                           | ND     | 0.080 | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Fluorene                               | 0.088  | 0.088 | 0.20 | J    | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Hexachlorobenzene                      | ND     | 0.088 | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Hexachlorobutadiene                    | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Hexachlorocyclopentadiene              | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Hexachloroethane                       | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Isophorone                             | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 1-Methylnaphthalene                    | 0.49   | 0.091 | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 2-Methylnaphthalene                    | 0.53   | 0.081 | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 2-Methylphenol                         | ND     | 0.083 | 0.39 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 3+4-Methylphenol                       | ND     | 0.081 | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| N-Nitrosodi-n-propylamine              | ND     | 0.091 | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| N-Nitrosodimethylamine                 | ND     | 0.15  | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| N-Nitrosodiphenylamine                 | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Naphthalene                            | ND     | 0.093 | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 2-Nitroaniline                         | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 3-Nitroaniline                         | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 4-Nitroaniline                         | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Nitrobenzene                           | ND     | 0.081 | 0.39 |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-18R-(25.5-26')

Project: MKTF Well Installation

Collection Date: 8/14/2021 3:20:00 PM

Lab ID: 2108857-007

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                               | Result | MDL    | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|--------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |        |           |      |       |    | Analyst: DAM         |          |
| 2-Nitrophenol                          | ND     | 0.085  | 0.20      |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 4-Nitrophenol                          | ND     | 0.081  | 0.25      |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Pentachlorophenol                      | ND     | 0.085  | 0.39      |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Phenanthrene                           | 0.34   | 0.10   | 0.20      |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Phenol                                 | ND     | 0.076  | 0.20      |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Pyrene                                 | ND     | 0.075  | 0.20      |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Pyridine                               | ND     | 0.16   | 0.39      |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.090  | 0.20      |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 2,4,5-Trichlorophenol                  | ND     | 0.063  | 0.20      |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| 2,4,6-Trichlorophenol                  | ND     | 0.085  | 0.20      |      | mg/Kg | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Surr: 2-Fluorophenol                   | 41.9   |        | 20.3-74.1 |      | %Rec  | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Surr: Phenol-d5                        | 46.0   |        | 23.1-92.7 |      | %Rec  | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Surr: 2,4,6-Tribromophenol             | 62.7   |        | 17.3-122  |      | %Rec  | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Surr: Nitrobenzene-d5                  | 39.0   |        | 24.7-73.2 |      | %Rec  | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Surr: 2-Fluorobiphenyl                 | 39.1   |        | 21.5-90.1 |      | %Rec  | 1  | 8/27/2021 2:19:21 AM | 62128    |
| Surr: 4-Terphenyl-d14                  | 66.2   |        | 15-140    |      | %Rec  | 1  | 8/27/2021 2:19:21 AM | 62128    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |        |           |      |       |    | Analyst: RAA         |          |
| Benzene                                | ND     | 0.0094 | 0.025     |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Toluene                                | 0.0064 | 0.0063 | 0.049     | J    | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Ethylbenzene                           | ND     | 0.012  | 0.049     |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Methyl tert-butyl ether (MTBE)         | 0.041  | 0.028  | 0.049     | J    | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1,2,4-Trimethylbenzene                 | ND     | 0.0069 | 0.049     |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1,3,5-Trimethylbenzene                 | ND     | 0.011  | 0.049     |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1,2-Dichloroethane (EDC)               | ND     | 0.011  | 0.049     |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1,2-Dibromoethane (EDB)                | ND     | 0.019  | 0.049     |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Naphthalene                            | ND     | 0.018  | 0.098     |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1-Methylnaphthalene                    | 0.59   | 0.056  | 0.20      |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 2-Methylnaphthalene                    | 0.50   | 0.045  | 0.20      |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Acetone                                | ND     | 0.16   | 0.74      |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Bromobenzene                           | ND     | 0.010  | 0.049     |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Bromodichloromethane                   | 0.026  | 0.0062 | 0.049     | J    | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Bromoform                              | ND     | 0.012  | 0.049     |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Bromomethane                           | ND     | 0.081  | 0.15      |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 2-Butanone                             | ND     | 0.21   | 0.49      |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Carbon disulfide                       | ND     | 0.020  | 0.49      |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Carbon tetrachloride                   | ND     | 0.0055 | 0.049     |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Chlorobenzene                          | 0.014  | 0.0088 | 0.049     | J    | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Chloroethane                           | ND     | 0.018  | 0.098     |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Chloroform                             | ND     | 0.0070 | 0.049     |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-18R-(25.5-26')

Project: MKTF Well Installation

Collection Date: 8/14/2021 3:20:00 PM

Lab ID: 2108857-007

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                    | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------|--------|--------|-------|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES |        |        |       |      |       |    | Analyst: RAA         |          |
| Chloromethane               | ND     | 0.017  | 0.15  |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 2-Chlorotoluene             | ND     | 0.0066 | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 4-Chlorotoluene             | ND     | 0.026  | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| cis-1,2-DCE                 | ND     | 0.024  | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| cis-1,3-Dichloropropene     | ND     | 0.0073 | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1,2-Dibromo-3-chloropropane | ND     | 0.021  | 0.098 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Dibromochloromethane        | ND     | 0.0079 | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Dibromomethane              | ND     | 0.011  | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1,2-Dichlorobenzene         | ND     | 0.010  | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1,3-Dichlorobenzene         | ND     | 0.0093 | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1,4-Dichlorobenzene         | ND     | 0.013  | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Dichlorodifluoromethane     | ND     | 0.019  | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1,1-Dichloroethane          | ND     | 0.014  | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1,1-Dichloroethene          | ND     | 0.011  | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1,2-Dichloropropane         | ND     | 0.0096 | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1,3-Dichloropropane         | ND     | 0.011  | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 2,2-Dichloropropane         | ND     | 0.0070 | 0.098 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1,1-Dichloropropene         | ND     | 0.0059 | 0.098 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Hexachlorobutadiene         | ND     | 0.033  | 0.098 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 2-Hexanone                  | 0.11   | 0.021  | 0.49  | J    | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Isopropylbenzene            | ND     | 0.0091 | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 4-Isopropyltoluene          | ND     | 0.013  | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 4-Methyl-2-pentanone        | 0.065  | 0.057  | 0.49  | J    | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Methylene chloride          | ND     | 0.036  | 0.15  |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| n-Butylbenzene              | 0.036  | 0.013  | 0.15  | J    | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| n-Propylbenzene             | 0.0084 | 0.0079 | 0.049 | J    | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| sec-Butylbenzene            | ND     | 0.040  | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Styrene                     | ND     | 0.0067 | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| tert-Butylbenzene           | ND     | 0.011  | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.0072 | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.016  | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Tetrachloroethene (PCE)     | ND     | 0.013  | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| trans-1,2-DCE               | ND     | 0.0095 | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| trans-1,3-Dichloropropene   | ND     | 0.012  | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1,2,3-Trichlorobenzene      | ND     | 0.0076 | 0.098 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1,2,4-Trichlorobenzene      | ND     | 0.017  | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1,1,1-Trichloroethane       | ND     | 0.011  | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1,1,2-Trichloroethane       | ND     | 0.012  | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Trichloroethene (TCE)       | ND     | 0.0096 | 0.049 |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-18R-(25.5-26')

Project: MKTF Well Installation

Collection Date: 8/14/2021 3:20:00 PM

Lab ID: 2108857-007

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                                    | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------------------|--------|--------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |        |        |      |       |    | Analyst: RAA         |          |
| Trichlorofluoromethane                      | ND     | 0.011  | 0.049  |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| 1,2,3-Trichloropropane                      | ND     | 0.021  | 0.098  |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Vinyl chloride                              | ND     | 0.0094 | 0.049  |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Xylenes, Total                              | ND     | 0.026  | 0.098  |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Surr: Dibromofluoromethane                  | 105    |        | 70-130 |      | %Rec  | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Surr: 1,2-Dichloroethane-d4                 | 114    |        | 70-130 |      | %Rec  | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Surr: Toluene-d8                            | 104    |        | 70-130 |      | %Rec  | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Surr: 4-Bromofluorobenzene                  | 117    |        | 70-130 |      | %Rec  | 2  | 8/25/2021 3:44:21 PM | 62086    |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |        |        |      |       |    | Analyst: RAA         |          |
| Gasoline Range Organics (GRO)               | 11     | 1.4    | 4.9    |      | mg/Kg | 2  | 8/25/2021 3:44:21 PM | 62086    |
| Surr: BFB                                   | 117    | 0      | 70-130 |      | %Rec  | 2  | 8/25/2021 3:44:21 PM | 62086    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: BD1-08142021

Project: MKTF Well Installation

Collection Date: 8/14/2021

Lab ID: 2108857-008

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF  | Date Analyzed        | Batch ID            |
|--------------------------------------------------|--------|--------|--------|------|-------|-----|----------------------|---------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |     |                      | Analyst: <b>SB</b>  |
| Diesel Range Organics (DRO)                      | ND     | 4.9    | 10     |      | mg/Kg | 1   | 8/18/2021 6:25:14 PM | 62028               |
| Motor Oil Range Organics (MRO)                   | ND     | 50     | 50     |      | mg/Kg | 1   | 8/18/2021 6:25:14 PM | 62028               |
| Surr: DNOP                                       | 126    | 0      | 70-130 |      | %Rec  | 1   | 8/18/2021 6:25:14 PM | 62028               |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |     |                      | Analyst: <b>ags</b> |
| Mercury                                          | ND     | 0.0027 | 0.034  |      | mg/Kg | 1   | 9/1/2021 11:19:27 AM | 62296               |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |     |                      | Analyst: <b>JLF</b> |
| Arsenic                                          | ND     | 2.7    | 4.8    |      | mg/Kg | 2   | 8/18/2021 3:39:59 PM | 62031               |
| Barium                                           | 210    | 0.12   | 0.19   |      | mg/Kg | 2   | 8/18/2021 3:39:59 PM | 62031               |
| Cadmium                                          | ND     | 0.096  | 0.19   |      | mg/Kg | 2   | 8/18/2021 3:39:59 PM | 62031               |
| Chromium                                         | 12     | 0.29   | 0.58   |      | mg/Kg | 2   | 8/18/2021 3:39:59 PM | 62031               |
| Iron                                             | 19000  | 240    | 240    |      | mg/Kg | 100 | 9/22/2021 4:00:49 PM | 62031               |
| Lead                                             | 2.5    | 0.51   | 0.58   |      | mg/Kg | 2   | 8/18/2021 5:14:07 PM | 62031               |
| Manganese                                        | 370    | 0.32   | 0.39   |      | mg/Kg | 2   | 8/18/2021 3:39:59 PM | 62031               |
| Selenium                                         | ND     | 4.2    | 4.8    |      | mg/Kg | 2   | 8/18/2021 3:39:59 PM | 62031               |
| Silver                                           | ND     | 0.28   | 0.48   |      | mg/Kg | 2   | 8/18/2021 3:39:59 PM | 62031               |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |     |                      | Analyst: <b>DAM</b> |
| Acenaphthene                                     | ND     | 0.086  | 0.19   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| Acenaphthylene                                   | ND     | 0.088  | 0.19   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| Aniline                                          | ND     | 0.067  | 0.19   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| Anthracene                                       | ND     | 0.088  | 0.19   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| Azobenzene                                       | ND     | 0.097  | 0.19   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| Benz(a)anthracene                                | ND     | 0.062  | 0.19   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| Benzo(a)pyrene                                   | ND     | 0.091  | 0.19   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| Benzo(b)fluoranthene                             | ND     | 0.10   | 0.19   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| Benzo(g,h,i)perylene                             | ND     | 0.099  | 0.19   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| Benzo(k)fluoranthene                             | ND     | 0.073  | 0.19   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| Benzoic acid                                     | ND     | 0.12   | 0.97   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| Benzyl alcohol                                   | ND     | 0.079  | 0.19   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| Bis(2-chloroethoxy)methane                       | ND     | 0.074  | 0.19   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| Bis(2-chloroethyl)ether                          | ND     | 0.10   | 0.19   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.098  | 0.19   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| Bis(2-ethylhexyl)phthalate                       | ND     | 0.21   | 0.48   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| 4-Bromophenyl phenyl ether                       | ND     | 0.10   | 0.19   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| Butyl benzyl phthalate                           | ND     | 0.059  | 0.19   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| Carbazole                                        | ND     | 0.085  | 0.19   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| 4-Chloro-3-methylphenol                          | ND     | 0.082  | 0.48   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| 4-Chloroaniline                                  | ND     | 0.094  | 0.48   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |
| 2-Chloronaphthalene                              | ND     | 0.092  | 0.24   |      | mg/Kg | 1   | 8/27/2021 3:01:24 AM | 62128               |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: BD1-08142021

Project: MKTF Well Installation

Collection Date: 8/14/2021

Lab ID: 2108857-008

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                               | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |      |      |       |    | Analyst: DAM         |          |
| 2-Chlorophenol                         | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 4-Chlorophenyl phenyl ether            | ND     | 0.082 | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Chrysene                               | ND     | 0.085 | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Di-n-butyl phthalate                   | ND     | 0.27  | 0.39 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Di-n-octyl phthalate                   | ND     | 0.12  | 0.39 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Dibenz(a,h)anthracene                  | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Dibenzofuran                           | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 1,2-Dichlorobenzene                    | ND     | 0.078 | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 1,3-Dichlorobenzene                    | ND     | 0.069 | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 1,4-Dichlorobenzene                    | ND     | 0.082 | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 3,3'-Dichlorobenzidine                 | ND     | 0.15  | 0.24 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Diethyl phthalate                      | ND     | 0.32  | 0.48 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Dimethyl phthalate                     | ND     | 0.089 | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 2,4-Dichlorophenol                     | ND     | 0.079 | 0.39 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 2,4-Dimethylphenol                     | ND     | 0.069 | 0.29 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 4,6-Dinitro-2-methylphenol             | ND     | 0.081 | 0.39 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 2,4-Dinitrophenol                      | ND     | 0.049 | 0.48 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 2,4-Dinitrotoluene                     | ND     | 0.12  | 0.48 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 2,6-Dinitrotoluene                     | ND     | 0.098 | 0.48 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Fluoranthene                           | ND     | 0.078 | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Fluorene                               | ND     | 0.086 | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Hexachlorobenzene                      | ND     | 0.086 | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Hexachlorobutadiene                    | ND     | 0.091 | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Hexachlorocyclopentadiene              | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Hexachloroethane                       | ND     | 0.086 | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Isophorone                             | ND     | 0.079 | 0.39 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 1-Methylnaphthalene                    | ND     | 0.089 | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 2-Methylnaphthalene                    | ND     | 0.080 | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 2-Methylphenol                         | ND     | 0.081 | 0.39 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 3+4-Methylphenol                       | ND     | 0.080 | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| N-Nitrosodi-n-propylamine              | ND     | 0.090 | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| N-Nitrosodimethylamine                 | ND     | 0.14  | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| N-Nitrosodiphenylamine                 | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Naphthalene                            | ND     | 0.091 | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 2-Nitroaniline                         | ND     | 0.099 | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 3-Nitroaniline                         | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 4-Nitroaniline                         | ND     | 0.12  | 0.39 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Nitrobenzene                           | ND     | 0.079 | 0.39 |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: BD1-08142021

Project: MKTF Well Installation

Collection Date: 8/14/2021

Lab ID: 2108857-008

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                               | Result | MDL    | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|--------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |        |           |      |       |    | Analyst: DAM         |          |
| 2-Nitrophenol                          | ND     | 0.083  | 0.19      |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 4-Nitrophenol                          | ND     | 0.079  | 0.24      |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Pentachlorophenol                      | ND     | 0.083  | 0.39      |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Phenanthrene                           | ND     | 0.099  | 0.19      |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Phenol                                 | ND     | 0.075  | 0.19      |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Pyrene                                 | ND     | 0.073  | 0.19      |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Pyridine                               | ND     | 0.16   | 0.39      |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.089  | 0.19      |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 2,4,5-Trichlorophenol                  | ND     | 0.062  | 0.19      |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| 2,4,6-Trichlorophenol                  | ND     | 0.083  | 0.19      |      | mg/Kg | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Surr: 2-Fluorophenol                   | 51.8   |        | 20.3-74.1 |      | %Rec  | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Surr: Phenol-d5                        | 61.2   |        | 23.1-92.7 |      | %Rec  | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Surr: 2,4,6-Tribromophenol             | 76.8   |        | 17.3-122  |      | %Rec  | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Surr: Nitrobenzene-d5                  | 47.8   |        | 24.7-73.2 |      | %Rec  | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Surr: 2-Fluorobiphenyl                 | 48.0   |        | 21.5-90.1 |      | %Rec  | 1  | 8/27/2021 3:01:24 AM | 62128    |
| Surr: 4-Terphenyl-d14                  | 73.3   |        | 15-140    |      | %Rec  | 1  | 8/27/2021 3:01:24 AM | 62128    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |        |           |      |       |    | Analyst: RAA         |          |
| Benzene                                | ND     | 0.0049 | 0.013     |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Toluene                                | 0.0050 | 0.0033 | 0.026     | J    | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Ethylbenzene                           | ND     | 0.0062 | 0.026     |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Methyl tert-butyl ether (MTBE)         | 0.021  | 0.014  | 0.026     | J    | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1,2,4-Trimethylbenzene                 | ND     | 0.0036 | 0.026     |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1,3,5-Trimethylbenzene                 | ND     | 0.0058 | 0.026     |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1,2-Dichloroethane (EDC)               | ND     | 0.0058 | 0.026     |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1,2-Dibromoethane (EDB)                | ND     | 0.010  | 0.026     |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Naphthalene                            | ND     | 0.0095 | 0.051     |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1-Methylnaphthalene                    | ND     | 0.029  | 0.10      |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 2-Methylnaphthalene                    | ND     | 0.024  | 0.10      |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Acetone                                | ND     | 0.084  | 0.38      |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Bromobenzene                           | ND     | 0.0054 | 0.026     |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Bromodichloromethane                   | ND     | 0.0033 | 0.026     |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Bromoform                              | ND     | 0.0062 | 0.026     |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Bromomethane                           | ND     | 0.043  | 0.077     |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 2-Butanone                             | ND     | 0.11   | 0.26      |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Carbon disulfide                       | ND     | 0.011  | 0.26      |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Carbon tetrachloride                   | ND     | 0.0029 | 0.026     |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Chlorobenzene                          | ND     | 0.0046 | 0.026     |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Chloroethane                           | ND     | 0.0096 | 0.051     |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Chloroform                             | ND     | 0.0036 | 0.026     |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: BD1-08142021

Project: MKTF Well Installation

Collection Date: 8/14/2021

Lab ID: 2108857-008

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                    | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------|--------|--------|-------|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES |        |        |       |      |       |    | Analyst: RAA         |          |
| Chloromethane               | ND     | 0.0090 | 0.077 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 2-Chlorotoluene             | ND     | 0.0034 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 4-Chlorotoluene             | ND     | 0.013  | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| cis-1,2-DCE                 | ND     | 0.013  | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| cis-1,3-Dichloropropene     | ND     | 0.0038 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1,2-Dibromo-3-chloropropane | ND     | 0.011  | 0.051 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Dibromochloromethane        | ND     | 0.0041 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Dibromomethane              | ND     | 0.0060 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1,2-Dichlorobenzene         | ND     | 0.0053 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1,3-Dichlorobenzene         | ND     | 0.0048 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1,4-Dichlorobenzene         | ND     | 0.0069 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Dichlorodifluoromethane     | ND     | 0.0099 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1,1-Dichloroethane          | ND     | 0.0075 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1,1-Dichloroethene          | ND     | 0.0055 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1,2-Dichloropropane         | ND     | 0.0050 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1,3-Dichloropropane         | ND     | 0.0056 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 2,2-Dichloropropane         | ND     | 0.0036 | 0.051 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1,1-Dichloropropene         | ND     | 0.0031 | 0.051 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Hexachlorobutadiene         | ND     | 0.017  | 0.051 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 2-Hexanone                  | 0.022  | 0.011  | 0.26  | J    | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Isopropylbenzene            | ND     | 0.0048 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 4-Isopropyltoluene          | ND     | 0.0066 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 4-Methyl-2-pentanone        | ND     | 0.030  | 0.26  |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Methylene chloride          | ND     | 0.019  | 0.077 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| n-Butylbenzene              | ND     | 0.0069 | 0.077 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| n-Propylbenzene             | ND     | 0.0041 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| sec-Butylbenzene            | ND     | 0.021  | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Styrene                     | ND     | 0.0035 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| tert-Butylbenzene           | ND     | 0.0059 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.0038 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.0083 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Tetrachloroethene (PCE)     | ND     | 0.0070 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| trans-1,2-DCE               | ND     | 0.0050 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| trans-1,3-Dichloropropene   | ND     | 0.0060 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1,2,3-Trichlorobenzene      | ND     | 0.0040 | 0.051 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1,2,4-Trichlorobenzene      | ND     | 0.0089 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1,1,1-Trichloroethane       | ND     | 0.0057 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1,1,2-Trichloroethane       | ND     | 0.0064 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Trichloroethene (TCE)       | ND     | 0.0050 | 0.026 |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: BD1-08142021

Project: MKTF Well Installation

Collection Date: 8/14/2021

Lab ID: 2108857-008

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                                    | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------------------|--------|--------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |        |        |      |       |    | Analyst: RAA         |          |
| Trichlorofluoromethane                      | ND     | 0.0058 | 0.026  |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| 1,2,3-Trichloropropane                      | ND     | 0.011  | 0.051  |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Vinyl chloride                              | ND     | 0.0049 | 0.026  |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Xylenes, Total                              | ND     | 0.013  | 0.051  |      | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Surr: Dibromofluoromethane                  | 110    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Surr: 1,2-Dichloroethane-d4                 | 118    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Surr: Toluene-d8                            | 107    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Surr: 4-Bromofluorobenzene                  | 113    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 4:11:51 PM | 62086    |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |        |        |      |       |    | Analyst: RAA         |          |
| Gasoline Range Organics (GRO)               | 1.4    | 0.71   | 2.6    | J    | mg/Kg | 1  | 8/25/2021 4:11:51 PM | 62086    |
| Surr: BFB                                   | 102    | 0      | 70-130 |      | %Rec  | 1  | 8/25/2021 4:11:51 PM | 62086    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-04R-(8.2-8.7')

Project: MKTF Well Installation

Collection Date: 8/16/2021 11:12:00 AM

Lab ID: 2108857-009

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                                         | Result | MDL    | RL     | Qual | Units               | DF  | Date Analyzed         | Batch ID |
|--------------------------------------------------|--------|--------|--------|------|---------------------|-----|-----------------------|----------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      | Analyst: <b>SB</b>  |     |                       |          |
| Diesel Range Organics (DRO)                      | 75     | 4.9    | 9.9    |      | mg/Kg               | 1   | 8/19/2021 12:18:49 PM | 62028    |
| Motor Oil Range Organics (MRO)                   | ND     | 50     | 50     |      | mg/Kg               | 1   | 8/19/2021 12:18:49 PM | 62028    |
| Surr: DNOP                                       | 125    | 0      | 70-130 |      | %Rec                | 1   | 8/19/2021 12:18:49 PM | 62028    |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      | Analyst: <b>ags</b> |     |                       |          |
| Mercury                                          | ND     | 0.0027 | 0.034  |      | mg/Kg               | 1   | 9/1/2021 11:21:37 AM  | 62296    |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      | Analyst: <b>JLF</b> |     |                       |          |
| Arsenic                                          | ND     | 2.7    | 4.8    |      | mg/Kg               | 2   | 8/18/2021 3:44:17 PM  | 62031    |
| Barium                                           | 1500   | 0.58   | 0.96   |      | mg/Kg               | 10  | 8/18/2021 3:59:03 PM  | 62031    |
| Cadmium                                          | ND     | 0.096  | 0.19   |      | mg/Kg               | 2   | 8/18/2021 3:44:17 PM  | 62031    |
| Chromium                                         | 8.6    | 0.29   | 0.57   |      | mg/Kg               | 2   | 8/18/2021 3:44:17 PM  | 62031    |
| Iron                                             | 15000  | 240    | 240    |      | mg/Kg               | 100 | 9/22/2021 4:02:54 PM  | 62031    |
| Lead                                             | 1.8    | 0.51   | 0.57   |      | mg/Kg               | 2   | 8/18/2021 5:15:32 PM  | 62031    |
| Manganese                                        | 320    | 0.32   | 0.38   |      | mg/Kg               | 2   | 8/18/2021 3:44:17 PM  | 62031    |
| Selenium                                         | ND     | 4.2    | 4.8    |      | mg/Kg               | 2   | 8/18/2021 3:44:17 PM  | 62031    |
| Silver                                           | ND     | 0.28   | 0.48   |      | mg/Kg               | 2   | 8/18/2021 3:44:17 PM  | 62031    |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      | Analyst: <b>DAM</b> |     |                       |          |
| Acenaphthene                                     | ND     | 0.088  | 0.20   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| Acenaphthylene                                   | ND     | 0.089  | 0.20   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| Aniline                                          | ND     | 0.068  | 0.20   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| Anthracene                                       | ND     | 0.089  | 0.20   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| Azobenzene                                       | ND     | 0.098  | 0.20   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| Benz(a)anthracene                                | ND     | 0.063  | 0.20   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| Benzo(a)pyrene                                   | ND     | 0.092  | 0.20   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| Benzo(b)fluoranthene                             | ND     | 0.10   | 0.20   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| Benzo(g,h,i)perylene                             | ND     | 0.10   | 0.20   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| Benzo(k)fluoranthene                             | ND     | 0.074  | 0.20   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| Benzoic acid                                     | ND     | 0.12   | 0.98   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| Benzyl alcohol                                   | ND     | 0.080  | 0.20   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| Bis(2-chloroethoxy)methane                       | ND     | 0.075  | 0.20   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| Bis(2-chloroethyl)ether                          | ND     | 0.10   | 0.20   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.10   | 0.20   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| Bis(2-ethylhexyl)phthalate                       | ND     | 0.21   | 0.49   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| 4-Bromophenyl phenyl ether                       | ND     | 0.10   | 0.20   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| Butyl benzyl phthalate                           | ND     | 0.060  | 0.20   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| Carbazole                                        | ND     | 0.086  | 0.20   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| 4-Chloro-3-methylphenol                          | ND     | 0.083  | 0.49   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| 4-Chloroaniline                                  | ND     | 0.095  | 0.49   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |
| 2-Chloronaphthalene                              | ND     | 0.093  | 0.24   |      | mg/Kg               | 1   | 8/27/2021 3:42:44 AM  | 62128    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-04R-(8.2-8.7')

Project: MKTF Well Installation

Collection Date: 8/16/2021 11:12:00 AM

Lab ID: 2108857-009

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                               | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |      |      |       |    | Analyst: DAM         |          |
| 2-Chlorophenol                         | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 4-Chlorophenyl phenyl ether            | ND     | 0.083 | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Chrysene                               | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Di-n-butyl phthalate                   | ND     | 0.27  | 0.39 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Di-n-octyl phthalate                   | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Dibenz(a,h)anthracene                  | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Dibenzofuran                           | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 1,2-Dichlorobenzene                    | ND     | 0.079 | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 1,3-Dichlorobenzene                    | ND     | 0.070 | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 1,4-Dichlorobenzene                    | ND     | 0.083 | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 3,3'-Dichlorobenzidine                 | ND     | 0.15  | 0.24 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Diethyl phthalate                      | ND     | 0.32  | 0.49 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Dimethyl phthalate                     | ND     | 0.091 | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 2,4-Dichlorophenol                     | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 2,4-Dimethylphenol                     | ND     | 0.070 | 0.29 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 4,6-Dinitro-2-methylphenol             | ND     | 0.083 | 0.39 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 2,4-Dinitrophenol                      | ND     | 0.049 | 0.49 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 2,4-Dinitrotoluene                     | ND     | 0.12  | 0.49 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 2,6-Dinitrotoluene                     | ND     | 0.10  | 0.49 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Fluoranthene                           | ND     | 0.079 | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Fluorene                               | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Hexachlorobenzene                      | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Hexachlorobutadiene                    | ND     | 0.092 | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Hexachlorocyclopentadiene              | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Hexachloroethane                       | ND     | 0.087 | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Isophorone                             | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 1-Methylnaphthalene                    | 0.18   | 0.090 | 0.20 | J    | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 2-Methylnaphthalene                    | 0.33   | 0.081 | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 2-Methylphenol                         | ND     | 0.082 | 0.39 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 3+4-Methylphenol                       | ND     | 0.081 | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| N-Nitrosodi-n-propylamine              | ND     | 0.091 | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| N-Nitrosodimethylamine                 | ND     | 0.15  | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| N-Nitrosodiphenylamine                 | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Naphthalene                            | 0.25   | 0.092 | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 2-Nitroaniline                         | ND     | 0.10  | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 3-Nitroaniline                         | ND     | 0.11  | 0.20 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 4-Nitroaniline                         | ND     | 0.13  | 0.39 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Nitrobenzene                           | ND     | 0.080 | 0.39 |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-04R-(8.2-8.7')

Project: MKTF Well Installation

Collection Date: 8/16/2021 11:12:00 AM

Lab ID: 2108857-009

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                               | Result | MDL    | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|--------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |        |           |      |       |    | Analyst: <b>DAM</b>  |          |
| 2-Nitrophenol                          | ND     | 0.084  | 0.20      |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 4-Nitrophenol                          | ND     | 0.081  | 0.24      |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Pentachlorophenol                      | ND     | 0.085  | 0.39      |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Phenanthrene                           | ND     | 0.10   | 0.20      |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Phenol                                 | ND     | 0.076  | 0.20      |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Pyrene                                 | ND     | 0.074  | 0.20      |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Pyridine                               | ND     | 0.16   | 0.39      |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.090  | 0.20      |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 2,4,5-Trichlorophenol                  | ND     | 0.062  | 0.20      |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| 2,4,6-Trichlorophenol                  | ND     | 0.084  | 0.20      |      | mg/Kg | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Surr: 2-Fluorophenol                   | 47.4   |        | 20.3-74.1 |      | %Rec  | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Surr: Phenol-d5                        | 57.0   |        | 23.1-92.7 |      | %Rec  | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Surr: 2,4,6-Tribromophenol             | 67.1   |        | 17.3-122  |      | %Rec  | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Surr: Nitrobenzene-d5                  | 44.0   |        | 24.7-73.2 |      | %Rec  | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Surr: 2-Fluorobiphenyl                 | 43.1   |        | 21.5-90.1 |      | %Rec  | 1  | 8/27/2021 3:42:44 AM | 62128    |
| Surr: 4-Terphenyl-d14                  | 79.6   |        | 15-140    |      | %Rec  | 1  | 8/27/2021 3:42:44 AM | 62128    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |        |           |      |       |    | Analyst: <b>RAA</b>  |          |
| Benzene                                | ND     | 0.0052 | 0.014     |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Toluene                                | 0.0073 | 0.0035 | 0.027     | J    | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Ethylbenzene                           | 1.9    | 0.0066 | 0.027     |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Methyl tert-butyl ether (MTBE)         | 0.018  | 0.015  | 0.027     | J    | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 1,2,4-Trimethylbenzene                 | 17     | 0.19   | 1.4       |      | mg/Kg | 50 | 8/25/2021 4:39:16 PM | 62086    |
| 1,3,5-Trimethylbenzene                 | 5.6    | 0.30   | 1.4       |      | mg/Kg | 50 | 8/25/2021 4:39:16 PM | 62086    |
| 1,2-Dichloroethane (EDC)               | ND     | 0.0062 | 0.027     |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 1,2-Dibromoethane (EDB)                | ND     | 0.011  | 0.027     |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Naphthalene                            | 1.5    | 0.010  | 0.054     |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 1-Methylnaphthalene                    | 0.75   | 0.031  | 0.11      |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 2-Methylnaphthalene                    | 1.5    | 0.025  | 0.11      |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Acetone                                | ND     | 0.088  | 0.41      |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Bromobenzene                           | ND     | 0.0058 | 0.027     |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Bromodichloromethane                   | ND     | 0.0035 | 0.027     |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Bromoform                              | ND     | 0.0065 | 0.027     |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Bromomethane                           | ND     | 0.045  | 0.081     |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 2-Butanone                             | ND     | 0.12   | 0.27      |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Carbon disulfide                       | ND     | 0.011  | 0.27      |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Carbon tetrachloride                   | ND     | 0.0030 | 0.027     |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Chlorobenzene                          | ND     | 0.0049 | 0.027     |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Chloroethane                           | ND     | 0.010  | 0.054     |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Chloroform                             | ND     | 0.0038 | 0.027     |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|                    |     |                                                       |    |                                                 |

## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-04R-(8.2-8.7')

Project: MKTF Well Installation

Collection Date: 8/16/2021 11:12:00 AM

Lab ID: 2108857-009

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                    | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------|--------|--------|-------|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES |        |        |       |      |       |    | Analyst: RAA         |          |
| Chloromethane               | ND     | 0.0095 | 0.081 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 2-Chlorotoluene             | ND     | 0.0036 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 4-Chlorotoluene             | ND     | 0.014  | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| cis-1,2-DCE                 | ND     | 0.013  | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| cis-1,3-Dichloropropene     | ND     | 0.0040 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 1,2-Dibromo-3-chloropropane | ND     | 0.012  | 0.054 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Dibromochloromethane        | ND     | 0.0043 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Dibromomethane              | ND     | 0.0063 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 1,2-Dichlorobenzene         | ND     | 0.0056 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 1,3-Dichlorobenzene         | ND     | 0.0051 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 1,4-Dichlorobenzene         | ND     | 0.0072 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Dichlorodifluoromethane     | ND     | 0.010  | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 1,1-Dichloroethane          | ND     | 0.0079 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 1,1-Dichloroethene          | ND     | 0.0058 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 1,2-Dichloropropane         | ND     | 0.0053 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 1,3-Dichloropropane         | ND     | 0.0060 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 2,2-Dichloropropane         | ND     | 0.0039 | 0.054 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 1,1-Dichloropropene         | ND     | 0.0033 | 0.054 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Hexachlorobutadiene         | ND     | 0.018  | 0.054 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 2-Hexanone                  | ND     | 0.012  | 0.27  |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Isopropylbenzene            | 0.63   | 0.0050 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 4-Isopropyltoluene          | 0.20   | 0.0070 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 4-Methyl-2-pentanone        | ND     | 0.032  | 0.27  |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Methylene chloride          | ND     | 0.020  | 0.081 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| n-Butylbenzene              | 1.1    | 0.0072 | 0.081 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| n-Propylbenzene             | 3.5    | 0.22   | 1.4   |      | mg/Kg | 50 | 8/25/2021 4:39:16 PM | 62086    |
| sec-Butylbenzene            | 0.44   | 0.022  | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Styrene                     | ND     | 0.0037 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| tert-Butylbenzene           | ND     | 0.0063 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.0040 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.0088 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Tetrachloroethene (PCE)     | ND     | 0.0074 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| trans-1,2-DCE               | ND     | 0.0052 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| trans-1,3-Dichloropropene   | ND     | 0.0064 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 1,2,3-Trichlorobenzene      | ND     | 0.0042 | 0.054 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 1,2,4-Trichlorobenzene      | ND     | 0.0094 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 1,1,1-Trichloroethane       | ND     | 0.0060 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 1,1,2-Trichloroethane       | ND     | 0.0068 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Trichloroethene (TCE)       | ND     | 0.0053 | 0.027 |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-04R-(8.2-8.7')

Project: MKTF Well Installation

Collection Date: 8/16/2021 11:12:00 AM

Lab ID: 2108857-009

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                                    | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------------------|--------|--------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |        |        |      |       |    | Analyst: RAA         |          |
| Trichlorofluoromethane                      | ND     | 0.0062 | 0.027  |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| 1,2,3-Trichloropropane                      | ND     | 0.011  | 0.054  |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Vinyl chloride                              | ND     | 0.0052 | 0.027  |      | mg/Kg | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Xylenes, Total                              | 14     | 0.71   | 2.7    |      | mg/Kg | 50 | 8/25/2021 4:39:16 PM | 62086    |
| Surr: Dibromofluoromethane                  | 94.7   |        | 70-130 |      | %Rec  | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Surr: 1,2-Dichloroethane-d4                 | 111    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Surr: Toluene-d8                            | 125    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 2:23:58 AM | 62086    |
| Surr: 4-Bromofluorobenzene                  | 152    |        | 70-130 | S    | %Rec  | 1  | 8/25/2021 2:23:58 AM | 62086    |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |        |        |      |       |    | Analyst: RAA         |          |
| Gasoline Range Organics (GRO)               | 300    | 38     | 140    |      | mg/Kg | 50 | 8/25/2021 4:39:16 PM | 62086    |
| Surr: BFB                                   | 101    | 0      | 70-130 |      | %Rec  | 50 | 8/25/2021 4:39:16 PM | 62086    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-04R-(19.5-20')

Project: MKTF Well Installation

Collection Date: 8/16/2021 11:45:00 AM

Lab ID: 2108857-010

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                                         | Result | MDL    | RL     | Qual | Units | DF  | Date Analyzed         | Batch ID |
|--------------------------------------------------|--------|--------|--------|------|-------|-----|-----------------------|----------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>SB</b>    |          |
| Diesel Range Organics (DRO)                      | 130    | 4.6    | 9.3    |      | mg/Kg | 1   | 8/25/2021 11:21:02 AM | 62132    |
| Motor Oil Range Organics (MRO)                   | ND     | 47     | 47     |      | mg/Kg | 1   | 8/25/2021 11:21:02 AM | 62132    |
| Surr: DNOP                                       | 117    | 0      | 70-130 |      | %Rec  | 1   | 8/25/2021 11:21:02 AM | 62132    |
| <b>EPA METHOD 7471B: MERCURY</b>                 |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>ags</b>   |          |
| Mercury                                          | 0.016  | 0.0027 | 0.034  | J    | mg/Kg | 1   | 9/1/2021 11:23:48 AM  | 62297    |
| <b>EPA METHOD 6010B: SOIL METALS</b>             |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>JLF</b>   |          |
| Arsenic                                          | ND     | 2.9    | 5.0    |      | mg/Kg | 2   | 8/18/2021 3:48:32 PM  | 62031    |
| Barium                                           | 820    | 0.30   | 0.50   |      | mg/Kg | 5   | 8/18/2021 3:50:44 PM  | 62031    |
| Cadmium                                          | ND     | 0.10   | 0.20   |      | mg/Kg | 2   | 8/18/2021 3:48:32 PM  | 62031    |
| Chromium                                         | 8.5    | 0.30   | 0.61   |      | mg/Kg | 2   | 8/18/2021 3:48:32 PM  | 62031    |
| Iron                                             | 11000  | 250    | 250    |      | mg/Kg | 100 | 9/22/2021 4:13:44 PM  | 62031    |
| Lead                                             | 2.1    | 0.54   | 0.61   |      | mg/Kg | 2   | 8/18/2021 5:16:58 PM  | 62031    |
| Manganese                                        | 770    | 0.84   | 1.0    |      | mg/Kg | 5   | 8/18/2021 3:50:44 PM  | 62031    |
| Selenium                                         | ND     | 4.4    | 5.0    |      | mg/Kg | 2   | 8/18/2021 3:48:32 PM  | 62031    |
| Silver                                           | ND     | 0.29   | 0.50   |      | mg/Kg | 2   | 8/18/2021 3:48:32 PM  | 62031    |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>           |        |        |        |      |       |     |                       |          |
|                                                  |        |        |        |      |       |     | Analyst: <b>DAM</b>   |          |
| Acenaphthene                                     | ND     | 0.086  | 0.19   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| Acenaphthylene                                   | ND     | 0.087  | 0.19   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| Aniline                                          | ND     | 0.066  | 0.19   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| Anthracene                                       | ND     | 0.087  | 0.19   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| Azobenzene                                       | ND     | 0.096  | 0.19   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| Benz(a)anthracene                                | ND     | 0.062  | 0.19   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| Benzo(a)pyrene                                   | ND     | 0.090  | 0.19   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| Benzo(b)fluoranthene                             | ND     | 0.10   | 0.19   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| Benzo(g,h,i)perylene                             | ND     | 0.098  | 0.19   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| Benzo(k)fluoranthene                             | ND     | 0.072  | 0.19   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| Benzoic acid                                     | ND     | 0.12   | 0.96   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| Benzyl alcohol                                   | ND     | 0.079  | 0.19   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| Bis(2-chloroethoxy)methane                       | ND     | 0.073  | 0.19   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| Bis(2-chloroethyl)ether                          | ND     | 0.10   | 0.19   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| Bis(2-chloroisopropyl)ether                      | ND     | 0.097  | 0.19   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| Bis(2-ethylhexyl)phthalate                       | ND     | 0.21   | 0.48   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| 4-Bromophenyl phenyl ether                       | ND     | 0.10   | 0.19   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| Butyl benzyl phthalate                           | ND     | 0.058  | 0.19   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| Carbazole                                        | ND     | 0.084  | 0.19   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| 4-Chloro-3-methylphenol                          | ND     | 0.081  | 0.48   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| 4-Chloroaniline                                  | ND     | 0.093  | 0.48   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |
| 2-Chloronaphthalene                              | ND     | 0.091  | 0.24   |      | mg/Kg | 1   | 8/27/2021 4:24:08 AM  | 62128    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-04R-(19.5-20')

Project: MKTF Well Installation

Collection Date: 8/16/2021 11:45:00 AM

Lab ID: 2108857-010

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                               | Result | MDL   | RL   | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|-------|------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |      |      |       |    | Analyst: DAM         |          |
| 2-Chlorophenol                         | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 4-Chlorophenyl phenyl ether            | ND     | 0.081 | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Chrysene                               | ND     | 0.085 | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Di-n-butyl phthalate                   | ND     | 0.27  | 0.38 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Di-n-octyl phthalate                   | ND     | 0.12  | 0.38 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Dibenz(a,h)anthracene                  | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Dibenzofuran                           | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 1,2-Dichlorobenzene                    | ND     | 0.078 | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 1,3-Dichlorobenzene                    | ND     | 0.068 | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 1,4-Dichlorobenzene                    | ND     | 0.081 | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 3,3'-Dichlorobenzidine                 | ND     | 0.14  | 0.24 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Diethyl phthalate                      | ND     | 0.31  | 0.48 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Dimethyl phthalate                     | ND     | 0.089 | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 2,4-Dichlorophenol                     | ND     | 0.078 | 0.38 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 2,4-Dimethylphenol                     | ND     | 0.068 | 0.29 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 4,6-Dinitro-2-methylphenol             | ND     | 0.081 | 0.38 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 2,4-Dinitrophenol                      | ND     | 0.048 | 0.48 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 2,4-Dinitrotoluene                     | ND     | 0.12  | 0.48 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 2,6-Dinitrotoluene                     | ND     | 0.098 | 0.48 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Fluoranthene                           | ND     | 0.078 | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Fluorene                               | ND     | 0.086 | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Hexachlorobenzene                      | ND     | 0.085 | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Hexachlorobutadiene                    | ND     | 0.090 | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Hexachlorocyclopentadiene              | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Hexachloroethane                       | ND     | 0.085 | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Isophorone                             | ND     | 0.078 | 0.38 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 1-Methylnaphthalene                    | ND     | 0.088 | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 2-Methylnaphthalene                    | ND     | 0.079 | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 2-Methylphenol                         | ND     | 0.081 | 0.38 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 3+4-Methylphenol                       | ND     | 0.079 | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| N-Nitrosodi-n-propylamine              | ND     | 0.089 | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| N-Nitrosodimethylamine                 | ND     | 0.14  | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| N-Nitrosodiphenylamine                 | ND     | 0.10  | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Naphthalene                            | ND     | 0.090 | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 2-Nitroaniline                         | ND     | 0.098 | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 3-Nitroaniline                         | ND     | 0.11  | 0.19 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 4-Nitroaniline                         | ND     | 0.12  | 0.38 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Nitrobenzene                           | ND     | 0.079 | 0.38 |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-04R-(19.5-20')

Project: MKTF Well Installation

Collection Date: 8/16/2021 11:45:00 AM

Lab ID: 2108857-010

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                               | Result | MDL    | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|--------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |        |           |      |       |    | Analyst: DAM         |          |
| 2-Nitrophenol                          | ND     | 0.083  | 0.19      |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 4-Nitrophenol                          | ND     | 0.079  | 0.24      |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Pentachlorophenol                      | ND     | 0.083  | 0.38      |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Phenanthrene                           | ND     | 0.098  | 0.19      |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Phenol                                 | ND     | 0.074  | 0.19      |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Pyrene                                 | ND     | 0.073  | 0.19      |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Pyridine                               | ND     | 0.15   | 0.38      |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.088  | 0.19      |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 2,4,5-Trichlorophenol                  | ND     | 0.061  | 0.19      |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| 2,4,6-Trichlorophenol                  | ND     | 0.083  | 0.19      |      | mg/Kg | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Surr: 2-Fluorophenol                   | 49.6   |        | 20.3-74.1 |      | %Rec  | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Surr: Phenol-d5                        | 58.5   |        | 23.1-92.7 |      | %Rec  | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Surr: 2,4,6-Tribromophenol             | 72.0   |        | 17.3-122  |      | %Rec  | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Surr: Nitrobenzene-d5                  | 44.8   |        | 24.7-73.2 |      | %Rec  | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Surr: 2-Fluorobiphenyl                 | 45.5   |        | 21.5-90.1 |      | %Rec  | 1  | 8/27/2021 4:24:08 AM | 62128    |
| Surr: 4-Terphenyl-d14                  | 74.7   |        | 15-140    |      | %Rec  | 1  | 8/27/2021 4:24:08 AM | 62128    |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |        |           |      |       |    | Analyst: RAA         |          |
| Benzene                                | ND     | 0.0052 | 0.014     |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Toluene                                | ND     | 0.0035 | 0.027     |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Ethylbenzene                           | ND     | 0.0066 | 0.027     |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Methyl tert-butyl ether (MTBE)         | 0.063  | 0.015  | 0.027     |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1,2,4-Trimethylbenzene                 | ND     | 0.0038 | 0.027     |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1,3,5-Trimethylbenzene                 | ND     | 0.0061 | 0.027     |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1,2-Dichloroethane (EDC)               | ND     | 0.0062 | 0.027     |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1,2-Dibromoethane (EDB)                | ND     | 0.011  | 0.027     |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Naphthalene                            | ND     | 0.010  | 0.054     |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1-Methylnaphthalene                    | ND     | 0.031  | 0.11      |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 2-Methylnaphthalene                    | ND     | 0.025  | 0.11      |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Acetone                                | ND     | 0.088  | 0.41      |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Bromobenzene                           | ND     | 0.0058 | 0.027     |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Bromodichloromethane                   | ND     | 0.0035 | 0.027     |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Bromoform                              | ND     | 0.0065 | 0.027     |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Bromomethane                           | ND     | 0.045  | 0.081     |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 2-Butanone                             | 0.12   | 0.12   | 0.27      | J    | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Carbon disulfide                       | ND     | 0.011  | 0.27      |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Carbon tetrachloride                   | ND     | 0.0030 | 0.027     |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Chlorobenzene                          | ND     | 0.0049 | 0.027     |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Chloroethane                           | ND     | 0.010  | 0.054     |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Chloroform                             | ND     | 0.0038 | 0.027     |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-04R-(19.5-20')

Project: MKTF Well Installation

Collection Date: 8/16/2021 11:45:00 AM

Lab ID: 2108857-010

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                    | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------|--------|--------|-------|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES |        |        |       |      |       |    | Analyst: RAA         |          |
| Chloromethane               | ND     | 0.0095 | 0.081 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 2-Chlorotoluene             | ND     | 0.0036 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 4-Chlorotoluene             | ND     | 0.014  | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| cis-1,2-DCE                 | ND     | 0.013  | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| cis-1,3-Dichloropropene     | ND     | 0.0040 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1,2-Dibromo-3-chloropropane | ND     | 0.012  | 0.054 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Dibromochloromethane        | ND     | 0.0043 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Dibromomethane              | ND     | 0.0063 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1,2-Dichlorobenzene         | ND     | 0.0056 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1,3-Dichlorobenzene         | ND     | 0.0051 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1,4-Dichlorobenzene         | ND     | 0.0072 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Dichlorodifluoromethane     | ND     | 0.010  | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1,1-Dichloroethane          | 0.014  | 0.0079 | 0.027 | J    | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1,1-Dichloroethene          | 0.014  | 0.0058 | 0.027 | J    | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1,2-Dichloropropane         | ND     | 0.0053 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1,3-Dichloropropane         | ND     | 0.0060 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 2,2-Dichloropropane         | ND     | 0.0039 | 0.054 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1,1-Dichloropropene         | ND     | 0.0033 | 0.054 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Hexachlorobutadiene         | ND     | 0.018  | 0.054 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 2-Hexanone                  | ND     | 0.012  | 0.27  |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Isopropylbenzene            | ND     | 0.0050 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 4-Isopropyltoluene          | ND     | 0.0070 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 4-Methyl-2-pentanone        | ND     | 0.032  | 0.27  |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Methylene chloride          | ND     | 0.020  | 0.081 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| n-Butylbenzene              | ND     | 0.0072 | 0.081 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| n-Propylbenzene             | ND     | 0.0044 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| sec-Butylbenzene            | ND     | 0.022  | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Styrene                     | ND     | 0.0037 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| tert-Butylbenzene           | ND     | 0.0063 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.0040 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.0088 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Tetrachloroethene (PCE)     | ND     | 0.0074 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| trans-1,2-DCE               | ND     | 0.0052 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| trans-1,3-Dichloropropene   | ND     | 0.0064 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1,2,3-Trichlorobenzene      | ND     | 0.0042 | 0.054 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1,2,4-Trichlorobenzene      | ND     | 0.0094 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1,1,1-Trichloroethane       | ND     | 0.0060 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1,1,2-Trichloroethane       | ND     | 0.0068 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Trichloroethene (TCE)       | ND     | 0.0053 | 0.027 |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-04R-(19.5-20')

Project: MKTF Well Installation

Collection Date: 8/16/2021 11:45:00 AM

Lab ID: 2108857-010

Matrix: MEOH (SOIL)

Received Date: 8/17/2021 7:30:00 AM

| Analyses                                    | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------------------|--------|--------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>          |        |        |        |      |       |    | Analyst: RAA         |          |
| Trichlorofluoromethane                      | ND     | 0.0062 | 0.027  |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| 1,2,3-Trichloropropane                      | ND     | 0.011  | 0.054  |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Vinyl chloride                              | ND     | 0.0052 | 0.027  |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Xylenes, Total                              | ND     | 0.014  | 0.054  |      | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Surr: Dibromofluoromethane                  | 109    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Surr: 1,2-Dichloroethane-d4                 | 122    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Surr: Toluene-d8                            | 105    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Surr: 4-Bromofluorobenzene                  | 113    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 5:06:44 PM | 62086    |
| <b>EPA METHOD 8015D MOD: GASOLINE RANGE</b> |        |        |        |      |       |    | Analyst: RAA         |          |
| Gasoline Range Organics (GRO)               | 0.89   | 0.75   | 2.7    | J    | mg/Kg | 1  | 8/25/2021 5:06:44 PM | 62086    |
| Surr: BFB                                   | 101    | 0      | 70-130 |      | %Rec  | 1  | 8/25/2021 5:06:44 PM | 62086    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MeOH Blank

Project: MKTF Well Installation

Collection Date:

Lab ID: 2108857-011

Matrix: MEOH BLAN

Received Date: 8/17/2021 7:30:00 AM

| Analyses                           | Result | MDL    | RL    | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------------------|--------|--------|-------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |       |      |       |    | Analyst: RAA         |          |
| Benzene                            | ND     | 0.0096 | 0.025 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Toluene                            | ND     | 0.0064 | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Ethylbenzene                       | ND     | 0.012  | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Methyl tert-butyl ether (MTBE)     | ND     | 0.028  | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 1,2,4-Trimethylbenzene             | 0.015  | 0.0071 | 0.050 | J    | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 1,3,5-Trimethylbenzene             | ND     | 0.011  | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 1,2-Dichloroethane (EDC)           | ND     | 0.011  | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 1,2-Dibromoethane (EDB)            | ND     | 0.020  | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Naphthalene                        | ND     | 0.019  | 0.10  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 1-Methylnaphthalene                | ND     | 0.057  | 0.20  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 2-Methylnaphthalene                | ND     | 0.046  | 0.20  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Acetone                            | ND     | 0.16   | 0.75  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Bromobenzene                       | ND     | 0.011  | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Bromodichloromethane               | ND     | 0.0064 | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Bromoform                          | ND     | 0.012  | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Bromomethane                       | ND     | 0.083  | 0.15  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 2-Butanone                         | 0.25   | 0.22   | 0.50  | J    | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Carbon disulfide                   | ND     | 0.021  | 0.50  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Carbon tetrachloride               | ND     | 0.0056 | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Chlorobenzene                      | ND     | 0.0090 | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Chloroethane                       | ND     | 0.019  | 0.10  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Chloroform                         | ND     | 0.0071 | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Chloromethane                      | ND     | 0.018  | 0.15  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 2-Chlorotoluene                    | ND     | 0.0067 | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 4-Chlorotoluene                    | ND     | 0.026  | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| cis-1,2-DCE                        | ND     | 0.025  | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| cis-1,3-Dichloropropene            | ND     | 0.0074 | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 1,2-Dibromo-3-chloropropane        | ND     | 0.022  | 0.10  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Dibromochloromethane               | ND     | 0.0080 | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Dibromomethane                     | ND     | 0.012  | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 1,2-Dichlorobenzene                | ND     | 0.010  | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 1,3-Dichlorobenzene                | ND     | 0.0094 | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 1,4-Dichlorobenzene                | ND     | 0.013  | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Dichlorodifluoromethane            | ND     | 0.019  | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 1,1-Dichloroethane                 | ND     | 0.015  | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 1,1-Dichloroethene                 | ND     | 0.011  | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 1,2-Dichloropropane                | ND     | 0.0097 | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 1,3-Dichloropropane                | ND     | 0.011  | 0.050 |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 2,2-Dichloropropane                | ND     | 0.0071 | 0.10  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |

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

|                    |     |                                                       |    |                                                 |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
|                    | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order 2108857

Date Reported: 9/24/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MeOH Blank

Project: MKTF Well Installation

Collection Date:

Lab ID: 2108857-011

Matrix: MEOH BLAN

Received Date: 8/17/2021 7:30:00 AM

| Analyses                           | Result | MDL    | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------------------|--------|--------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |        |      |       |    | Analyst: RAA         |          |
| 1,1-Dichloropropene                | ND     | 0.0060 | 0.10   |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Hexachlorobutadiene                | ND     | 0.034  | 0.10   |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 2-Hexanone                         | 0.038  | 0.022  | 0.50   | J    | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Isopropylbenzene                   | ND     | 0.0093 | 0.050  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 4-Isopropyltoluene                 | ND     | 0.013  | 0.050  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 4-Methyl-2-pentanone               | ND     | 0.058  | 0.50   |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Methylene chloride                 | ND     | 0.036  | 0.15   |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| n-Butylbenzene                     | ND     | 0.013  | 0.15   |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| n-Propylbenzene                    | ND     | 0.0081 | 0.050  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| sec-Butylbenzene                   | ND     | 0.041  | 0.050  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Styrene                            | ND     | 0.0068 | 0.050  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| tert-Butylbenzene                  | ND     | 0.012  | 0.050  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 1,1,1,2-Tetrachloroethane          | ND     | 0.0073 | 0.050  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 1,1,2,2-Tetrachloroethane          | 0.021  | 0.016  | 0.050  | J    | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Tetrachloroethene (PCE)            | ND     | 0.014  | 0.050  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| trans-1,2-DCE                      | ND     | 0.0097 | 0.050  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| trans-1,3-Dichloropropene          | ND     | 0.012  | 0.050  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 1,2,3-Trichlorobenzene             | ND     | 0.0077 | 0.10   |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 1,2,4-Trichlorobenzene             | ND     | 0.017  | 0.050  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 1,1,1-Trichloroethane              | ND     | 0.011  | 0.050  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 1,1,2-Trichloroethane              | ND     | 0.013  | 0.050  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Trichloroethene (TCE)              | ND     | 0.0098 | 0.050  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Trichlorofluoromethane             | ND     | 0.011  | 0.050  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| 1,2,3-Trichloropropane             | ND     | 0.021  | 0.10   |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Vinyl chloride                     | ND     | 0.0095 | 0.050  |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Xylenes, Total                     | ND     | 0.026  | 0.10   |      | mg/Kg | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Surr: Dibromofluoromethane         | 102    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Surr: 1,2-Dichloroethane-d4        | 110    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Surr: Toluene-d8                   | 103    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 3:18:14 AM | 62086    |
| Surr: 4-Bromofluorobenzene         | 106    |        | 70-130 |      | %Rec  | 1  | 8/25/2021 3:18:14 AM | 62086    |

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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2108857

24-Sep-21

**Client:** Marathon  
**Project:** MKTF Well Installation

| Sample ID: <b>MB-62028</b>     | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|--------------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>          | Batch ID: <b>62028</b>          | RunNo: <b>80620</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>8/17/2021</b>    | Analysis Date: <b>8/18/2021</b> | SeqNo: <b>2844115</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| 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                     | 13                              |                                                            | 10.00     |             | 130  | 70       | 130       |      |          |      |

| Sample ID: <b>LCS-62028</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>62028</b>          | RunNo: <b>80662</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>8/17/2021</b> | Analysis Date: <b>8/19/2021</b> | SeqNo: <b>2845395</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 55                              | 10                                                         | 50.00     | 0           | 109  | 68.9     | 141       |      |          |      |
| Surr: DNOP                  | 5.5                             |                                                            | 5.000     |             | 111  | 70       | 130       |      |          |      |

| Sample ID: <b>2108857-010AMS</b>      | SampType: <b>MS</b>             | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|---------------------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>MKTF-04R-(19.5-20')</b> | Batch ID: <b>62132</b>          | RunNo: <b>80756</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>8/23/2021</b>           | Analysis Date: <b>8/24/2021</b> | SeqNo: <b>2849200</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| Analyte                               | Result                          | PQL                                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO)           | 120                             | 8.4                                                        | 42.12     | 200.6       | -201 | 15       | 184       |      |          | S    |
| Surr: DNOP                            | 5.1                             |                                                            | 4.212     |             | 121  | 70       | 130       |      |          |      |

| Sample ID: <b>2108857-010AMSD</b>     | SampType: <b>MSD</b>            | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|---------------------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>MKTF-04R-(19.5-20')</b> | Batch ID: <b>62132</b>          | RunNo: <b>80756</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>8/23/2021</b>           | Analysis Date: <b>8/24/2021</b> | SeqNo: <b>2849201</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| Analyte                               | Result                          | PQL                                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO)           | 130                             | 9.6                                                        | 48.22     | 200.6       | -138 | 15       | 184       | 14.4 | 23.9     | S    |
| Surr: DNOP                            | 5.7                             |                                                            | 4.822     |             | 117  | 70       | 130       | 0    | 0        |      |

| Sample ID: <b>LCS-62132</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>62132</b>          | RunNo: <b>80756</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>8/23/2021</b> | Analysis Date: <b>8/24/2021</b> | SeqNo: <b>2849223</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 53                              | 10                                                         | 50.00     | 0           | 105  | 68.9     | 141       |      |          |      |
| Surr: DNOP                  | 5.4                             |                                                            | 5.000     |             | 108  | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2108857

24-Sep-21

**Client:** Marathon  
**Project:** MKTF Well Installation

| Sample ID: <b>MB-62132</b>     | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|--------------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>          | Batch ID: <b>62132</b>          | RunNo: <b>80756</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>8/23/2021</b>    | Analysis Date: <b>8/24/2021</b> | SeqNo: <b>2849224</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| 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                     | 12                              |                                                            | 10.00     |             | 122  | 70       | 130       |      |          |      |

| Sample ID: <b>LCS-62245</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>62245</b>          | RunNo: <b>80890</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>8/27/2021</b> | Analysis Date: <b>8/28/2021</b> | SeqNo: <b>2854941</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 46                              | 10                                                         | 50.00     | 0           | 91.1 | 68.9     | 141       |      |          |      |
| Surr: DNOP                  | 4.6                             |                                                            | 5.000     |             | 92.5 | 70       | 130       |      |          |      |

| Sample ID: <b>MB-62245</b>     | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|--------------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>          | Batch ID: <b>62245</b>          | RunNo: <b>80890</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>8/27/2021</b>    | Analysis Date: <b>8/28/2021</b> | SeqNo: <b>2854944</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| 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                     | 12                              |                                                            | 10.00     |             | 122  | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2108857

24-Sep-21

**Client:** Marathon  
**Project:** MKTF Well Installation

| Sample ID: <b>lcs-62009</b> | SampType: <b>LCS</b>            |       |           | TestCode: <b>EPA Method 8260B: Volatiles</b> |      |                     |           |      |          |      |
|-----------------------------|---------------------------------|-------|-----------|----------------------------------------------|------|---------------------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>62009</b>          |       |           | RunNo: <b>80737</b>                          |      |                     |           |      |          |      |
| Prep Date: <b>8/16/2021</b> | Analysis Date: <b>8/23/2021</b> |       |           | SeqNo: <b>2848411</b>                        |      | Units: <b>mg/Kg</b> |           |      |          |      |
| Analyte                     | Result                          | PQL   | SPK value | SPK Ref Val                                  | %REC | LowLimit            | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 0.93                            | 0.025 | 1.000     | 0                                            | 93.4 | 70                  | 130       |      |          |      |
| Toluene                     | 1.0                             | 0.050 | 1.000     | 0                                            | 104  | 70                  | 130       |      |          |      |
| Chlorobenzene               | 1.0                             | 0.050 | 1.000     | 0                                            | 100  | 70                  | 130       |      |          |      |
| 1,1-Dichloroethene          | 0.96                            | 0.050 | 1.000     | 0                                            | 95.6 | 70                  | 130       |      |          |      |
| Trichloroethene (TCE)       | 0.89                            | 0.050 | 1.000     | 0                                            | 89.5 | 70                  | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 0.46                            |       | 0.5000    |                                              | 91.5 | 70                  | 130       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 0.49                            |       | 0.5000    |                                              | 98.5 | 70                  | 130       |      |          |      |
| Surr: Toluene-d8            | 0.49                            |       | 0.5000    |                                              | 98.3 | 70                  | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.58                            |       | 0.5000    |                                              | 115  | 70                  | 130       |      |          |      |

| Sample ID: <b>mb-62009</b>     | SampType: <b>MBLK</b>           |       |           | TestCode: <b>EPA Method 8260B: Volatiles</b> |      |                     |           |      |          |      |
|--------------------------------|---------------------------------|-------|-----------|----------------------------------------------|------|---------------------|-----------|------|----------|------|
| Client ID: <b>PBS</b>          | Batch ID: <b>62009</b>          |       |           | RunNo: <b>80737</b>                          |      |                     |           |      |          |      |
| Prep Date: <b>8/16/2021</b>    | Analysis Date: <b>8/23/2021</b> |       |           | SeqNo: <b>2848413</b>                        |      | Units: <b>mg/Kg</b> |           |      |          |      |
| 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                              | 0.15  |           |                                              |      |                     |           |      |          |      |
| 2-Butanone                     | ND                              | 0.50  |           |                                              |      |                     |           |      |          |      |
| Carbon disulfide               | ND                              | 0.50  |           |                                              |      |                     |           |      |          |      |
| Carbon tetrachloride           | ND                              | 0.050 |           |                                              |      |                     |           |      |          |      |
| Chlorobenzene                  | ND                              | 0.050 |           |                                              |      |                     |           |      |          |      |
| 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2108857

24-Sep-21

**Client:** Marathon  
**Project:** MKTF Well Installation

| Sample ID: <b>mb-62009</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8260B: Volatiles</b> |                     |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>62009</b>          | RunNo: <b>80737</b>                          |                     |             |      |          |           |      |          |      |
| Prep Date: <b>8/16/2021</b> | Analysis Date: <b>8/23/2021</b> | SeqNo: <b>2848413</b>                        | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| 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:

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## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2108857

24-Sep-21

**Client:** Marathon  
**Project:** MKTF Well Installation

| Sample ID: <b>mb-62009</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8260B: Volatiles</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>62009</b>          | RunNo: <b>80737</b>                          |           |             |      |          |           |      |          |      |
| Prep Date: <b>8/16/2021</b> | Analysis Date: <b>8/23/2021</b> | SeqNo: <b>2848413</b> Units: <b>mg/Kg</b>    |           |             |      |          |           |      |          |      |
| 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  | 0.43                            |                                              | 0.5000    |             | 85.7 | 70       | 130       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 0.48                            |                                              | 0.5000    |             | 95.8 | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 0.51                            |                                              | 0.5000    |             | 102  | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.57                            |                                              | 0.5000    |             | 113  | 70       | 130       |      |          |      |

| Sample ID: <b>lcs-62086</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8260B: Volatiles</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>62086</b>          | RunNo: <b>80755</b>                          |           |             |      |          |           |      |          |      |
| Prep Date: <b>8/19/2021</b> | Analysis Date: <b>8/24/2021</b> | SeqNo: <b>2850035</b> Units: <b>mg/Kg</b>    |           |             |      |          |           |      |          |      |
| 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           | 105  | 70       | 130       |      |          |      |
| Chlorobenzene               | 1.0                             | 0.050                                        | 1.000     | 0           | 103  | 70       | 130       |      |          |      |
| 1,1-Dichloroethene          | 1.0                             | 0.050                                        | 1.000     | 0           | 102  | 70       | 130       |      |          |      |
| Trichloroethene (TCE)       | 0.97                            | 0.050                                        | 1.000     | 0           | 97.4 | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 0.52                            |                                              | 0.5000    |             | 105  | 70       | 130       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 0.57                            |                                              | 0.5000    |             | 114  | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 0.53                            |                                              | 0.5000    |             | 105  | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.56                            |                                              | 0.5000    |             | 112  | 70       | 130       |      |          |      |

| Sample ID: <b>mb-62086</b>     | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8260B: Volatiles</b> |           |             |      |          |           |      |          |      |
|--------------------------------|---------------------------------|----------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>          | Batch ID: <b>62086</b>          | RunNo: <b>80755</b>                          |           |             |      |          |           |      |          |      |
| Prep Date: <b>8/19/2021</b>    | Analysis Date: <b>8/24/2021</b> | SeqNo: <b>2850036</b> Units: <b>mg/Kg</b>    |           |             |      |          |           |      |          |      |
| 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:

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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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2108857

24-Sep-21

**Client:** Marathon  
**Project:** MKTF Well Installation

| Sample ID: <b>mb-62086</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8260B: Volatiles</b> |                     |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>62086</b>          | RunNo: <b>80755</b>                          |                     |             |      |          |           |      |          |      |
| Prep Date: <b>8/19/2021</b> | Analysis Date: <b>8/24/2021</b> | SeqNo: <b>2850036</b>                        | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                          | SPK value           | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Bromodichloromethane        | ND                              | 0.050                                        |                     |             |      |          |           |      |          |      |
| Bromoform                   | ND                              | 0.050                                        |                     |             |      |          |           |      |          |      |
| Bromomethane                | ND                              | 0.15                                         |                     |             |      |          |           |      |          |      |
| 2-Butanone                  | ND                              | 0.50                                         |                     |             |      |          |           |      |          |      |
| Carbon disulfide            | ND                              | 0.50                                         |                     |             |      |          |           |      |          |      |
| Carbon tetrachloride        | ND                              | 0.050                                        |                     |             |      |          |           |      |          |      |
| Chlorobenzene               | ND                              | 0.050                                        |                     |             |      |          |           |      |          |      |
| 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                                        |                     |             |      |          |           |      |          |      |

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2108857

24-Sep-21

**Client:** Marathon  
**Project:** MKTF Well Installation

| Sample ID: <b>mb-62086</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8260B: Volatiles</b> |                     |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>62086</b>          | RunNo: <b>80755</b>                          |                     |             |      |          |           |      |          |      |
| Prep Date: <b>8/19/2021</b> | Analysis Date: <b>8/24/2021</b> | SeqNo: <b>2850036</b>                        | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| 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  | 0.50                            |                                              | 0.5000              |             | 99.9 | 70       | 130       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 0.55                            |                                              | 0.5000              |             | 110  | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 0.53                            |                                              | 0.5000              |             | 106  | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.54                            |                                              | 0.5000              |             | 108  | 70       | 130       |      |          |      |

**Qualifiers:**

|     |                                                       |    |                                                 |
|-----|-------------------------------------------------------|----|-------------------------------------------------|
| *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank |
| D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                  |
| 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 Quantitative Limit                          | RL | Reporting Limit                                 |
| S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2108857

24-Sep-21

**Client:** Marathon  
**Project:** MKTF Well Installation

| Sample ID: <b>mb-62128</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|--------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>62128</b>          | RunNo: <b>80799</b>                              |           |             |      |          |           |      |          |      |
| Prep Date: <b>8/23/2021</b> | Analysis Date: <b>8/25/2021</b> | SeqNo: <b>2851005</b> Units: <b>mg/Kg</b>        |           |             |      |          |           |      |          |      |
| 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                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Benz(a)anthracene           | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Benzo(a)pyrene              | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Benzo(b)fluoranthene        | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Benzo(g,h,i)perylene        | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Benzo(k)fluoranthene        | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Benzoic acid                | ND                              | 0.50                                             |           |             |      |          |           |      |          |      |
| Benzyl alcohol              | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Bis(2-chloroethoxy)methane  | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Bis(2-chloroethyl)ether     | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Bis(2-chloroisopropyl)ether | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Bis(2-ethylhexyl)phthalate  | ND                              | 0.50                                             |           |             |      |          |           |      |          |      |
| 4-Bromophenyl phenyl ether  | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Butyl benzyl phthalate      | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Carbazole                   | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 4-Chloro-3-methylphenol     | ND                              | 0.50                                             |           |             |      |          |           |      |          |      |
| 4-Chloroaniline             | ND                              | 0.50                                             |           |             |      |          |           |      |          |      |
| 2-Chloronaphthalene         | ND                              | 0.25                                             |           |             |      |          |           |      |          |      |
| 2-Chlorophenol              | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 4-Chlorophenyl phenyl ether | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Chrysene                    | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Di-n-butyl phthalate        | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| Di-n-octyl phthalate        | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| Dibenz(a,h)anthracene       | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Dibenzofuran                | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 1,2-Dichlorobenzene         | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 1,3-Dichlorobenzene         | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 1,4-Dichlorobenzene         | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 3,3'-Dichlorobenzidine      | ND                              | 0.25                                             |           |             |      |          |           |      |          |      |
| Diethyl phthalate           | ND                              | 0.50                                             |           |             |      |          |           |      |          |      |
| Dimethyl phthalate          | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 2,4-Dichlorophenol          | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| 2,4-Dimethylphenol          | ND                              | 0.30                                             |           |             |      |          |           |      |          |      |
| 4,6-Dinitro-2-methylphenol  | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| 2,4-Dinitrophenol           | ND                              | 0.50                                             |           |             |      |          |           |      |          |      |

## 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2108857

24-Sep-21

**Client:** Marathon  
**Project:** MKTF Well Installation

| Sample ID: <b>mb-62128</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|--------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>62128</b>          | RunNo: <b>80799</b>                              |           |             |      |          |           |      |          |      |
| Prep Date: <b>8/23/2021</b> | Analysis Date: <b>8/25/2021</b> | SeqNo: <b>2851005</b> Units: <b>mg/Kg</b>        |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                              | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 2,4-Dinitrotoluene          | ND                              | 0.50                                             |           |             |      |          |           |      |          |      |
| 2,6-Dinitrotoluene          | ND                              | 0.50                                             |           |             |      |          |           |      |          |      |
| Fluoranthene                | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Fluorene                    | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Hexachlorobenzene           | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Hexachlorobutadiene         | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Hexachlorocyclopentadiene   | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Hexachloroethane            | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Indeno(1,2,3-cd)pyrene      | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Isophorone                  | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| 1-Methylnaphthalene         | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 2-Methylnaphthalene         | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 2-Methylphenol              | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| 3+4-Methylphenol            | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| N-Nitrosodi-n-propylamine   | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| N-Nitrosodimethylamine      | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| N-Nitrosodiphenylamine      | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Naphthalene                 | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 2-Nitroaniline              | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 3-Nitroaniline              | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 4-Nitroaniline              | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| Nitrobenzene                | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| 2-Nitrophenol               | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 4-Nitrophenol               | ND                              | 0.25                                             |           |             |      |          |           |      |          |      |
| Pentachlorophenol           | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| Phenanthrene                | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Phenol                      | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Pyrene                      | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Pyridine                    | ND                              | 0.40                                             |           |             |      |          |           |      |          |      |
| 1,2,4-Trichlorobenzene      | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 2,4,5-Trichlorophenol       | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| 2,4,6-Trichlorophenol       | ND                              | 0.20                                             |           |             |      |          |           |      |          |      |
| Surr: 2-Fluorophenol        | 2.6                             |                                                  | 3.330     |             | 77.7 | 20.3     | 74.1      |      |          | S    |
| Surr: Phenol-d5             | 3.3                             |                                                  | 3.330     |             | 100  | 23.1     | 92.7      |      |          | S    |
| Surr: 2,4,6-Tribromophenol  | 2.8                             |                                                  | 3.330     |             | 83.7 | 17.3     | 122       |      |          |      |
| Surr: Nitrobenzene-d5       | 1.2                             |                                                  | 1.670     |             | 71.8 | 24.7     | 73.2      |      |          |      |
| Surr: 2-Fluorobiphenyl      | 1.4                             |                                                  | 1.670     |             | 82.0 | 21.5     | 90.1      |      |          |      |
| Surr: 4-Terphenyl-d14       | 1.1                             |                                                  | 1.670     |             | 66.2 | 15       | 140       |      |          |      |

## 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2108857

24-Sep-21

**Client:** Marathon  
**Project:** MKTF Well Installation

| Sample ID: <b>Ics-62128</b> | SampType: <b>LCS</b>            |      |           |             | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |                     |           |      |          |      |
|-----------------------------|---------------------------------|------|-----------|-------------|--------------------------------------------------|---------------------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>62128</b>          |      |           |             | RunNo: <b>80799</b>                              |                     |           |      |          |      |
| Prep Date: <b>8/23/2021</b> | Analysis Date: <b>8/25/2021</b> |      |           |             | SeqNo: <b>2851006</b>                            | Units: <b>mg/Kg</b> |           |      |          |      |
| Analyte                     | Result                          | PQL  | SPK value | SPK Ref Val | %REC                                             | LowLimit            | HighLimit | %RPD | RPDLimit | Qual |
| Acenaphthene                | 1.3                             | 0.20 | 1.670     | 0           | 78.9                                             | 22.9                | 109       |      |          |      |
| 4-Chloro-3-methylphenol     | 2.6                             | 0.50 | 3.330     | 0           | 77.3                                             | 24.2                | 109       |      |          |      |
| 2-Chlorophenol              | 2.4                             | 0.20 | 3.330     | 0           | 72.0                                             | 18.8                | 103       |      |          |      |
| 1,4-Dichlorobenzene         | 1.0                             | 0.20 | 1.670     | 0           | 61.7                                             | 18.8                | 89.5      |      |          |      |
| 2,4-Dinitrotoluene          | 1.2                             | 0.50 | 1.670     | 0           | 68.9                                             | 20.2                | 94.5      |      |          |      |
| N-Nitrosodi-n-propylamine   | 1.2                             | 0.20 | 1.670     | 0           | 73.5                                             | 19.2                | 96.9      |      |          |      |
| 4-Nitrophenol               | 3.1                             | 0.25 | 3.330     | 0           | 91.9                                             | 25                  | 118       |      |          |      |
| Pentachlorophenol           | 2.2                             | 0.40 | 3.330     | 0           | 66.8                                             | 24.1                | 107       |      |          |      |
| Phenol                      | 2.6                             | 0.20 | 3.330     | 0           | 76.6                                             | 17.8                | 112       |      |          |      |
| Pyrene                      | 1.4                             | 0.20 | 1.670     | 0           | 84.9                                             | 25.9                | 125       |      |          |      |
| 1,2,4-Trichlorobenzene      | 1.2                             | 0.20 | 1.670     | 0           | 69.0                                             | 18.5                | 92.8      |      |          |      |
| Surr: 2-Fluorophenol        | 2.1                             |      | 3.330     |             | 62.2                                             | 20.3                | 74.1      |      |          |      |
| Surr: Phenol-d5             | 2.5                             |      | 3.330     |             | 75.4                                             | 23.1                | 92.7      |      |          |      |
| Surr: 2,4,6-Tribromophenol  | 2.6                             |      | 3.330     |             | 79.0                                             | 17.3                | 122       |      |          |      |
| Surr: Nitrobenzene-d5       | 1.1                             |      | 1.670     |             | 68.8                                             | 24.7                | 73.2      |      |          |      |
| Surr: 2-Fluorobiphenyl      | 1.2                             |      | 1.670     |             | 74.5                                             | 21.5                | 90.1      |      |          |      |
| Surr: 4-Terphenyl-d14       | 1.1                             |      | 1.670     |             | 63.0                                             | 15                  | 140       |      |          |      |

**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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2108857

24-Sep-21

**Client:** Marathon  
**Project:** MKTF Well Installation

|                             |                                |                                            |           |             |      |          |           |      |          |      |
|-----------------------------|--------------------------------|--------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: <b>MB-62296</b>  | SampType: <b>MBLK</b>          | TestCode: <b>EPA Method 7471B: Mercury</b> |           |             |      |          |           |      |          |      |
| Client ID: <b>PBS</b>       | Batch ID: <b>62296</b>         | RunNo: <b>80969</b>                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>8/31/2021</b> | Analysis Date: <b>9/1/2021</b> | SeqNo: <b>2857593</b> Units: <b>mg/Kg</b>  |           |             |      |          |           |      |          |      |
| Analyte                     | Result                         | PQL                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury                     | ND                             | 0.033                                      |           |             |      |          |           |      |          |      |

|                              |                                |                                            |           |             |      |          |           |      |          |      |
|------------------------------|--------------------------------|--------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: <b>LLCS-62296</b> | SampType: <b>LCSLL</b>         | TestCode: <b>EPA Method 7471B: Mercury</b> |           |             |      |          |           |      |          |      |
| Client ID: <b>BatchQC</b>    | Batch ID: <b>62296</b>         | RunNo: <b>80969</b>                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>8/31/2021</b>  | Analysis Date: <b>9/1/2021</b> | SeqNo: <b>2857594</b> Units: <b>mg/Kg</b>  |           |             |      |          |           |      |          |      |
| Analyte                      | Result                         | PQL                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury                      | 0.0040                         | 0.033                                      | 0.006660  | 0           | 59.5 | 70       | 130       |      |          | JS   |

|                             |                                |                                            |           |             |      |          |           |      |          |      |
|-----------------------------|--------------------------------|--------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: <b>LCS-62296</b> | SampType: <b>LCS</b>           | TestCode: <b>EPA Method 7471B: Mercury</b> |           |             |      |          |           |      |          |      |
| Client ID: <b>LCSS</b>      | Batch ID: <b>62296</b>         | RunNo: <b>80969</b>                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>8/31/2021</b> | Analysis Date: <b>9/1/2021</b> | SeqNo: <b>2857595</b> Units: <b>mg/Kg</b>  |           |             |      |          |           |      |          |      |
| Analyte                     | Result                         | PQL                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury                     | 0.17                           | 0.033                                      | 0.1667    | 0           | 104  | 80       | 120       |      |          |      |

|                             |                                |                                            |           |             |      |          |           |      |          |      |
|-----------------------------|--------------------------------|--------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: <b>MB-62297</b>  | SampType: <b>MBLK</b>          | TestCode: <b>EPA Method 7471B: Mercury</b> |           |             |      |          |           |      |          |      |
| Client ID: <b>PBS</b>       | Batch ID: <b>62297</b>         | RunNo: <b>80969</b>                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>8/31/2021</b> | Analysis Date: <b>9/1/2021</b> | SeqNo: <b>2857597</b> Units: <b>mg/Kg</b>  |           |             |      |          |           |      |          |      |
| Analyte                     | Result                         | PQL                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury                     | ND                             | 0.033                                      |           |             |      |          |           |      |          |      |

|                              |                                |                                            |           |             |      |          |           |      |          |      |
|------------------------------|--------------------------------|--------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: <b>LLCS-62297</b> | SampType: <b>LCSLL</b>         | TestCode: <b>EPA Method 7471B: Mercury</b> |           |             |      |          |           |      |          |      |
| Client ID: <b>BatchQC</b>    | Batch ID: <b>62297</b>         | RunNo: <b>80969</b>                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>8/31/2021</b>  | Analysis Date: <b>9/1/2021</b> | SeqNo: <b>2857598</b> Units: <b>mg/Kg</b>  |           |             |      |          |           |      |          |      |
| Analyte                      | Result                         | PQL                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury                      | 0.0041                         | 0.033                                      | 0.006660  | 0           | 61.7 | 70       | 130       |      |          | JS   |

|                             |                                |                                            |           |             |      |          |           |      |          |      |
|-----------------------------|--------------------------------|--------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: <b>LCS-62297</b> | SampType: <b>LCS</b>           | TestCode: <b>EPA Method 7471B: Mercury</b> |           |             |      |          |           |      |          |      |
| Client ID: <b>LCSS</b>      | Batch ID: <b>62297</b>         | RunNo: <b>80969</b>                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>8/31/2021</b> | Analysis Date: <b>9/1/2021</b> | SeqNo: <b>2857599</b> Units: <b>mg/Kg</b>  |           |             |      |          |           |      |          |      |
| Analyte                     | Result                         | PQL                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury                     | 0.17                           | 0.033                                      | 0.1667    | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2108857

24-Sep-21

**Client:** Marathon  
**Project:** MKTF Well Installation

| Sample ID: <b>MB-62031</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 6010B: Soil Metals</b> |                     |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>62031</b>          | RunNo: <b>80615</b>                            |                     |             |      |          |           |      |          |      |
| Prep Date: <b>8/17/2021</b> | Analysis Date: <b>8/18/2021</b> | SeqNo: <b>2843967</b>                          | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                            | SPK value           | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Arsenic                     | ND                              | 2.5                                            |                     |             |      |          |           |      |          |      |
| Barium                      | ND                              | 0.10                                           |                     |             |      |          |           |      |          |      |
| Cadmium                     | ND                              | 0.10                                           |                     |             |      |          |           |      |          |      |
| Chromium                    | ND                              | 0.30                                           |                     |             |      |          |           |      |          |      |
| Manganese                   | ND                              | 0.20                                           |                     |             |      |          |           |      |          |      |
| Selenium                    | ND                              | 2.5                                            |                     |             |      |          |           |      |          |      |
| Silver                      | ND                              | 0.25                                           |                     |             |      |          |           |      |          |      |

| Sample ID: <b>LCS-62031</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 6010B: Soil Metals</b> |                     |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>62031</b>          | RunNo: <b>80615</b>                            |                     |             |      |          |           |      |          |      |
| Prep Date: <b>8/17/2021</b> | Analysis Date: <b>8/18/2021</b> | SeqNo: <b>2843969</b>                          | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                            | SPK value           | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Arsenic                     | 24                              | 2.5                                            | 25.00               | 0           | 96.9 | 80       | 120       |      |          |      |
| Barium                      | 25                              | 0.10                                           | 25.00               | 0           | 99.3 | 80       | 120       |      |          |      |
| Cadmium                     | 24                              | 0.10                                           | 25.00               | 0           | 97.7 | 80       | 120       |      |          |      |
| Chromium                    | 25                              | 0.30                                           | 25.00               | 0           | 99.3 | 80       | 120       |      |          |      |
| Manganese                   | 25                              | 0.20                                           | 25.00               | 0           | 98.2 | 80       | 120       |      |          |      |
| Selenium                    | 23                              | 2.5                                            | 25.00               | 0           | 92.7 | 80       | 120       |      |          |      |
| Silver                      | 5.0                             | 0.25                                           | 5.000               | 0           | 99.9 | 80       | 120       |      |          |      |

| Sample ID: <b>MB-62031</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 6010B: Soil Metals</b> |                     |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>62031</b>          | RunNo: <b>80615</b>                            |                     |             |      |          |           |      |          |      |
| Prep Date: <b>8/17/2021</b> | Analysis Date: <b>8/18/2021</b> | SeqNo: <b>2844209</b>                          | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                            | SPK value           | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Lead                        | ND                              | 0.30                                           |                     |             |      |          |           |      |          |      |

| Sample ID: <b>LCS-62031</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 6010B: Soil Metals</b> |                     |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>62031</b>          | RunNo: <b>80615</b>                            |                     |             |      |          |           |      |          |      |
| Prep Date: <b>8/17/2021</b> | Analysis Date: <b>8/18/2021</b> | SeqNo: <b>2844211</b>                          | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                            | SPK value           | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Lead                        | 24                              | 0.30                                           | 25.00               | 0           | 96.3 | 80       | 120       |      |          |      |

| Sample ID: <b>MB-62031</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 6010B: Soil Metals</b> |                     |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>62031</b>          | RunNo: <b>81488</b>                            |                     |             |      |          |           |      |          |      |
| Prep Date: <b>8/17/2021</b> | Analysis Date: <b>9/22/2021</b> | SeqNo: <b>2878761</b>                          | Units: <b>mg/Kg</b> |             |      |          |           |      |          |      |
| 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2108857

24-Sep-21

Client: Marathon

Project: MKTF Well Installation

|                      |        |                          |           |                                         |      |              |           |      |          |      |
|----------------------|--------|--------------------------|-----------|-----------------------------------------|------|--------------|-----------|------|----------|------|
| Sample ID: MB-62031  |        | SampType: MBLK           |           | TestCode: EPA Method 6010B: Soil Metals |      |              |           |      |          |      |
| Client ID: PBS       |        | Batch ID: 62031          |           | RunNo: 81488                            |      |              |           |      |          |      |
| Prep Date: 8/17/2021 |        | Analysis Date: 9/22/2021 |           | SeqNo: 2878761                          |      | Units: mg/Kg |           |      |          |      |
| Analyte              | Result | PQL                      | SPK value | SPK Ref Val                             | %REC | LowLimit     | HighLimit | %RPD | RPDLimit | Qual |
| Iron                 | 3.2    | 2.5                      |           |                                         |      |              |           |      |          |      |

|                      |        |                          |           |                                         |      |              |           |      |          |      |
|----------------------|--------|--------------------------|-----------|-----------------------------------------|------|--------------|-----------|------|----------|------|
| Sample ID: LCS-62031 |        | SampType: LCS            |           | TestCode: EPA Method 6010B: Soil Metals |      |              |           |      |          |      |
| Client ID: LCSS      |        | Batch ID: 62031          |           | RunNo: 81488                            |      |              |           |      |          |      |
| Prep Date: 8/17/2021 |        | Analysis Date: 9/22/2021 |           | SeqNo: 2878762                          |      | Units: mg/Kg |           |      |          |      |
| Analyte              | Result | PQL                      | SPK value | SPK Ref Val                             | %REC | LowLimit     | HighLimit | %RPD | RPDLimit | Qual |
| Iron                 | 26     | 2.5                      | 25.00     | 0                                       | 105  | 80           | 120       |      |          | B    |

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 Quantitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 65 of 66

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2108857

24-Sep-21

**Client:** Marathon  
**Project:** MKTF Well Installation

| Sample ID: <b>lcs-62009</b>   | SampType: <b>LCS</b>            |     |           |             | TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b> |                     |           |      |          |      |
|-------------------------------|---------------------------------|-----|-----------|-------------|-------------------------------------------------------|---------------------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>        | Batch ID: <b>62009</b>          |     |           |             | RunNo: <b>80737</b>                                   |                     |           |      |          |      |
| Prep Date: <b>8/16/2021</b>   | Analysis Date: <b>8/23/2021</b> |     |           |             | SeqNo: <b>2848444</b>                                 | Units: <b>mg/Kg</b> |           |      |          |      |
| Analyte                       | Result                          | PQL | SPK value | SPK Ref Val | %REC                                                  | LowLimit            | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 26                              | 5.0 | 25.00     | 0           | 105                                                   | 70                  | 130       |      |          |      |
| Surr: BFB                     | 520                             |     | 500.0     |             | 105                                                   | 70                  | 130       |      |          |      |

| Sample ID: <b>mb-62009</b>    | SampType: <b>MBLK</b>           |     |           |             | TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b> |                     |           |      |          |      |
|-------------------------------|---------------------------------|-----|-----------|-------------|-------------------------------------------------------|---------------------|-----------|------|----------|------|
| Client ID: <b>PBS</b>         | Batch ID: <b>62009</b>          |     |           |             | RunNo: <b>80737</b>                                   |                     |           |      |          |      |
| Prep Date: <b>8/16/2021</b>   | Analysis Date: <b>8/23/2021</b> |     |           |             | SeqNo: <b>2848446</b>                                 | Units: <b>mg/Kg</b> |           |      |          |      |
| Analyte                       | Result                          | PQL | SPK value | SPK Ref Val | %REC                                                  | LowLimit            | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND                              | 5.0 |           |             |                                                       |                     |           |      |          |      |
| Surr: BFB                     | 520                             |     | 500.0     |             | 105                                                   | 70                  | 130       |      |          |      |

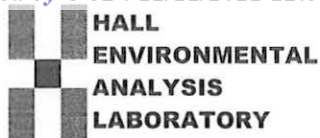
| Sample ID: <b>lcs-62086</b>   | SampType: <b>LCS</b>            |     |           |             | TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b> |                     |           |      |          |      |
|-------------------------------|---------------------------------|-----|-----------|-------------|-------------------------------------------------------|---------------------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>        | Batch ID: <b>62086</b>          |     |           |             | RunNo: <b>80755</b>                                   |                     |           |      |          |      |
| Prep Date: <b>8/19/2021</b>   | Analysis Date: <b>8/24/2021</b> |     |           |             | SeqNo: <b>2850089</b>                                 | Units: <b>mg/Kg</b> |           |      |          |      |
| Analyte                       | Result                          | PQL | SPK value | SPK Ref Val | %REC                                                  | LowLimit            | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 27                              | 5.0 | 25.00     | 0           | 109                                                   | 70                  | 130       |      |          |      |
| Surr: BFB                     | 510                             |     | 500.0     |             | 102                                                   | 70                  | 130       |      |          |      |

| Sample ID: <b>mb-62086</b>    | SampType: <b>MBLK</b>           |     |           |             | TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b> |                     |           |      |          |      |
|-------------------------------|---------------------------------|-----|-----------|-------------|-------------------------------------------------------|---------------------|-----------|------|----------|------|
| Client ID: <b>PBS</b>         | Batch ID: <b>62086</b>          |     |           |             | RunNo: <b>80755</b>                                   |                     |           |      |          |      |
| Prep Date: <b>8/19/2021</b>   | Analysis Date: <b>8/24/2021</b> |     |           |             | SeqNo: <b>2850090</b>                                 | Units: <b>mg/Kg</b> |           |      |          |      |
| Analyte                       | Result                          | PQL | SPK value | SPK Ref Val | %REC                                                  | LowLimit            | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 1.7                             | 5.0 |           |             |                                                       |                     |           |      |          | J    |
| Surr: BFB                     | 500                             |     | 500.0     |             | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit



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

## Sample Log-In Check List

Client Name: **Marathon**Work Order Number: **2108857**RcptNo: **1**Received By: **Cheyenne Cason**

8/17/2021 7:30:00 AM

*CC*Completed By: **Desiree Dominguez**

8/17/2021 8:38:49 AM

*DD*

Reviewed By:

*JR 8/17/21*

### 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  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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 ☐
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: *SPA 8.17.21*

### 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:

### 17. Cooler Information

| Cooler No | Temp $^{\circ}\text{C}$ | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|-----------|-------------------------|-----------|-------------|---------|-----------|-----------|
| 1         | 1.8                     | Good      |             |         |           |           |

## Chain-of-Custody Record

|                                |                                                    |  |  |
|--------------------------------|----------------------------------------------------|--|--|
| Client:                        | Marathon Gallup Refinery                           |  |  |
|                                |                                                    |  |  |
| Mailing Address:               | 92 Giant Crossing Road                             |  |  |
|                                | Jamesto NM, 87301                                  |  |  |
| Phone #:                       | 808-640-1823                                       |  |  |
| email or Fax#:                 |                                                    |  |  |
| QA/QC Package:                 |                                                    |  |  |
| X Standard                     | <input type="checkbox"/> Level 4 (Full Validation) |  |  |
| Accreditation:                 | <input type="checkbox"/> Az Compliance             |  |  |
| <input type="checkbox"/> NELAC | <input type="checkbox"/> Other _____               |  |  |
| X EDD (Type)                   |                                                    |  |  |

|                                              |                                                                     |
|----------------------------------------------|---------------------------------------------------------------------|
| Turn-Around Time:                            |                                                                     |
| <input checked="" type="checkbox"/> Standard | <input type="checkbox"/> Rush_____                                  |
| Project Name:                                |                                                                     |
| MKTF Well Installation                       |                                                                     |
| Project #:                                   |                                                                     |
| 697-092-001                                  |                                                                     |
| Project Manager:                             |                                                                     |
| Lesli Alexander                              |                                                                     |
| Sampler: Kara Hoppes                         |                                                                     |
| On Ice:                                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| # of Coolers: 1                              |                                                                     |



**HALL ENVIRONMENTAL  
ANALYSIS LABORATORY**

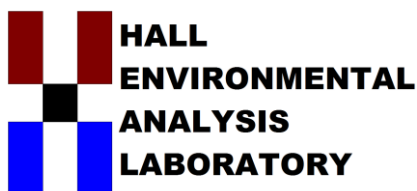
[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975      Fax 505-345-4107

| Date | Time | Matrix | Sample Name | Cooler Temp (including CF): 18-0=18 |  |  | TPH-DRO, I | TPH-GRO, N | VOCs, Meth | RCRA 8 Me | TPH-MRO, I | SVOCs, Me |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------|------|--------|-------------|-------------------------------------|--|--|------------|------------|------------|-----------|------------|-----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|------|------|--------|-------------|-------------------------------------|--|--|------------|------------|------------|-----------|------------|-----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|





Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [clients.hallenvironmental.com](http://clients.hallenvironmental.com)

October 08, 2021

Brian McLoughlin  
Marathon  
92 Giant Crossing Rd  
Gallup, NM 87301  
TEL:  
FAX

RE: Additional Well Install

OrderNo.: 2109A01

Dear Brian McLoughlin:

Hall Environmental Analysis Laboratory received 12 sample(s) on 9/18/2021 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](http://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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: EB-09-17-21

Project: Additional Well Install

Collection Date: 9/17/2021 9:00:00 AM

Lab ID: 2109A01-001A

Matrix: Aqueous

| Analyses                       | Result | MDL  | RL  | Qual | Units | DF | Date Analyzed        | Batch ID |
|--------------------------------|--------|------|-----|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES    |        |      |     |      |       |    | Analyst: mb          |          |
| Benzene                        | ND     | 0.23 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Toluene                        | ND     | 0.20 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Ethylbenzene                   | ND     | 0.21 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Methyl tert-butyl ether (MTBE) | ND     | 0.39 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1,2,4-Trimethylbenzene         | ND     | 0.12 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1,3,5-Trimethylbenzene         | ND     | 0.18 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1,2-Dichloroethane (EDC)       | ND     | 0.25 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1,2-Dibromoethane (EDB)        | ND     | 0.30 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Naphthalene                    | ND     | 0.50 | 2.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1-Methylnaphthalene            | ND     | 0.84 | 4.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 2-Methylnaphthalene            | ND     | 0.69 | 4.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Acetone                        | 3.8    | 2.5  | 10  | J    | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Bromobenzene                   | ND     | 0.28 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Bromodichloromethane           | ND     | 0.20 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Bromoform                      | ND     | 0.31 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Bromomethane                   | ND     | 0.85 | 3.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 2-Butanone                     | ND     | 2.0  | 10  |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Carbon disulfide               | ND     | 0.59 | 10  |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Carbon Tetrachloride           | ND     | 0.18 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Chlorobenzene                  | ND     | 0.16 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Chloroethane                   | ND     | 0.38 | 2.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Chloroform                     | ND     | 0.13 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Chloromethane                  | ND     | 0.41 | 3.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 2-Chlorotoluene                | ND     | 0.13 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 4-Chlorotoluene                | ND     | 0.34 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| cis-1,2-DCE                    | ND     | 0.39 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| cis-1,3-Dichloropropene        | ND     | 0.36 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1,2-Dibromo-3-chloropropane    | ND     | 0.59 | 2.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Dibromochloromethane           | ND     | 0.28 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Dibromomethane                 | ND     | 0.31 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1,2-Dichlorobenzene            | ND     | 0.15 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1,3-Dichlorobenzene            | ND     | 0.16 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1,4-Dichlorobenzene            | ND     | 0.21 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Dichlorodifluoromethane        | ND     | 0.40 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1,1-Dichloroethane             | ND     | 0.27 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1,1-Dichloroethene             | ND     | 0.20 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1,2-Dichloropropane            | ND     | 0.20 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1,3-Dichloropropane            | ND     | 0.18 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 2,2-Dichloropropane            | ND     | 0.26 | 2.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1,1-Dichloropropene            | ND     | 0.18 | 1.0 |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |



## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: EB-09-17-21

Project: Additional Well Install

Collection Date: 9/17/2021 9:00:00 AM

Lab ID: 2109A01-001A

Matrix: Aqueous

| Analyses                                | Result | MDL   | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------------------|--------|-------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>      |        |       |        |      |       |    | Analyst: mb          |          |
| Hexachlorobutadiene                     | ND     | 0.56  | 1.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 2-Hexanone                              | ND     | 1.8   | 10     |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Isopropylbenzene                        | ND     | 0.18  | 1.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 4-Isopropyltoluene                      | ND     | 0.20  | 1.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 4-Methyl-2-pentanone                    | ND     | 0.88  | 10     |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Methylene Chloride                      | ND     | 0.50  | 3.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| n-Butylbenzene                          | ND     | 0.25  | 3.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| n-Propylbenzene                         | ND     | 0.18  | 1.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| sec-Butylbenzene                        | ND     | 0.14  | 1.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Styrene                                 | ND     | 0.14  | 1.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| tert-Butylbenzene                       | ND     | 0.24  | 1.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1,1,1,2-Tetrachloroethane               | ND     | 0.27  | 1.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1,1,2,2-Tetrachloroethane               | ND     | 0.27  | 2.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Tetrachloroethene (PCE)                 | ND     | 0.36  | 1.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| trans-1,2-DCE                           | ND     | 0.19  | 1.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| trans-1,3-Dichloropropene               | ND     | 0.34  | 1.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1,2,3-Trichlorobenzene                  | ND     | 0.25  | 1.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1,2,4-Trichlorobenzene                  | ND     | 0.24  | 1.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1,1,1-Trichloroethane                   | ND     | 0.30  | 1.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1,1,2-Trichloroethane                   | ND     | 0.20  | 1.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Trichloroethene (TCE)                   | ND     | 0.20  | 1.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Trichlorofluoromethane                  | ND     | 0.16  | 1.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| 1,2,3-Trichloropropane                  | ND     | 0.44  | 2.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Vinyl chloride                          | ND     | 0.32  | 1.0    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Xylenes, Total                          | ND     | 0.37  | 1.5    |      | µg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Surr: 1,2-Dichloroethane-d4             | 111    | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 100    | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Surr: Dibromofluoromethane              | 103    | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Surr: Toluene-d8                        | 105    | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b> |        |       |        |      |       |    | Analyst: mb          |          |
| Gasoline Range Organics (GRO)           | ND     | 0.012 | 0.050  |      | mg/L  | 1  | 9/23/2021 3:27:41 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 103    | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 3:27:41 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: EB-09-17-21

Project: Additional Well Install

Collection Date: 9/17/2021 9:00:00 AM

Lab ID: 2109A01-001C

Matrix: Aqueous

| Analyses                           | Result | MDL   | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------------------|--------|-------|--------|------|-------|----|----------------------|----------|
| EPA METHOD 8015D MOD: DIESEL RANGE |        |       |        |      |       |    | Analyst: SB          |          |
| Diesel Range Organics (DRO)        | 0.019  | 0.016 | 0.064  | J    | mg/L  | 1  | 9/28/2021 2:04:04 PM | 62729    |
| Motor Oil Range Organics (MRO)     | ND     | 0.052 | 0.080  |      | mg/L  | 1  | 9/28/2021 2:04:04 PM | 62729    |
| Surr: DNOP                         | 94.9   | 0     | 15-142 |      | %Rec  | 1  | 9/28/2021 2:04:04 PM | 62729    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: EB-09-17-21

Project: Additional Well Install

Collection Date: 9/17/2021 9:00:00 AM

Lab ID: 2109A01-001D

Matrix: Aqueous

| Analyses                        | Result | MDL  | RL  | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------|--------|------|-----|------|-------|----|----------------------|----------|
| EPA METHOD 8270C: SEMIVOLATILES |        |      |     |      |       |    | Analyst: DAM         |          |
| Aniline                         | ND     | 0.50 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Azobenzene                      | ND     | 0.55 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Benzoic acid                    | ND     | 1.1  | 20  |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Benzyl alcohol                  | ND     | 0.68 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Bis(2-chloroethoxy)methane      | ND     | 0.41 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Bis(2-chloroethyl)ether         | ND     | 0.63 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Bis(2-chloroisopropyl)ether     | ND     | 0.54 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Bis(2-ethylhexyl)phthalate      | ND     | 4.5  | 10  |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 4-Bromophenyl phenyl ether      | ND     | 0.77 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Butyl benzyl phthalate          | ND     | 0.74 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Carbazole                       | ND     | 0.56 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 4-Chloro-3-methylphenol         | ND     | 0.41 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 4-Chloroaniline                 | ND     | 0.53 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 2-Chloronaphthalene             | ND     | 0.59 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 2-Chlorophenol                  | ND     | 0.62 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 4-Chlorophenyl phenyl ether     | ND     | 0.57 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Di-n-butyl phthalate            | ND     | 6.5  | 10  |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Di-n-octyl phthalate            | ND     | 3.1  | 20  |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Dibenz(a,h)anthracene           | ND     | 0.83 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Dibenzofuran                    | ND     | 0.38 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 1,2-Dichlorobenzene             | ND     | 0.75 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 1,3-Dichlorobenzene             | ND     | 0.64 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 1,4-Dichlorobenzene             | ND     | 0.70 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 3,3'-Dichlorobenzidine          | ND     | 0.51 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Diethyl phthalate               | ND     | 3.9  | 10  |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Dimethyl phthalate              | ND     | 2.0  | 10  |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 2,4-Dichlorophenol              | ND     | 0.58 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 2,4-Dimethylphenol              | ND     | 0.97 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.53 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 2,4-Dinitrophenol               | ND     | 0.50 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 2,4-Dinitrotoluene              | ND     | 0.62 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 2,6-Dinitrotoluene              | ND     | 0.58 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Hexachlorobenzene               | ND     | 0.66 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Hexachlorobutadiene             | ND     | 0.82 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Hexachlorocyclopentadiene       | ND     | 0.65 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Hexachloroethane                | ND     | 0.45 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Isophorone                      | ND     | 0.40 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 2-Methylphenol                  | ND     | 0.51 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 3+4-Methylphenol                | ND     | 0.45 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| N-Nitrosodi-n-propylamine       | ND     | 0.48 | 5.0 |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

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## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: EB-09-17-21

Project: Additional Well Install

Collection Date: 9/17/2021 9:00:00 AM

Lab ID: 2109A01-001D

Matrix: Aqueous

| Analyses                               | Result | MDL   | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|-------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |           |      |       |    | Analyst: DAM         |          |
| N-Nitrosodimethylamine                 | ND     | 0.36  | 5.0       |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| N-Nitrosodiphenylamine                 | ND     | 1.0   | 5.0       |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 2-Nitroaniline                         | ND     | 0.31  | 5.0       |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 3-Nitroaniline                         | ND     | 1.6   | 5.0       |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 4-Nitroaniline                         | ND     | 0.47  | 5.0       |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Nitrobenzene                           | ND     | 0.51  | 5.0       |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 2-Nitrophenol                          | ND     | 0.47  | 5.0       |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 4-Nitrophenol                          | ND     | 0.28  | 5.0       |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Pentachlorophenol                      | ND     | 0.59  | 20        |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Phenol                                 | ND     | 0.33  | 5.0       |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Pyridine                               | ND     | 0.93  | 5.0       |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.58  | 5.0       |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 2,4,5-Trichlorophenol                  | ND     | 0.62  | 5.0       |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| 2,4,6-Trichlorophenol                  | ND     | 0.43  | 5.0       |      | µg/L  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Surr: 2-Fluorophenol                   | 55.9   | 0     | 15-87     |      | %Rec  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Surr: Phenol-d5                        | 41.0   | 0     | 15-67.5   |      | %Rec  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Surr: 2,4,6-Tribromophenol             | 67.3   | 0     | 15-122    |      | %Rec  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Surr: Nitrobenzene-d5                  | 62.1   | 0     | 15-103    |      | %Rec  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Surr: 2-Fluorobiphenyl                 | 60.0   | 0     | 15-103    |      | %Rec  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| Surr: 4-Terphenyl-d14                  | 119    | 0     | 45-137    |      | %Rec  | 1  | 9/24/2021 5:36:15 PM | 62689    |
| <b>EPA METHOD 8270SIM</b>              |        |       |           |      |       |    | Analyst: DAM         |          |
| Naphthalene                            | ND     | 0.034 | 0.10      |      | µg/L  | 1  | 9/27/2021 4:02:00 PM | 62703    |
| 1-Methylnaphthalene                    | ND     | 0.024 | 0.10      |      | µg/L  | 1  | 9/27/2021 4:02:00 PM | 62703    |
| 2-Methylnaphthalene                    | ND     | 0.034 | 0.10      |      | µg/L  | 1  | 9/27/2021 4:02:00 PM | 62703    |
| Acenaphthylene                         | ND     | 0.043 | 0.10      |      | µg/L  | 1  | 9/27/2021 4:02:00 PM | 62703    |
| Acenaphthene                           | ND     | 0.031 | 0.10      |      | µg/L  | 1  | 9/27/2021 4:02:00 PM | 62703    |
| Fluorene                               | ND     | 0.031 | 0.10      |      | µg/L  | 1  | 9/27/2021 4:02:00 PM | 62703    |
| Phenanthrene                           | ND     | 0.057 | 0.10      |      | µg/L  | 1  | 9/27/2021 4:02:00 PM | 62703    |
| Anthracene                             | ND     | 0.034 | 0.10      |      | µg/L  | 1  | 9/27/2021 4:02:00 PM | 62703    |
| Fluoranthene                           | ND     | 0.10  | 0.20      |      | µg/L  | 1  | 9/27/2021 4:02:00 PM | 62703    |
| Pyrene                                 | ND     | 0.16  | 0.20      |      | µg/L  | 1  | 9/27/2021 4:02:00 PM | 62703    |
| Benz(a)anthracene                      | ND     | 0.036 | 0.10      |      | µg/L  | 1  | 9/27/2021 4:02:00 PM | 62703    |
| Chrysene                               | ND     | 0.024 | 0.10      |      | µg/L  | 1  | 9/27/2021 4:02:00 PM | 62703    |
| Benzo(b)fluoranthene                   | ND     | 0.057 | 0.10      |      | µg/L  | 1  | 9/27/2021 4:02:00 PM | 62703    |
| Benzo(k)fluoranthene                   | ND     | 0.036 | 0.10      |      | µg/L  | 1  | 9/27/2021 4:02:00 PM | 62703    |
| Benzo(a)pyrene                         | ND     | 0.034 | 0.070     |      | µg/L  | 1  | 9/27/2021 4:02:00 PM | 62703    |
| Dibenz(a,h)anthracene                  | ND     | 0.034 | 0.10      |      | µg/L  | 1  | 9/27/2021 4:02:00 PM | 62703    |
| Benzo(g,h,i)perylene                   | ND     | 0.034 | 0.10      |      | µg/L  | 1  | 9/27/2021 4:02:00 PM | 62703    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.043 | 0.30      |      | µg/L  | 1  | 9/27/2021 4:02:00 PM | 62703    |
| Surr: Nitrobenzene-d5                  | 59.5   | 0     | 21.9-89.8 |      | %Rec  | 1  | 9/27/2021 4:02:00 PM | 62703    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: EB-09-17-21

Project: Additional Well Install

Collection Date: 9/17/2021 9:00:00 AM

Lab ID: 2109A01-001D

Matrix: Aqueous

| Analyses                   | Result | MDL | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------|--------|-----|-----------|------|-------|----|----------------------|----------|
| EPA METHOD 8270SIM         |        |     |           |      |       |    | Analyst: DAM         |          |
| Surr: 2,4,6-Tribromophenol | 51.5   | 0   | 23.4-71.6 |      | %Rec  | 1  | 9/27/2021 4:02:00 PM | 62703    |
| Surr: 2-Fluorobiphenyl     | 49.0   | 0   | 15-84.5   |      | %Rec  | 1  | 9/27/2021 4:02:00 PM | 62703    |
| Surr: 4-Terphenyl-d14      | 94.5   | 0   | 73.1-152  |      | %Rec  | 1  | 9/27/2021 4:02:00 PM | 62703    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: EB-09-17-21

Project: Additional Well Install

Collection Date: 9/17/2021 9:00:00 AM

Lab ID: 2109A01-001E

Matrix: Aqueous

| Analyses                        | Result | MDL    | RL    | Qual | Units   | DF | Date Analyzed         | Batch ID |
|---------------------------------|--------|--------|-------|------|---------|----|-----------------------|----------|
| <b>EPA METHOD 300.0: ANIONS</b> |        |        |       |      |         |    | Analyst: <b>LRN</b>   |          |
| Fluoride                        | ND     | 0.040  | 0.10  |      | mg/L    | 1  | 9/18/2021 11:57:15 AM | R81380   |
| Chloride                        | 0.29   | 0.25   | 0.50  | J    | mg/L    | 1  | 9/18/2021 11:57:15 AM | R81380   |
| Nitrogen, Nitrite (As N)        | ND     | 0.0053 | 0.10  |      | mg/L    | 1  | 9/18/2021 11:57:15 AM | R81380   |
| Nitrogen, Nitrate (As N)        | 0.31   | 0.010  | 0.10  |      | mg/L    | 1  | 9/18/2021 11:57:15 AM | R81380   |
| Sulfate                         | 1.7    | 0.25   | 0.50  |      | mg/L    | 1  | 9/18/2021 11:57:15 AM | R81380   |
| <b>SM2320B: ALKALINITY</b>      |        |        |       |      |         |    | Analyst: <b>CAS</b>   |          |
| Bicarbonate (As CaCO3)          | ND     | 20.00  | 20.00 |      | mg/L Ca | 1  | 9/21/2021 7:05:37 PM  | R81457   |
| Carbonate (As CaCO3)            | ND     | 2.000  | 2.000 |      | mg/L Ca | 1  | 9/21/2021 7:05:37 PM  | R81457   |
| Total Alkalinity (as CaCO3)     | ND     | 20.00  | 20.00 |      | mg/L Ca | 1  | 9/21/2021 7:05:37 PM  | R81457   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |



## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: EB-09-17-21

Project: Additional Well Install

Collection Date: 9/17/2021 9:00:00 AM

Lab ID: 2109A01-001F

Matrix: Aqueous

| Analyses                         | Result  | MDL     | RL      | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------|---------|---------|---------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 200.7: METALS</b>  |         |         |         |      |       |    | Analyst: ELS          |          |
| Barium                           | ND      | 0.0016  | 0.0030  |      | mg/L  | 1  | 9/24/2021 1:25:08 PM  | 62792    |
| Beryllium                        | ND      | 0.00088 | 0.0020  |      | mg/L  | 1  | 9/24/2021 1:25:08 PM  | 62792    |
| Cadmium                          | ND      | 0.0015  | 0.0020  |      | mg/L  | 1  | 9/24/2021 1:25:08 PM  | 62792    |
| Calcium                          | ND      | 0.11    | 1.0     |      | mg/L  | 1  | 9/24/2021 1:25:08 PM  | 62792    |
| Chromium                         | ND      | 0.0021  | 0.0060  |      | mg/L  | 1  | 9/24/2021 1:25:08 PM  | 62792    |
| Cobalt                           | ND      | 0.0024  | 0.0060  |      | mg/L  | 1  | 9/24/2021 1:25:08 PM  | 62792    |
| Iron                             | ND      | 0.013   | 0.050   |      | mg/L  | 1  | 9/24/2021 1:25:08 PM  | 62792    |
| Magnesium                        | ND      | 0.067   | 1.0     |      | mg/L  | 1  | 9/24/2021 1:25:08 PM  | 62792    |
| Manganese                        | ND      | 0.00081 | 0.0020  |      | mg/L  | 1  | 9/24/2021 1:25:08 PM  | 62792    |
| Nickel                           | ND      | 0.0033  | 0.010   |      | mg/L  | 1  | 9/24/2021 1:25:08 PM  | 62792    |
| Potassium                        | ND      | 0.16    | 1.0     |      | mg/L  | 1  | 9/24/2021 1:25:08 PM  | 62792    |
| Silver                           | ND      | 0.0013  | 0.0050  |      | mg/L  | 1  | 9/24/2021 1:25:08 PM  | 62792    |
| Sodium                           | ND      | 0.19    | 1.0     |      | mg/L  | 1  | 9/24/2021 1:25:08 PM  | 62792    |
| Vanadium                         | ND      | 0.0024  | 0.050   |      | mg/L  | 1  | 9/24/2021 1:25:08 PM  | 62792    |
| Zinc                             | ND      | 0.0064  | 0.010   |      | mg/L  | 1  | 9/24/2021 1:25:08 PM  | 62792    |
| <b>EPA 200.8: METALS</b>         |         |         |         |      |       |    | Analyst: bcv          |          |
| Antimony                         | ND      | 0.0022  | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:21:39 PM  | 62792    |
| Arsenic                          | ND      | 0.00063 | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:21:39 PM  | 62792    |
| Lead                             | 0.00052 | 0.00031 | 0.0025  | J    | mg/L  | 5  | 9/30/2021 3:21:39 PM  | 62792    |
| Selenium                         | ND      | 0.0019  | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:21:39 PM  | 62792    |
| <b>EPA METHOD 245.1: MERCURY</b> |         |         |         |      |       |    | Analyst: ags          |          |
| Mercury                          | ND      | 0.00012 | 0.00020 |      | mg/L  | 1  | 9/28/2021 12:17:35 PM | 62854    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: EB-09-17-21

Project: Additional Well Install

Collection Date: 9/17/2021 9:00:00 AM

Lab ID: 2109A01-001G

Matrix: Aqueous

| Analyses                                  | Result | MDL     | RL      | Qual | Units | DF | Date Analyzed         | Batch ID |
|-------------------------------------------|--------|---------|---------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 200.7: DISSOLVED METALS</b> |        |         |         |      |       |    | Analyst: ELS          |          |
| Barium                                    | ND     | 0.0011  | 0.0020  |      | mg/L  | 1  | 9/21/2021 11:45:04 AM | B81434   |
| Beryllium                                 | ND     | 0.00088 | 0.0020  |      | mg/L  | 1  | 9/21/2021 11:45:04 AM | B81434   |
| Cadmium                                   | ND     | 0.0012  | 0.0020  |      | mg/L  | 1  | 9/21/2021 11:45:04 AM | B81434   |
| Chromium                                  | ND     | 0.0020  | 0.0060  |      | mg/L  | 1  | 9/21/2021 11:45:04 AM | B81434   |
| Cobalt                                    | ND     | 0.0024  | 0.0060  |      | mg/L  | 1  | 9/21/2021 11:45:04 AM | B81434   |
| Iron                                      | ND     | 0.010   | 0.020   |      | mg/L  | 1  | 9/21/2021 11:45:04 AM | B81434   |
| Manganese                                 | ND     | 0.00058 | 0.0020  |      | mg/L  | 1  | 9/21/2021 11:45:04 AM | B81434   |
| Nickel                                    | ND     | 0.0033  | 0.010   |      | mg/L  | 1  | 9/21/2021 11:45:04 AM | B81434   |
| Silver                                    | ND     | 0.0013  | 0.0050  |      | mg/L  | 1  | 9/21/2021 11:45:04 AM | B81434   |
| Vanadium                                  | ND     | 0.0020  | 0.050   |      | mg/L  | 1  | 9/21/2021 11:45:04 AM | B81434   |
| Zinc                                      | 0.0071 | 0.0060  | 0.010   | J    | mg/L  | 1  | 9/21/2021 11:45:04 AM | B81434   |
| <b>EPA 200.8: DISSOLVED METALS</b>        |        |         |         |      |       |    | Analyst: bcv          |          |
| Antimony                                  | ND     | 0.0044  | 0.010   |      | mg/L  | 10 | 9/29/2021 3:45:17 PM  | C81686   |
| Arsenic                                   | ND     | 0.0012  | 0.010   |      | mg/L  | 10 | 9/29/2021 3:45:17 PM  | C81686   |
| Lead                                      | ND     | 0.00057 | 0.0050  |      | mg/L  | 10 | 9/29/2021 3:45:17 PM  | C81686   |
| Selenium                                  | ND     | 0.0034  | 0.010   |      | mg/L  | 10 | 9/29/2021 3:45:17 PM  | C81686   |
| <b>EPA METHOD 245.1: MERCURY</b>          |        |         |         |      |       |    | Analyst: ags          |          |
| Mercury                                   | ND     | 0.00012 | 0.00020 |      | mg/L  | 1  | 9/28/2021 12:20:03 PM | 62854    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-17R

Project: Additional Well Install

Collection Date: 9/17/2021 9:00:00 AM

Lab ID: 2109A01-002A

Matrix: Aqueous

| Analyses                       | Result | MDL  | RL  | Qual | Units | DF  | Date Analyzed        | Batch ID |
|--------------------------------|--------|------|-----|------|-------|-----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES    |        |      |     |      |       |     | Analyst: mb          |          |
| Benzene                        | 1600   | 23   | 100 |      | µg/L  | 100 | 9/23/2021 3:26:43 PM | R81542   |
| Toluene                        | 5400   | 20   | 100 |      | µg/L  | 100 | 9/23/2021 3:26:43 PM | R81542   |
| Ethylbenzene                   | 280    | 1.1  | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Methyl tert-butyl ether (MTBE) | 3900   | 39   | 100 |      | µg/L  | 100 | 9/23/2021 3:26:43 PM | R81542   |
| 1,2,4-Trimethylbenzene         | 430    | 0.61 | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 1,3,5-Trimethylbenzene         | 120    | 0.91 | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 1,2-Dichloroethane (EDC)       | ND     | 1.3  | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 1,2-Dibromoethane (EDB)        | ND     | 1.5  | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Naphthalene                    | 72     | 2.5  | 10  |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 1-Methylnaphthalene            | 27     | 4.2  | 20  |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 2-Methylnaphthalene            | 34     | 3.5  | 20  |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Acetone                        | 16     | 13   | 50  | J    | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Bromobenzene                   | ND     | 1.4  | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Bromodichloromethane           | ND     | 1.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Bromoform                      | ND     | 1.6  | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Bromomethane                   | ND     | 4.3  | 15  |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 2-Butanone                     | 11     | 10   | 50  | J    | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Carbon disulfide               | ND     | 3.0  | 50  |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Carbon Tetrachloride           | ND     | 0.88 | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Chlorobenzene                  | ND     | 0.78 | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Chloroethane                   | ND     | 1.9  | 10  |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Chloroform                     | ND     | 0.67 | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Chloromethane                  | ND     | 2.1  | 15  |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 2-Chlorotoluene                | ND     | 0.66 | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 4-Chlorotoluene                | ND     | 1.7  | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| cis-1,2-DCE                    | ND     | 1.9  | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| cis-1,3-Dichloropropene        | ND     | 1.8  | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 1,2-Dibromo-3-chloropropane    | ND     | 2.9  | 10  |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Dibromochloromethane           | ND     | 1.4  | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Dibromomethane                 | ND     | 1.5  | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 1,2-Dichlorobenzene            | ND     | 0.77 | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 1,3-Dichlorobenzene            | ND     | 0.81 | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 1,4-Dichlorobenzene            | ND     | 1.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Dichlorodifluoromethane        | ND     | 2.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 1,1-Dichloroethane             | 3.3    | 1.4  | 5.0 | J    | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 1,1-Dichloroethene             | ND     | 1.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 1,2-Dichloropropane            | ND     | 1.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 1,3-Dichloropropane            | ND     | 0.90 | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 2,2-Dichloropropane            | ND     | 1.3  | 10  |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 1,1-Dichloropropene            | ND     | 0.90 | 5.0 |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: Additional Well Install

Lab ID: 2109A01-002A

Client Sample ID: MKTF-17R

Collection Date: 9/17/2021 9:00:00 AM

Matrix: Aqueous

| Analyses                                | Result | MDL   | RL     | Qual | Units | DF  | Date Analyzed        | Batch ID |
|-----------------------------------------|--------|-------|--------|------|-------|-----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>      |        |       |        |      |       |     | Analyst: mb          |          |
| Hexachlorobutadiene                     | ND     | 2.8   | 5.0    |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 2-Hexanone                              | ND     | 9.0   | 50     |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Isopropylbenzene                        | 18     | 0.91  | 5.0    |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 4-Isopropyltoluene                      | 3.4    | 1.0   | 5.0    | J    | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 4-Methyl-2-pentanone                    | ND     | 4.4   | 50     |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Methylene Chloride                      | ND     | 2.5   | 15     |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| n-Butylbenzene                          | 4.9    | 1.3   | 15     | J    | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| n-Propylbenzene                         | 28     | 0.91  | 5.0    |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| sec-Butylbenzene                        | 2.8    | 0.72  | 5.0    | J    | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Styrene                                 | ND     | 0.68  | 5.0    |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| tert-Butylbenzene                       | ND     | 1.2   | 5.0    |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 1,1,1,2-Tetrachloroethane               | ND     | 1.3   | 5.0    |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 1,1,2,2-Tetrachloroethane               | ND     | 1.4   | 10     |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Tetrachloroethene (PCE)                 | ND     | 1.8   | 5.0    |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| trans-1,2-DCE                           | ND     | 0.97  | 5.0    |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| trans-1,3-Dichloropropene               | ND     | 1.7   | 5.0    |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 1,2,3-Trichlorobenzene                  | ND     | 1.2   | 5.0    |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 1,2,4-Trichlorobenzene                  | ND     | 1.2   | 5.0    |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 1,1,1-Trichloroethane                   | ND     | 1.5   | 5.0    |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 1,1,2-Trichloroethane                   | ND     | 0.99  | 5.0    |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Trichloroethene (TCE)                   | ND     | 1.0   | 5.0    |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Trichlorofluoromethane                  | ND     | 0.79  | 5.0    |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| 1,2,3-Trichloropropane                  | ND     | 2.2   | 10     |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Vinyl chloride                          | ND     | 1.6   | 5.0    |      | µg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Xylenes, Total                          | 2700   | 37    | 150    |      | µg/L  | 100 | 9/23/2021 3:26:43 PM | R81542   |
| Surr: 1,2-Dichloroethane-d4             | 111    | 0     | 70-130 |      | %Rec  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 76.0   | 0     | 70-130 |      | %Rec  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Surr: Dibromofluoromethane              | 95.4   | 0     | 70-130 |      | %Rec  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Surr: Toluene-d8                        | 109    | 0     | 70-130 |      | %Rec  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b> |        |       |        |      |       |     | Analyst: mb          |          |
| Gasoline Range Organics (GRO)           | 29     | 0.061 | 0.25   |      | mg/L  | 5   | 9/23/2021 3:56:20 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 87.0   | 0     | 70-130 |      | %Rec  | 5   | 9/23/2021 3:56:20 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-17R

Project: Additional Well Install

Collection Date: 9/17/2021 9:00:00 AM

Lab ID: 2109A01-002C

Matrix: Aqueous

| Analyses                           | Result | MDL  | RL     | Qual | Units | DF | Date Analyzed         | Batch ID |
|------------------------------------|--------|------|--------|------|-------|----|-----------------------|----------|
| EPA METHOD 8015D MOD: DIESEL RANGE |        |      |        |      |       |    | Analyst: SB           |          |
| Diesel Range Organics (DRO)        | 1.8    | 0.16 | 0.64   |      | mg/L  | 10 | 9/27/2021 10:13:09 PM | 62729    |
| Motor Oil Range Organics (MRO)     | ND     | 0.52 | 0.80   | D    | mg/L  | 10 | 9/27/2021 10:13:09 PM | 62729    |
| Surr: DNOP                         | 0      | 0    | 15-142 | S    | %Rec  | 10 | 9/27/2021 10:13:09 PM | 62729    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-17R

Project: Additional Well Install

Collection Date: 9/17/2021 9:00:00 AM

Lab ID: 2109A01-002D

Matrix: Aqueous

| Analyses                        | Result | MDL  | RL  | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------|--------|------|-----|------|-------|----|----------------------|----------|
| EPA METHOD 8270C: SEMIVOLATILES |        |      |     |      |       |    | Analyst: DAM         |          |
| Aniline                         | ND     | 0.50 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Anthracene                      | ND     | 0.75 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Azobenzene                      | ND     | 0.55 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Benzoic acid                    | ND     | 1.1  | 20  |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Benzyl alcohol                  | ND     | 0.68 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Bis(2-chloroethoxy)methane      | ND     | 0.41 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Bis(2-chloroethyl)ether         | ND     | 0.63 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Bis(2-chloroisopropyl)ether     | ND     | 0.54 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Bis(2-ethylhexyl)phthalate      | ND     | 4.5  | 10  |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 4-Bromophenyl phenyl ether      | ND     | 0.77 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Butyl benzyl phthalate          | ND     | 0.74 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Carbazole                       | ND     | 0.56 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 4-Chloro-3-methylphenol         | ND     | 0.41 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 4-Chloroaniline                 | ND     | 0.53 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 2-Chloronaphthalene             | ND     | 0.59 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 2-Chlorophenol                  | ND     | 0.62 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 4-Chlorophenyl phenyl ether     | ND     | 0.57 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Di-n-butyl phthalate            | ND     | 6.5  | 10  |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Di-n-octyl phthalate            | ND     | 3.1  | 20  |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Dibenzofuran                    | ND     | 0.38 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 1,2-Dichlorobenzene             | ND     | 0.75 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 1,3-Dichlorobenzene             | ND     | 0.64 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 1,4-Dichlorobenzene             | ND     | 0.70 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 3,3'-Dichlorobenzidine          | ND     | 0.51 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Diethyl phthalate               | ND     | 3.9  | 10  |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Dimethyl phthalate              | ND     | 2.0  | 10  |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 2,4-Dichlorophenol              | ND     | 0.58 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 2,4-Dimethylphenol              | 13     | 0.97 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.53 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 2,4-Dinitrophenol               | ND     | 0.50 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 2,4-Dinitrotoluene              | ND     | 0.62 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 2,6-Dinitrotoluene              | ND     | 0.58 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Hexachlorobenzene               | ND     | 0.66 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Hexachlorobutadiene             | ND     | 0.82 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Hexachlorocyclopentadiene       | ND     | 0.65 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Hexachloroethane                | ND     | 0.45 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Isophorone                      | ND     | 0.40 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 2-Methylphenol                  | 280    | 5.1  | 50  |      | µg/L  | 10 | 9/30/2021 7:58:48 AM | 62689    |
| 3+4-Methylphenol                | 29     | 0.45 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| N-Nitrosodi-n-propylamine       | ND     | 0.48 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-17R

Project: Additional Well Install

Collection Date: 9/17/2021 9:00:00 AM

Lab ID: 2109A01-002D

Matrix: Aqueous

| Analyses                               | Result | MDL  | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |      |           |      |       |    | Analyst: DAM         |          |
| N-Nitrosodimethylamine                 | ND     | 0.36 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| N-Nitrosodiphenylamine                 | ND     | 1.0  | 5.0       |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 2-Nitroaniline                         | ND     | 0.31 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 3-Nitroaniline                         | ND     | 1.6  | 5.0       |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 4-Nitroaniline                         | ND     | 0.47 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Nitrobenzene                           | ND     | 0.51 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 2-Nitrophenol                          | ND     | 0.47 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 4-Nitrophenol                          | ND     | 0.28 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Pentachlorophenol                      | ND     | 0.59 | 20        |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Phenol                                 | 150    | 0.33 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Pyridine                               | ND     | 0.93 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.58 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 2,4,5-Trichlorophenol                  | ND     | 0.62 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| 2,4,6-Trichlorophenol                  | ND     | 0.43 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Surr: 2-Fluorophenol                   | 0      | 0    | 15-87     | S    | %Rec  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Surr: Phenol-d5                        | 41.5   | 0    | 15-67.5   |      | %Rec  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Surr: 2,4,6-Tribromophenol             | 79.8   | 0    | 15-122    |      | %Rec  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Surr: Nitrobenzene-d5                  | 61.0   | 0    | 15-103    |      | %Rec  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Surr: 2-Fluorobiphenyl                 | 59.4   | 0    | 15-103    |      | %Rec  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| Surr: 4-Terphenyl-d14                  | 69.3   | 0    | 45-137    |      | %Rec  | 1  | 9/24/2021 6:17:43 PM | 62689    |
| <b>EPA METHOD 8270SIM</b>              |        |      |           |      |       |    | Analyst: DAM         |          |
| Naphthalene                            | 38     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 4:46:00 PM | 62703    |
| 1-Methylnaphthalene                    | 15     | 0.24 | 1.0       | D    | µg/L  | 10 | 9/27/2021 4:46:00 PM | 62703    |
| 2-Methylnaphthalene                    | 16     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 4:46:00 PM | 62703    |
| Acenaphthylene                         | ND     | 0.43 | 1.0       | D    | µg/L  | 10 | 9/27/2021 4:46:00 PM | 62703    |
| Acenaphthene                           | 1.2    | 0.31 | 1.0       | D    | µg/L  | 10 | 9/27/2021 4:46:00 PM | 62703    |
| Fluorene                               | 2.4    | 0.31 | 1.0       | D    | µg/L  | 10 | 9/27/2021 4:46:00 PM | 62703    |
| Phenanthrene                           | 0.80   | 0.57 | 1.0       | JD   | µg/L  | 10 | 9/27/2021 4:46:00 PM | 62703    |
| Anthracene                             | 3.0    | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 4:46:00 PM | 62703    |
| Fluoranthene                           | ND     | 1.0  | 2.0       | D    | µg/L  | 10 | 9/27/2021 4:46:00 PM | 62703    |
| Pyrene                                 | ND     | 1.6  | 2.0       | D    | µg/L  | 10 | 9/27/2021 4:46:00 PM | 62703    |
| Benz(a)anthracene                      | ND     | 0.36 | 1.0       | D    | µg/L  | 10 | 9/27/2021 4:46:00 PM | 62703    |
| Chrysene                               | ND     | 0.24 | 1.0       | D    | µg/L  | 10 | 9/27/2021 4:46:00 PM | 62703    |
| Benzo(b)fluoranthene                   | ND     | 0.57 | 1.0       | D    | µg/L  | 10 | 9/27/2021 4:46:00 PM | 62703    |
| Benzo(k)fluoranthene                   | ND     | 0.36 | 1.0       | D    | µg/L  | 10 | 9/27/2021 4:46:00 PM | 62703    |
| Benzo(a)pyrene                         | ND     | 0.34 | 0.70      | D    | µg/L  | 10 | 9/27/2021 4:46:00 PM | 62703    |
| Dibenz(a,h)anthracene                  | ND     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 4:46:00 PM | 62703    |
| Benzo(g,h,i)perylene                   | ND     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 4:46:00 PM | 62703    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.43 | 3.0       | D    | µg/L  | 10 | 9/27/2021 4:46:00 PM | 62703    |
| Surr: Nitrobenzene-d5                  | 0      | 0    | 21.9-89.8 | SD   | %Rec  | 10 | 9/27/2021 4:46:00 PM | 62703    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |



## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-17R

Project: Additional Well Install

Collection Date: 9/17/2021 9:00:00 AM

Lab ID: 2109A01-002D

Matrix: Aqueous

| Analyses                   | Result | MDL | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------|--------|-----|-----------|------|-------|----|----------------------|----------|
| EPA METHOD 8270SIM         |        |     |           |      |       |    | Analyst: DAM         |          |
| Surr: 2,4,6-Tribromophenol | 0      | 0   | 23.4-71.6 | SD   | %Rec  | 10 | 9/27/2021 4:46:00 PM | 62703    |
| Surr: 2-Fluorobiphenyl     | 0      | 0   | 15-84.5   | SD   | %Rec  | 10 | 9/27/2021 4:46:00 PM | 62703    |
| Surr: 4-Terphenyl-d14      | 0      | 0   | 73.1-152  | SD   | %Rec  | 10 | 9/27/2021 4:46:00 PM | 62703    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: Additional Well Install

Lab ID: 2109A01-002E

Client Sample ID: MKTF-17R

Collection Date: 9/17/2021 9:00:00 AM

Matrix: Aqueous

| Analyses                        | Result | MDL   | RL    | Qual | Units   | DF | Date Analyzed         | Batch ID |
|---------------------------------|--------|-------|-------|------|---------|----|-----------------------|----------|
| <b>EPA METHOD 300.0: ANIONS</b> |        |       |       |      |         |    | Analyst: <b>LRN</b>   |          |
| Fluoride                        | 0.79   | 0.20  | 0.50  |      | mg/L    | 5  | 9/18/2021 12:48:47 PM | R81380   |
| Chloride                        | 170    | 5.0   | 10    |      | mg/L    | 20 | 9/18/2021 1:01:41 PM  | R81380   |
| Nitrogen, Nitrite (As N)        | ND     | 0.027 | 0.50  |      | mg/L    | 5  | 9/18/2021 12:48:47 PM | R81380   |
| Nitrogen, Nitrate (As N)        | 0.39   | 0.050 | 0.50  | J    | mg/L    | 5  | 9/18/2021 12:48:47 PM | R81380   |
| Sulfate                         | 10     | 1.2   | 2.5   |      | mg/L    | 5  | 9/18/2021 12:48:47 PM | R81380   |
| <b>SM2320B: ALKALINITY</b>      |        |       |       |      |         |    | Analyst: <b>CAS</b>   |          |
| Bicarbonate (As CaCO3)          | 697.2  | 20.00 | 20.00 |      | mg/L Ca | 1  | 9/21/2021 7:11:37 PM  | R81457   |
| Carbonate (As CaCO3)            | ND     | 2.000 | 2.000 |      | mg/L Ca | 1  | 9/21/2021 7:11:37 PM  | R81457   |
| Total Alkalinity (as CaCO3)     | 697.2  | 20.00 | 20.00 |      | mg/L Ca | 1  | 9/21/2021 7:11:37 PM  | R81457   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: Additional Well Install

Lab ID: 2109A01-002F

Client Sample ID: MKTF-17R

Collection Date: 9/17/2021 9:00:00 AM

Matrix: Aqueous

| Analyses                         | Result  | MDL     | RL      | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------|---------|---------|---------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 200.7: METALS</b>  |         |         |         |      |       |    | Analyst: ELS          |          |
| Barium                           | 0.32    | 0.0016  | 0.0030  |      | mg/L  | 1  | 9/24/2021 1:34:56 PM  | 62792    |
| Beryllium                        | ND      | 0.00088 | 0.0020  |      | mg/L  | 1  | 9/24/2021 1:34:56 PM  | 62792    |
| Cadmium                          | ND      | 0.0015  | 0.0020  |      | mg/L  | 1  | 9/24/2021 1:34:56 PM  | 62792    |
| Calcium                          | 110     | 1.1     | 10      |      | mg/L  | 10 | 9/24/2021 1:36:20 PM  | 62792    |
| Chromium                         | ND      | 0.0021  | 0.0060  |      | mg/L  | 1  | 9/24/2021 1:34:56 PM  | 62792    |
| Cobalt                           | 0.0045  | 0.0024  | 0.0060  | J    | mg/L  | 1  | 9/24/2021 1:34:56 PM  | 62792    |
| Iron                             | 1.4     | 0.13    | 0.50    | *    | mg/L  | 10 | 9/24/2021 1:36:20 PM  | 62792    |
| Magnesium                        | 21      | 0.067   | 1.0     |      | mg/L  | 1  | 9/24/2021 1:34:56 PM  | 62792    |
| Manganese                        | 3.4     | 0.0081  | 0.020   | *    | mg/L  | 10 | 9/24/2021 1:36:20 PM  | 62792    |
| Nickel                           | 0.0062  | 0.0033  | 0.010   | J    | mg/L  | 1  | 9/24/2021 1:34:56 PM  | 62792    |
| Potassium                        | 0.88    | 0.16    | 1.0     | J    | mg/L  | 1  | 9/24/2021 1:34:56 PM  | 62792    |
| Silver                           | ND      | 0.0013  | 0.0050  |      | mg/L  | 1  | 9/24/2021 1:34:56 PM  | 62792    |
| Sodium                           | 310     | 1.9     | 10      |      | mg/L  | 10 | 9/24/2021 1:36:20 PM  | 62792    |
| Vanadium                         | ND      | 0.0024  | 0.050   |      | mg/L  | 1  | 9/24/2021 1:34:56 PM  | 62792    |
| Zinc                             | ND      | 0.0064  | 0.010   |      | mg/L  | 1  | 9/24/2021 1:34:56 PM  | 62792    |
| <b>EPA 200.8: METALS</b>         |         |         |         |      |       |    | Analyst: bcv          |          |
| Antimony                         | ND      | 0.0022  | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:24:04 PM  | 62792    |
| Arsenic                          | 0.0055  | 0.00063 | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:24:04 PM  | 62792    |
| Lead                             | 0.00039 | 0.00031 | 0.0025  | J    | mg/L  | 5  | 9/30/2021 3:24:04 PM  | 62792    |
| Selenium                         | ND      | 0.0019  | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:24:04 PM  | 62792    |
| <b>EPA METHOD 245.1: MERCURY</b> |         |         |         |      |       |    | Analyst: ags          |          |
| Mercury                          | ND      | 0.00012 | 0.00020 |      | mg/L  | 1  | 9/28/2021 12:27:18 PM | 62854    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-17R

Project: Additional Well Install

Collection Date: 9/17/2021 9:00:00 AM

Lab ID: 2109A01-002G

Matrix: Aqueous

| Analyses                                  | Result | MDL     | RL      | Qual | Units | DF | Date Analyzed         | Batch ID |
|-------------------------------------------|--------|---------|---------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 200.7: DISSOLVED METALS</b> |        |         |         |      |       |    | Analyst: ELS          |          |
| Barium                                    | 0.23   | 0.0011  | 0.0020  |      | mg/L  | 1  | 9/21/2021 11:58:53 AM | B81434   |
| Beryllium                                 | ND     | 0.00088 | 0.0020  |      | mg/L  | 1  | 9/21/2021 11:58:53 AM | B81434   |
| Cadmium                                   | ND     | 0.0012  | 0.0020  |      | mg/L  | 1  | 9/21/2021 11:58:53 AM | B81434   |
| Chromium                                  | ND     | 0.0020  | 0.0060  |      | mg/L  | 1  | 9/21/2021 11:58:53 AM | B81434   |
| Cobalt                                    | 0.0028 | 0.0024  | 0.0060  | J    | mg/L  | 1  | 9/21/2021 11:58:53 AM | B81434   |
| Iron                                      | 0.16   | 0.010   | 0.020   |      | mg/L  | 1  | 9/21/2021 11:58:53 AM | B81434   |
| Manganese                                 | 2.8    | 0.0029  | 0.010   | *    | mg/L  | 5  | 9/21/2021 12:00:33 PM | B81434   |
| Nickel                                    | ND     | 0.0033  | 0.010   |      | mg/L  | 1  | 9/21/2021 11:58:53 AM | B81434   |
| Silver                                    | ND     | 0.0013  | 0.0050  |      | mg/L  | 1  | 9/21/2021 11:58:53 AM | B81434   |
| Vanadium                                  | ND     | 0.0020  | 0.050   |      | mg/L  | 1  | 9/21/2021 11:58:53 AM | B81434   |
| Zinc                                      | 0.0096 | 0.0060  | 0.010   | J    | mg/L  | 1  | 9/21/2021 11:58:53 AM | B81434   |
| <b>EPA 200.8: DISSOLVED METALS</b>        |        |         |         |      |       |    | Analyst: bcv          |          |
| Antimony                                  | ND     | 0.0044  | 0.010   |      | mg/L  | 10 | 9/29/2021 3:47:56 PM  | C81686   |
| Arsenic                                   | 0.0046 | 0.0012  | 0.010   | J    | mg/L  | 10 | 9/29/2021 3:47:56 PM  | C81686   |
| Lead                                      | ND     | 0.00057 | 0.0050  |      | mg/L  | 10 | 9/29/2021 3:47:56 PM  | C81686   |
| Selenium                                  | ND     | 0.0034  | 0.010   |      | mg/L  | 10 | 9/29/2021 3:47:56 PM  | C81686   |
| <b>EPA METHOD 245.1: MERCURY</b>          |        |         |         |      |       |    | Analyst: ags          |          |
| Mercury                                   | ND     | 0.00012 | 0.00020 |      | mg/L  | 1  | 9/28/2021 12:29:44 PM | 62854    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-18R

Project: Additional Well Install

Collection Date: 9/17/2021 9:25:00 AM

Lab ID: 2109A01-003A

Matrix: Aqueous

| Analyses                       | Result | MDL  | RL  | Qual | Units | DF  | Date Analyzed        | Batch ID |
|--------------------------------|--------|------|-----|------|-------|-----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES    |        |      |     |      |       |     | Analyst: mb          |          |
| Benzene                        | 3700   | 23   | 100 |      | µg/L  | 100 | 9/23/2021 3:55:18 PM | R81542   |
| Toluene                        | 1800   | 20   | 100 |      | µg/L  | 100 | 9/23/2021 3:55:18 PM | R81542   |
| Ethylbenzene                   | 39     | 1.1  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| Methyl tert-butyl ether (MTBE) | 200    | 2.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| 1,2,4-Trimethylbenzene         | 30     | 0.61 | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| 1,3,5-Trimethylbenzene         | 8.8    | 0.91 | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| 1,2-Dichloroethane (EDC)       | 1.5    | 1.3  | 5.0 | J    | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| 1,2-Dibromoethane (EDB)        | ND     | 1.5  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| Naphthalene                    | 170    | 2.5  | 10  |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| 1-Methylnaphthalene            | 200    | 4.2  | 20  |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| 2-Methylnaphthalene            | 300    | 3.5  | 20  |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| Acetone                        | 20     | 13   | 50  | J    | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| Bromobenzene                   | ND     | 1.4  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| Bromodichloromethane           | ND     | 1.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| Bromoform                      | ND     | 1.6  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| Bromomethane                   | ND     | 4.3  | 15  |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| 2-Butanone                     | 13     | 10   | 50  | J    | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| Carbon disulfide               | ND     | 3.0  | 50  |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| Carbon Tetrachloride           | ND     | 0.88 | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| Chlorobenzene                  | ND     | 0.78 | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| Chloroethane                   | ND     | 1.9  | 10  |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| Chloroform                     | ND     | 0.67 | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| Chloromethane                  | ND     | 2.1  | 15  |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| 2-Chlorotoluene                | ND     | 0.66 | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| 4-Chlorotoluene                | ND     | 1.7  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| cis-1,2-DCE                    | 7.7    | 1.9  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| cis-1,3-Dichloropropene        | ND     | 1.8  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| 1,2-Dibromo-3-chloropropane    | ND     | 2.9  | 10  |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| Dibromochloromethane           | ND     | 1.4  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| Dibromomethane                 | ND     | 1.5  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| 1,2-Dichlorobenzene            | ND     | 0.77 | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| 1,3-Dichlorobenzene            | ND     | 0.81 | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| 1,4-Dichlorobenzene            | ND     | 1.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| Dichlorodifluoromethane        | ND     | 2.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| 1,1-Dichloroethane             | ND     | 1.4  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| 1,1-Dichloroethene             | ND     | 1.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| 1,2-Dichloropropane            | ND     | 1.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| 1,3-Dichloropropane            | ND     | 0.90 | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| 2,2-Dichloropropane            | ND     | 1.3  | 10  |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |
| 1,1-Dichloropropene            | ND     | 0.90 | 5.0 |      | µg/L  | 5   | 9/23/2021 4:25:00 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: Additional Well Install

Lab ID: 2109A01-003A

Client Sample ID: MKTF-18R

Collection Date: 9/17/2021 9:25:00 AM

Matrix: Aqueous

| Analyses                                | Result | MDL   | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------------------|--------|-------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>      |        |       |        |      |       |    | Analyst: mb          |          |
| Hexachlorobutadiene                     | ND     | 2.8   | 5.0    |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| 2-Hexanone                              | ND     | 9.0   | 50     |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| Isopropylbenzene                        | 4.3    | 0.91  | 5.0    | J    | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| 4-Isopropyltoluene                      | 2.6    | 1.0   | 5.0    | J    | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| 4-Methyl-2-pentanone                    | ND     | 4.4   | 50     |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| Methylene Chloride                      | ND     | 2.5   | 15     |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| n-Butylbenzene                          | 3.1    | 1.3   | 15     | J    | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| n-Propylbenzene                         | 6.6    | 0.91  | 5.0    |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| sec-Butylbenzene                        | 1.9    | 0.72  | 5.0    | J    | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| Styrene                                 | ND     | 0.68  | 5.0    |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| tert-Butylbenzene                       | ND     | 1.2   | 5.0    |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| 1,1,1,2-Tetrachloroethane               | ND     | 1.3   | 5.0    |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| 1,1,2,2-Tetrachloroethane               | ND     | 1.4   | 10     |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| Tetrachloroethene (PCE)                 | ND     | 1.8   | 5.0    |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| trans-1,2-DCE                           | ND     | 0.97  | 5.0    |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| trans-1,3-Dichloropropene               | ND     | 1.7   | 5.0    |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| 1,2,3-Trichlorobenzene                  | ND     | 1.2   | 5.0    |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| 1,2,4-Trichlorobenzene                  | ND     | 1.2   | 5.0    |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| 1,1,1-Trichloroethane                   | ND     | 1.5   | 5.0    |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| 1,1,2-Trichloroethane                   | ND     | 0.99  | 5.0    |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| Trichloroethene (TCE)                   | ND     | 1.0   | 5.0    |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| Trichlorofluoromethane                  | ND     | 0.79  | 5.0    |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| 1,2,3-Trichloropropane                  | ND     | 2.2   | 10     |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| Vinyl chloride                          | ND     | 1.6   | 5.0    |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| Xylenes, Total                          | 370    | 1.9   | 7.5    |      | µg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| Surr: 1,2-Dichloroethane-d4             | 106    | 0     | 70-130 |      | %Rec  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 96.1   | 0     | 70-130 |      | %Rec  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| Surr: Dibromofluoromethane              | 94.1   | 0     | 70-130 |      | %Rec  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| Surr: Toluene-d8                        | 108    | 0     | 70-130 |      | %Rec  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b> |        |       |        |      |       |    | Analyst: mb          |          |
| Gasoline Range Organics (GRO)           | 13     | 0.061 | 0.25   |      | mg/L  | 5  | 9/23/2021 4:25:00 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 102    | 0     | 70-130 |      | %Rec  | 5  | 9/23/2021 4:25:00 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-18R

Project: Additional Well Install

Collection Date: 9/17/2021 9:25:00 AM

Lab ID: 2109A01-003C

Matrix: Aqueous

| Analyses                           | Result | MDL  | RL     | Qual | Units | DF | Date Analyzed         | Batch ID |
|------------------------------------|--------|------|--------|------|-------|----|-----------------------|----------|
| EPA METHOD 8015D MOD: DIESEL RANGE |        |      |        |      |       |    | Analyst: SB           |          |
| Diesel Range Organics (DRO)        | 4.6    | 0.16 | 0.64   |      | mg/L  | 10 | 9/27/2021 10:36:53 PM | 62729    |
| Motor Oil Range Organics (MRO)     | ND     | 0.52 | 0.80   | D    | mg/L  | 10 | 9/27/2021 10:36:53 PM | 62729    |
| Surr: DNOP                         | 0      | 0    | 15-142 | S    | %Rec  | 10 | 9/27/2021 10:36:53 PM | 62729    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |



## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-18R

Project: Additional Well Install

Collection Date: 9/17/2021 9:25:00 AM

Lab ID: 2109A01-003D

Matrix: Aqueous

| Analyses                        | Result | MDL  | RL  | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------|--------|------|-----|------|-------|----|----------------------|----------|
| EPA METHOD 8270C: SEMIVOLATILES |        |      |     |      |       |    | Analyst: DAM         |          |
| Aniline                         | ND     | 0.50 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Azobenzene                      | ND     | 0.55 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Benzoic acid                    | ND     | 1.1  | 20  |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Benzyl alcohol                  | ND     | 0.68 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Bis(2-chloroethoxy)methane      | ND     | 0.41 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Bis(2-chloroethyl)ether         | ND     | 0.63 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Bis(2-chloroisopropyl)ether     | ND     | 0.54 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Bis(2-ethylhexyl)phthalate      | ND     | 4.5  | 10  |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 4-Bromophenyl phenyl ether      | ND     | 0.77 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Butyl benzyl phthalate          | ND     | 0.74 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Carbazole                       | ND     | 0.56 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 4-Chloro-3-methylphenol         | ND     | 0.41 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 4-Chloroaniline                 | ND     | 0.53 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 2-Chloronaphthalene             | ND     | 0.59 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 2-Chlorophenol                  | ND     | 0.62 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 4-Chlorophenyl phenyl ether     | ND     | 0.57 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Di-n-butyl phthalate            | ND     | 6.5  | 10  |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Di-n-octyl phthalate            | ND     | 3.1  | 20  |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Dibenzofuran                    | ND     | 0.38 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 1,2-Dichlorobenzene             | ND     | 0.75 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 1,3-Dichlorobenzene             | ND     | 0.64 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 1,4-Dichlorobenzene             | ND     | 0.70 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 3,3'-Dichlorobenzidine          | ND     | 0.51 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Diethyl phthalate               | ND     | 3.9  | 10  |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Dimethyl phthalate              | ND     | 2.0  | 10  |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 2,4-Dichlorophenol              | ND     | 0.58 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 2,4-Dimethylphenol              | 13     | 0.97 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.53 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 2,4-Dinitrophenol               | ND     | 0.50 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 2,4-Dinitrotoluene              | ND     | 0.62 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 2,6-Dinitrotoluene              | ND     | 0.58 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Hexachlorobenzene               | ND     | 0.66 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Hexachlorobutadiene             | ND     | 0.82 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Hexachlorocyclopentadiene       | ND     | 0.65 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Hexachloroethane                | ND     | 0.45 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Isophorone                      | ND     | 0.40 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 2-Methylphenol                  | 130    | 0.51 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 3+4-Methylphenol                | 35     | 0.45 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| N-Nitrosodi-n-propylamine       | ND     | 0.48 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| N-Nitrosodimethylamine          | ND     | 0.36 | 5.0 |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-18R

Project: Additional Well Install

Collection Date: 9/17/2021 9:25:00 AM

Lab ID: 2109A01-003D

Matrix: Aqueous

| Analyses                               | Result | MDL  | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |      |           |      |       |    | Analyst: DAM         |          |
| N-Nitrosodiphenylamine                 | ND     | 1.0  | 5.0       |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 2-Nitroaniline                         | ND     | 0.31 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 3-Nitroaniline                         | ND     | 1.6  | 5.0       |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 4-Nitroaniline                         | ND     | 0.47 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Nitrobenzene                           | ND     | 0.51 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 2-Nitrophenol                          | ND     | 0.47 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 4-Nitrophenol                          | ND     | 0.28 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Pentachlorophenol                      | ND     | 0.59 | 20        |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Phenol                                 | 120    | 0.33 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Pyridine                               | ND     | 0.93 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.58 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 2,4,5-Trichlorophenol                  | ND     | 0.62 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| 2,4,6-Trichlorophenol                  | ND     | 0.43 | 5.0       |      | µg/L  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Surr: 2-Fluorophenol                   | 58.4   | 0    | 15-87     |      | %Rec  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Surr: Phenol-d5                        | 43.4   | 0    | 15-67.5   |      | %Rec  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Surr: 2,4,6-Tribromophenol             | 88.2   | 0    | 15-122    |      | %Rec  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Surr: Nitrobenzene-d5                  | 68.7   | 0    | 15-103    |      | %Rec  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Surr: 2-Fluorobiphenyl                 | 62.9   | 0    | 15-103    |      | %Rec  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| Surr: 4-Terphenyl-d14                  | 69.2   | 0    | 45-137    |      | %Rec  | 1  | 9/24/2021 6:59:20 PM | 62689    |
| <b>EPA METHOD 8270SIM</b>              |        |      |           |      |       |    | Analyst: DAM         |          |
| Naphthalene                            | 87     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 5:30:00 PM | 62703    |
| 1-Methylnaphthalene                    | 110    | 0.24 | 1.0       | D    | µg/L  | 10 | 9/27/2021 5:30:00 PM | 62703    |
| 2-Methylnaphthalene                    | 130    | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 5:30:00 PM | 62703    |
| Acenaphthylene                         | ND     | 0.43 | 1.0       | D    | µg/L  | 10 | 9/27/2021 5:30:00 PM | 62703    |
| Acenaphthene                           | 5.4    | 0.31 | 1.0       | D    | µg/L  | 10 | 9/27/2021 5:30:00 PM | 62703    |
| Fluorene                               | 8.4    | 0.31 | 1.0       | D    | µg/L  | 10 | 9/27/2021 5:30:00 PM | 62703    |
| Phenanthrene                           | 6.2    | 0.57 | 1.0       | D    | µg/L  | 10 | 9/27/2021 5:30:00 PM | 62703    |
| Anthracene                             | ND     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 5:30:00 PM | 62703    |
| Fluoranthene                           | ND     | 1.0  | 2.0       | D    | µg/L  | 10 | 9/27/2021 5:30:00 PM | 62703    |
| Pyrene                                 | ND     | 1.6  | 2.0       | D    | µg/L  | 10 | 9/27/2021 5:30:00 PM | 62703    |
| Benz(a)anthracene                      | ND     | 0.36 | 1.0       | D    | µg/L  | 10 | 9/27/2021 5:30:00 PM | 62703    |
| Chrysene                               | ND     | 0.24 | 1.0       | D    | µg/L  | 10 | 9/27/2021 5:30:00 PM | 62703    |
| Benzo(b)fluoranthene                   | ND     | 0.57 | 1.0       | D    | µg/L  | 10 | 9/27/2021 5:30:00 PM | 62703    |
| Benzo(k)fluoranthene                   | ND     | 0.36 | 1.0       | D    | µg/L  | 10 | 9/27/2021 5:30:00 PM | 62703    |
| Benzo(a)pyrene                         | ND     | 0.34 | 0.70      | D    | µg/L  | 10 | 9/27/2021 5:30:00 PM | 62703    |
| Dibenz(a,h)anthracene                  | ND     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 5:30:00 PM | 62703    |
| Benzo(g,h,i)perylene                   | ND     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 5:30:00 PM | 62703    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.43 | 3.0       | D    | µg/L  | 10 | 9/27/2021 5:30:00 PM | 62703    |
| Surr: Nitrobenzene-d5                  | 0      | 0    | 21.9-89.8 | SD   | %Rec  | 10 | 9/27/2021 5:30:00 PM | 62703    |
| Surr: 2,4,6-Tribromophenol             | 0      | 0    | 23.4-71.6 | SD   | %Rec  | 10 | 9/27/2021 5:30:00 PM | 62703    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-18R

Project: Additional Well Install

Collection Date: 9/17/2021 9:25:00 AM

Lab ID: 2109A01-003D

Matrix: Aqueous

| Analyses               | Result | MDL | RL       | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------|--------|-----|----------|------|-------|----|----------------------|----------|
| EPA METHOD 8270SIM     |        |     |          |      |       |    | Analyst: DAM         |          |
| Surr: 2-Fluorobiphenyl | 0      | 0   | 15-84.5  | SD   | %Rec  | 10 | 9/27/2021 5:30:00 PM | 62703    |
| Surr: 4-Terphenyl-d14  | 0      | 0   | 73.1-152 | SD   | %Rec  | 10 | 9/27/2021 5:30:00 PM | 62703    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: Additional Well Install

Lab ID: 2109A01-003E

Client Sample ID: MKTF-18R

Collection Date: 9/17/2021 9:25:00 AM

Matrix: Aqueous

| Analyses                        | Result | MDL   | RL    | Qual | Units   | DF | Date Analyzed        | Batch ID |
|---------------------------------|--------|-------|-------|------|---------|----|----------------------|----------|
| <b>EPA METHOD 300.0: ANIONS</b> |        |       |       |      |         |    | Analyst: <b>LRN</b>  |          |
| Fluoride                        | 0.68   | 0.20  | 0.50  |      | mg/L    | 5  | 9/18/2021 1:40:20 PM | R81380   |
| Chloride                        | 290    | 5.0   | 10    | *    | mg/L    | 20 | 9/18/2021 1:53:13 PM | R81380   |
| Nitrogen, Nitrite (As N)        | ND     | 0.027 | 0.50  |      | mg/L    | 5  | 9/18/2021 1:40:20 PM | R81380   |
| Nitrogen, Nitrate (As N)        | ND     | 0.050 | 0.50  |      | mg/L    | 5  | 9/18/2021 1:40:20 PM | R81380   |
| Sulfate                         | 10     | 1.2   | 2.5   |      | mg/L    | 5  | 9/18/2021 1:40:20 PM | R81380   |
| <b>SM2320B: ALKALINITY</b>      |        |       |       |      |         |    | Analyst: <b>CAS</b>  |          |
| Bicarbonate (As CaCO3)          | 619.7  | 20.00 | 20.00 |      | mg/L Ca | 1  | 9/21/2021 7:36:18 PM | R81457   |
| Carbonate (As CaCO3)            | ND     | 2.000 | 2.000 |      | mg/L Ca | 1  | 9/21/2021 7:36:18 PM | R81457   |
| Total Alkalinity (as CaCO3)     | 619.7  | 20.00 | 20.00 |      | mg/L Ca | 1  | 9/21/2021 7:36:18 PM | R81457   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: Additional Well Install

Lab ID: 2109A01-003F

Client Sample ID: MKTF-18R

Collection Date: 9/17/2021 9:25:00 AM

Matrix: Aqueous

| Analyses                         | Result | MDL     | RL      | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------|--------|---------|---------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 200.7: METALS</b>  |        |         |         |      |       |    | Analyst: ELS          |          |
| Barium                           | 1.8    | 0.016   | 0.030   |      | mg/L  | 10 | 9/24/2021 1:39:21 PM  | 62792    |
| Beryllium                        | ND     | 0.00088 | 0.0020  |      | mg/L  | 1  | 9/24/2021 1:37:59 PM  | 62792    |
| Cadmium                          | ND     | 0.0015  | 0.0020  |      | mg/L  | 1  | 9/24/2021 1:37:59 PM  | 62792    |
| Calcium                          | 110    | 1.1     | 10      |      | mg/L  | 10 | 9/24/2021 1:39:21 PM  | 62792    |
| Chromium                         | ND     | 0.0021  | 0.0060  |      | mg/L  | 1  | 9/24/2021 1:37:59 PM  | 62792    |
| Cobalt                           | 0.012  | 0.0024  | 0.0060  |      | mg/L  | 1  | 9/24/2021 1:37:59 PM  | 62792    |
| Iron                             | 3.3    | 0.13    | 0.50    | *    | mg/L  | 10 | 9/24/2021 1:39:21 PM  | 62792    |
| Magnesium                        | 32     | 0.067   | 1.0     |      | mg/L  | 1  | 9/24/2021 1:37:59 PM  | 62792    |
| Manganese                        | 1.8    | 0.0081  | 0.020   | *    | mg/L  | 10 | 9/24/2021 1:39:21 PM  | 62792    |
| Nickel                           | 0.0086 | 0.0033  | 0.010   | J    | mg/L  | 1  | 9/24/2021 1:37:59 PM  | 62792    |
| Potassium                        | 2.9    | 0.16    | 1.0     |      | mg/L  | 1  | 9/24/2021 1:37:59 PM  | 62792    |
| Silver                           | ND     | 0.0013  | 0.0050  |      | mg/L  | 1  | 9/24/2021 1:37:59 PM  | 62792    |
| Sodium                           | 300    | 1.9     | 10      |      | mg/L  | 10 | 9/24/2021 1:39:21 PM  | 62792    |
| Vanadium                         | 0.0031 | 0.0024  | 0.050   | J    | mg/L  | 1  | 9/24/2021 1:37:59 PM  | 62792    |
| Zinc                             | ND     | 0.0064  | 0.010   |      | mg/L  | 1  | 9/24/2021 1:37:59 PM  | 62792    |
| <b>EPA 200.8: METALS</b>         |        |         |         |      |       |    | Analyst: bcv          |          |
| Antimony                         | ND     | 0.0022  | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:36:12 PM  | 62792    |
| Arsenic                          | 0.0075 | 0.00063 | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:36:12 PM  | 62792    |
| Lead                             | 0.0019 | 0.00031 | 0.0025  | J    | mg/L  | 5  | 9/30/2021 3:36:12 PM  | 62792    |
| Selenium                         | ND     | 0.0019  | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:36:12 PM  | 62792    |
| <b>EPA METHOD 245.1: MERCURY</b> |        |         |         |      |       |    | Analyst: ags          |          |
| Mercury                          | ND     | 0.00012 | 0.00020 |      | mg/L  | 1  | 9/28/2021 12:32:10 PM | 62854    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: Additional Well Install

Lab ID: 2109A01-003G

Client Sample ID: MKTF-18R

Collection Date: 9/17/2021 9:25:00 AM

Matrix: Aqueous

| Analyses                                  | Result | MDL     | RL      | Qual | Units | DF | Date Analyzed         | Batch ID |
|-------------------------------------------|--------|---------|---------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 200.7: DISSOLVED METALS</b> |        |         |         |      |       |    | Analyst: ELS          |          |
| Barium                                    | 1.6    | 0.0056  | 0.010   |      | mg/L  | 5  | 9/21/2021 12:03:34 PM | B81434   |
| Beryllium                                 | ND     | 0.00088 | 0.0020  |      | mg/L  | 1  | 9/21/2021 12:02:10 PM | B81434   |
| Cadmium                                   | ND     | 0.0012  | 0.0020  |      | mg/L  | 1  | 9/21/2021 12:02:10 PM | B81434   |
| Chromium                                  | ND     | 0.0020  | 0.0060  |      | mg/L  | 1  | 9/21/2021 12:02:10 PM | B81434   |
| Cobalt                                    | 0.0088 | 0.0024  | 0.0060  |      | mg/L  | 1  | 9/21/2021 12:02:10 PM | B81434   |
| Iron                                      | 1.5    | 0.052   | 0.10    | *    | mg/L  | 5  | 9/21/2021 12:03:34 PM | B81434   |
| Manganese                                 | 1.7    | 0.0029  | 0.010   | *    | mg/L  | 5  | 9/21/2021 12:03:34 PM | B81434   |
| Nickel                                    | 0.0048 | 0.0033  | 0.010   | J    | mg/L  | 1  | 9/21/2021 12:02:10 PM | B81434   |
| Silver                                    | ND     | 0.0013  | 0.0050  |      | mg/L  | 1  | 9/21/2021 12:02:10 PM | B81434   |
| Vanadium                                  | ND     | 0.0020  | 0.050   |      | mg/L  | 1  | 9/21/2021 12:02:10 PM | B81434   |
| Zinc                                      | 0.0093 | 0.0060  | 0.010   | J    | mg/L  | 1  | 9/21/2021 12:02:10 PM | B81434   |
| <b>EPA 200.8: DISSOLVED METALS</b>        |        |         |         |      |       |    | Analyst: bcv          |          |
| Antimony                                  | ND     | 0.0044  | 0.010   |      | mg/L  | 10 | 9/29/2021 3:50:36 PM  | C81686   |
| Arsenic                                   | 0.0071 | 0.0012  | 0.010   | J    | mg/L  | 10 | 9/29/2021 3:50:36 PM  | C81686   |
| Lead                                      | ND     | 0.00057 | 0.0050  |      | mg/L  | 10 | 9/29/2021 3:50:36 PM  | C81686   |
| Selenium                                  | ND     | 0.0034  | 0.010   |      | mg/L  | 10 | 9/29/2021 3:50:36 PM  | C81686   |
| <b>EPA METHOD 245.1: MERCURY</b>          |        |         |         |      |       |    | Analyst: ags          |          |
| Mercury                                   | ND     | 0.00012 | 0.00020 |      | mg/L  | 1  | 9/28/2021 12:39:26 PM | 62854    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-04R

Project: Additional Well Install

Collection Date: 9/17/2021 10:00:00 AM

Lab ID: 2109A01-004A

Matrix: Aqueous

| Analyses                       | Result | MDL  | RL  | Qual | Units | DF  | Date Analyzed        | Batch ID |
|--------------------------------|--------|------|-----|------|-------|-----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES    |        |      |     |      |       |     | Analyst: mb          |          |
| Benzene                        | 1100   | 23   | 100 |      | µg/L  | 100 | 9/23/2021 4:23:54 PM | R81542   |
| Toluene                        | 13     | 1.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| Ethylbenzene                   | 200    | 1.1  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| Methyl tert-butyl ether (MTBE) | 1600   | 39   | 100 |      | µg/L  | 100 | 9/23/2021 4:23:54 PM | R81542   |
| 1,2,4-Trimethylbenzene         | 160    | 0.61 | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| 1,3,5-Trimethylbenzene         | 29     | 0.91 | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| 1,2-Dichloroethane (EDC)       | 2.3    | 1.3  | 5.0 | J    | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| 1,2-Dibromoethane (EDB)        | ND     | 1.5  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| Naphthalene                    | 81     | 2.5  | 10  |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| 1-Methylnaphthalene            | 48     | 4.2  | 20  |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| 2-Methylnaphthalene            | 59     | 3.5  | 20  |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| Acetone                        | 26     | 13   | 50  | J    | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| Bromobenzene                   | ND     | 1.4  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| Bromodichloromethane           | ND     | 1.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| Bromoform                      | ND     | 1.6  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| Bromomethane                   | ND     | 4.3  | 15  |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| 2-Butanone                     | 17     | 10   | 50  | J    | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| Carbon disulfide               | ND     | 3.0  | 50  |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| Carbon Tetrachloride           | ND     | 0.88 | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| Chlorobenzene                  | ND     | 0.78 | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| Chloroethane                   | ND     | 1.9  | 10  |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| Chloroform                     | 1.2    | 0.67 | 5.0 | J    | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| Chloromethane                  | 2.6    | 2.1  | 15  | J    | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| 2-Chlorotoluene                | ND     | 0.66 | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| 4-Chlorotoluene                | ND     | 1.7  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| cis-1,2-DCE                    | 18     | 1.9  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| cis-1,3-Dichloropropene        | ND     | 1.8  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| 1,2-Dibromo-3-chloropropane    | ND     | 2.9  | 10  |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| Dibromochloromethane           | ND     | 1.4  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| Dibromomethane                 | ND     | 1.5  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| 1,2-Dichlorobenzene            | ND     | 0.77 | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| 1,3-Dichlorobenzene            | ND     | 0.81 | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| 1,4-Dichlorobenzene            | ND     | 1.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| Dichlorodifluoromethane        | ND     | 2.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| 1,1-Dichloroethane             | 35     | 1.4  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| 1,1-Dichloroethene             | 45     | 1.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| 1,2-Dichloropropane            | 1.3    | 1.0  | 5.0 | J    | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| 1,3-Dichloropropane            | ND     | 0.90 | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| 2,2-Dichloropropane            | ND     | 1.3  | 10  |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |
| 1,1-Dichloropropene            | ND     | 0.90 | 5.0 |      | µg/L  | 5   | 9/23/2021 4:53:31 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |



## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-04R

Project: Additional Well Install

Collection Date: 9/17/2021 10:00:00 AM

Lab ID: 2109A01-004A

Matrix: Aqueous

| Analyses                                | Result | MDL   | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------------------|--------|-------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>      |        |       |        |      |       |    | Analyst: mb          |          |
| Hexachlorobutadiene                     | ND     | 2.8   | 5.0    |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| 2-Hexanone                              | ND     | 9.0   | 50     |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| Isopropylbenzene                        | 11     | 0.91  | 5.0    |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| 4-Isopropyltoluene                      | 2.2    | 1.0   | 5.0    | J    | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| 4-Methyl-2-pentanone                    | ND     | 4.4   | 50     |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| Methylene Chloride                      | ND     | 2.5   | 15     |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| n-Butylbenzene                          | 3.6    | 1.3   | 15     | J    | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| n-Propylbenzene                         | 28     | 0.91  | 5.0    |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| sec-Butylbenzene                        | 1.8    | 0.72  | 5.0    | J    | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| Styrene                                 | ND     | 0.68  | 5.0    |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| tert-Butylbenzene                       | ND     | 1.2   | 5.0    |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| 1,1,1,2-Tetrachloroethane               | ND     | 1.3   | 5.0    |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| 1,1,2,2-Tetrachloroethane               | ND     | 1.4   | 10     |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| Tetrachloroethene (PCE)                 | ND     | 1.8   | 5.0    |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| trans-1,2-DCE                           | ND     | 0.97  | 5.0    |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| trans-1,3-Dichloropropene               | ND     | 1.7   | 5.0    |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| 1,2,3-Trichlorobenzene                  | ND     | 1.2   | 5.0    |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| 1,2,4-Trichlorobenzene                  | ND     | 1.2   | 5.0    |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| 1,1,1-Trichloroethane                   | ND     | 1.5   | 5.0    |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| 1,1,2-Trichloroethane                   | ND     | 0.99  | 5.0    |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| Trichloroethene (TCE)                   | 2.1    | 1.0   | 5.0    | J    | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| Trichlorofluoromethane                  | ND     | 0.79  | 5.0    |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| 1,2,3-Trichloropropane                  | ND     | 2.2   | 10     |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| Vinyl chloride                          | ND     | 1.6   | 5.0    |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| Xylenes, Total                          | 250    | 1.9   | 7.5    |      | µg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| Surr: 1,2-Dichloroethane-d4             | 106    | 0     | 70-130 |      | %Rec  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 88.1   | 0     | 70-130 |      | %Rec  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| Surr: Dibromofluoromethane              | 94.4   | 0     | 70-130 |      | %Rec  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| Surr: Toluene-d8                        | 103    | 0     | 70-130 |      | %Rec  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b> |        |       |        |      |       |    | Analyst: mb          |          |
| Gasoline Range Organics (GRO)           | 5.2    | 0.061 | 0.25   |      | mg/L  | 5  | 9/23/2021 4:53:31 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 88.4   | 0     | 70-130 |      | %Rec  | 5  | 9/23/2021 4:53:31 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-04R

Project: Additional Well Install

Collection Date: 9/17/2021 10:00:00 AM

Lab ID: 2109A01-004C

Matrix: Aqueous

| Analyses                           | Result | MDL   | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------------------|--------|-------|--------|------|-------|----|----------------------|----------|
| EPA METHOD 8015D MOD: DIESEL RANGE |        |       |        |      |       |    | Analyst: SB          |          |
| Diesel Range Organics (DRO)        | 2.2    | 0.016 | 0.064  |      | mg/L  | 1  | 9/28/2021 2:28:02 PM | 62729    |
| Motor Oil Range Organics (MRO)     | 0.096  | 0.052 | 0.080  |      | mg/L  | 1  | 9/28/2021 2:28:02 PM | 62729    |
| Surr: DNOP                         | 97.7   | 0     | 15-142 |      | %Rec  | 1  | 9/28/2021 2:28:02 PM | 62729    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-04R

Project: Additional Well Install

Collection Date: 9/17/2021 10:00:00 AM

Lab ID: 2109A01-004D

Matrix: Aqueous

| Analyses                        | Result | MDL  | RL  | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------|--------|------|-----|------|-------|----|----------------------|----------|
| EPA METHOD 8270C: SEMIVOLATILES |        |      |     |      |       |    | Analyst: DAM         |          |
| Aniline                         | ND     | 0.50 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Azobenzene                      | ND     | 0.55 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Benzoic acid                    | ND     | 1.1  | 20  |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Benzyl alcohol                  | ND     | 0.68 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Bis(2-chloroethoxy)methane      | ND     | 0.41 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Bis(2-chloroethyl)ether         | ND     | 0.63 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Bis(2-chloroisopropyl)ether     | ND     | 0.54 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Bis(2-ethylhexyl)phthalate      | ND     | 4.5  | 10  |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 4-Bromophenyl phenyl ether      | ND     | 0.77 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Butyl benzyl phthalate          | ND     | 0.74 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Carbazole                       | ND     | 0.56 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 4-Chloro-3-methylphenol         | ND     | 0.41 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 4-Chloroaniline                 | ND     | 0.53 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 2-Chloronaphthalene             | ND     | 0.59 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 2-Chlorophenol                  | ND     | 0.62 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 4-Chlorophenyl phenyl ether     | ND     | 0.57 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Di-n-butyl phthalate            | ND     | 6.5  | 10  |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Di-n-octyl phthalate            | ND     | 3.1  | 20  |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Dibenzofuran                    | ND     | 0.38 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 1,2-Dichlorobenzene             | ND     | 0.75 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 1,3-Dichlorobenzene             | ND     | 0.64 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 1,4-Dichlorobenzene             | ND     | 0.70 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 3,3'-Dichlorobenzidine          | ND     | 0.51 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Diethyl phthalate               | ND     | 3.9  | 10  |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Dimethyl phthalate              | ND     | 2.0  | 10  |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 2,4-Dichlorophenol              | ND     | 0.58 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 2,4-Dimethylphenol              | 3.9    | 0.97 | 5.0 | J    | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.53 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 2,4-Dinitrophenol               | ND     | 0.50 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 2,4-Dinitrotoluene              | ND     | 0.62 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 2,6-Dinitrotoluene              | ND     | 0.58 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Hexachlorobenzene               | ND     | 0.66 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Hexachlorobutadiene             | ND     | 0.82 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Hexachlorocyclopentadiene       | ND     | 0.65 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Hexachloroethane                | ND     | 0.45 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Isophorone                      | ND     | 0.40 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 2-Methylphenol                  | ND     | 0.51 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 3+4-Methylphenol                | ND     | 0.45 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| N-Nitrosodi-n-propylamine       | ND     | 0.48 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| N-Nitrosodimethylamine          | ND     | 0.36 | 5.0 |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-04R

Project: Additional Well Install

Collection Date: 9/17/2021 10:00:00 AM

Lab ID: 2109A01-004D

Matrix: Aqueous

| Analyses                               | Result | MDL  | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |      |           |      |       |    | Analyst: DAM         |          |
| N-Nitrosodiphenylamine                 | ND     | 1.0  | 5.0       |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 2-Nitroaniline                         | ND     | 0.31 | 5.0       |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 3-Nitroaniline                         | ND     | 1.6  | 5.0       |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 4-Nitroaniline                         | ND     | 0.47 | 5.0       |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Nitrobenzene                           | ND     | 0.51 | 5.0       |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 2-Nitrophenol                          | ND     | 0.47 | 5.0       |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 4-Nitrophenol                          | ND     | 0.28 | 5.0       |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Pentachlorophenol                      | ND     | 0.59 | 20        |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Phenol                                 | 8.3    | 0.33 | 5.0       |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Pyridine                               | ND     | 0.93 | 5.0       |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.58 | 5.0       |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 2,4,5-Trichlorophenol                  | ND     | 0.62 | 5.0       |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| 2,4,6-Trichlorophenol                  | ND     | 0.43 | 5.0       |      | µg/L  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Surr: 2-Fluorophenol                   | 66.7   | 0    | 15-87     |      | %Rec  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Surr: Phenol-d5                        | 50.2   | 0    | 15-67.5   |      | %Rec  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Surr: 2,4,6-Tribromophenol             | 85.5   | 0    | 15-122    |      | %Rec  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Surr: Nitrobenzene-d5                  | 74.2   | 0    | 15-103    |      | %Rec  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Surr: 2-Fluorobiphenyl                 | 68.2   | 0    | 15-103    |      | %Rec  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| Surr: 4-Terphenyl-d14                  | 65.1   | 0    | 45-137    |      | %Rec  | 1  | 9/24/2021 8:31:42 PM | 62689    |
| <b>EPA METHOD 8270SIM</b>              |        |      |           |      |       |    | Analyst: DAM         |          |
| Naphthalene                            | 15     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:14:00 PM | 62703    |
| 1-Methylnaphthalene                    | 9.0    | 0.24 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:14:00 PM | 62703    |
| 2-Methylnaphthalene                    | 6.2    | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:14:00 PM | 62703    |
| Acenaphthylene                         | ND     | 0.43 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:14:00 PM | 62703    |
| Acenaphthene                           | 1.6    | 0.31 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:14:00 PM | 62703    |
| Fluorene                               | 1.8    | 0.31 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:14:00 PM | 62703    |
| Phenanthrene                           | ND     | 0.57 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:14:00 PM | 62703    |
| Anthracene                             | ND     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:14:00 PM | 62703    |
| Fluoranthene                           | ND     | 1.0  | 2.0       | D    | µg/L  | 10 | 9/27/2021 6:14:00 PM | 62703    |
| Pyrene                                 | ND     | 1.6  | 2.0       | D    | µg/L  | 10 | 9/27/2021 6:14:00 PM | 62703    |
| Benz(a)anthracene                      | ND     | 0.36 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:14:00 PM | 62703    |
| Chrysene                               | ND     | 0.24 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:14:00 PM | 62703    |
| Benzo(b)fluoranthene                   | ND     | 0.57 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:14:00 PM | 62703    |
| Benzo(k)fluoranthene                   | ND     | 0.36 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:14:00 PM | 62703    |
| Benzo(a)pyrene                         | ND     | 0.34 | 0.70      | D    | µg/L  | 10 | 9/27/2021 6:14:00 PM | 62703    |
| Dibenz(a,h)anthracene                  | ND     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:14:00 PM | 62703    |
| Benzo(g,h,i)perylene                   | ND     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:14:00 PM | 62703    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.43 | 3.0       | D    | µg/L  | 10 | 9/27/2021 6:14:00 PM | 62703    |
| Surr: Nitrobenzene-d5                  | 0      | 0    | 21.9-89.8 | SD   | %Rec  | 10 | 9/27/2021 6:14:00 PM | 62703    |
| Surr: 2,4,6-Tribromophenol             | 0      | 0    | 23.4-71.6 | SD   | %Rec  | 10 | 9/27/2021 6:14:00 PM | 62703    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-04R

Project: Additional Well Install

Collection Date: 9/17/2021 10:00:00 AM

Lab ID: 2109A01-004D

Matrix: Aqueous

| Analyses               | Result | MDL | RL       | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------|--------|-----|----------|------|-------|----|----------------------|----------|
| EPA METHOD 8270SIM     |        |     |          |      |       |    | Analyst: DAM         |          |
| Surr: 2-Fluorobiphenyl | 0      | 0   | 15-84.5  | SD   | %Rec  | 10 | 9/27/2021 6:14:00 PM | 62703    |
| Surr: 4-Terphenyl-d14  | 0      | 0   | 73.1-152 | SD   | %Rec  | 10 | 9/27/2021 6:14:00 PM | 62703    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: Additional Well Install

Lab ID: 2109A01-004E

Client Sample ID: MKTF-04R

Collection Date: 9/17/2021 10:00:00 AM

Matrix: Aqueous

| Analyses                        | Result | MDL   | RL    | Qual | Units   | DF | Date Analyzed        | Batch ID |
|---------------------------------|--------|-------|-------|------|---------|----|----------------------|----------|
| <b>EPA METHOD 300.0: ANIONS</b> |        |       |       |      |         |    | Analyst: <b>LRN</b>  |          |
| Fluoride                        | ND     | 0.20  | 0.50  |      | mg/L    | 5  | 9/18/2021 2:06:05 PM | R81380   |
| Chloride                        | 220    | 5.0   | 10    |      | mg/L    | 20 | 9/18/2021 2:18:57 PM | R81380   |
| Nitrogen, Nitrite (As N)        | ND     | 0.027 | 0.50  |      | mg/L    | 5  | 9/18/2021 2:06:05 PM | R81380   |
| Nitrogen, Nitrate (As N)        | ND     | 0.050 | 0.50  |      | mg/L    | 5  | 9/18/2021 2:06:05 PM | R81380   |
| Sulfate                         | 63     | 1.2   | 2.5   |      | mg/L    | 5  | 9/18/2021 2:06:05 PM | R81380   |
| <b>SM2320B: ALKALINITY</b>      |        |       |       |      |         |    | Analyst: <b>CAS</b>  |          |
| Bicarbonate (As CaCO3)          | 691.9  | 20.00 | 20.00 |      | mg/L Ca | 1  | 9/21/2021 7:59:20 PM | R81457   |
| Carbonate (As CaCO3)            | ND     | 2.000 | 2.000 |      | mg/L Ca | 1  | 9/21/2021 7:59:20 PM | R81457   |
| Total Alkalinity (as CaCO3)     | 691.9  | 20.00 | 20.00 |      | mg/L Ca | 1  | 9/21/2021 7:59:20 PM | R81457   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-04R

Project: Additional Well Install

Collection Date: 9/17/2021 10:00:00 AM

Lab ID: 2109A01-004F

Matrix: Aqueous

| Analyses                         | Result | MDL     | RL      | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------|--------|---------|---------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 200.7: METALS</b>  |        |         |         |      |       |    | Analyst: ELS          |          |
| Barium                           | 1.6    | 0.016   | 0.030   |      | mg/L  | 10 | 9/24/2021 1:42:20 PM  | 62792    |
| Beryllium                        | ND     | 0.00088 | 0.0020  |      | mg/L  | 1  | 9/24/2021 1:40:59 PM  | 62792    |
| Cadmium                          | ND     | 0.0015  | 0.0020  |      | mg/L  | 1  | 9/24/2021 1:40:59 PM  | 62792    |
| Calcium                          | 120    | 1.1     | 10      |      | mg/L  | 10 | 9/24/2021 1:42:20 PM  | 62792    |
| Chromium                         | 0.0082 | 0.0021  | 0.0060  |      | mg/L  | 1  | 9/24/2021 1:40:59 PM  | 62792    |
| Cobalt                           | 0.0090 | 0.0024  | 0.0060  |      | mg/L  | 1  | 9/24/2021 1:40:59 PM  | 62792    |
| Iron                             | 9.3    | 0.13    | 0.50    | *    | mg/L  | 10 | 9/24/2021 1:42:20 PM  | 62792    |
| Magnesium                        | 31     | 0.067   | 1.0     |      | mg/L  | 1  | 9/24/2021 1:40:59 PM  | 62792    |
| Manganese                        | 2.7    | 0.0081  | 0.020   | *    | mg/L  | 10 | 9/24/2021 1:42:20 PM  | 62792    |
| Nickel                           | 0.016  | 0.0033  | 0.010   |      | mg/L  | 1  | 9/24/2021 1:40:59 PM  | 62792    |
| Potassium                        | 3.4    | 0.16    | 1.0     |      | mg/L  | 1  | 9/24/2021 1:40:59 PM  | 62792    |
| Silver                           | ND     | 0.0013  | 0.0050  |      | mg/L  | 1  | 9/24/2021 1:40:59 PM  | 62792    |
| Sodium                           | 330    | 1.9     | 10      |      | mg/L  | 10 | 9/24/2021 1:42:20 PM  | 62792    |
| Vanadium                         | 0.016  | 0.0024  | 0.050   | J    | mg/L  | 1  | 9/24/2021 1:40:59 PM  | 62792    |
| Zinc                             | 0.016  | 0.0064  | 0.010   |      | mg/L  | 1  | 9/24/2021 1:40:59 PM  | 62792    |
| <b>EPA 200.8: METALS</b>         |        |         |         |      |       |    | Analyst: bcv          |          |
| Antimony                         | ND     | 0.0022  | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:38:38 PM  | 62792    |
| Arsenic                          | 0.0052 | 0.00063 | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:38:38 PM  | 62792    |
| Lead                             | 0.0075 | 0.00031 | 0.0025  |      | mg/L  | 5  | 9/30/2021 3:38:38 PM  | 62792    |
| Selenium                         | 0.0028 | 0.0019  | 0.0050  | J    | mg/L  | 5  | 9/30/2021 3:38:38 PM  | 62792    |
| <b>EPA METHOD 245.1: MERCURY</b> |        |         |         |      |       |    | Analyst: ags          |          |
| Mercury                          | ND     | 0.00012 | 0.00020 |      | mg/L  | 1  | 9/28/2021 12:41:51 PM | 62854    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |



## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-04R

Project: Additional Well Install

Collection Date: 9/17/2021 10:00:00 AM

Lab ID: 2109A01-004G

Matrix: Aqueous

| Analyses                                  | Result | MDL     | RL      | Qual | Units | DF | Date Analyzed         | Batch ID |
|-------------------------------------------|--------|---------|---------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 200.7: DISSOLVED METALS</b> |        |         |         |      |       |    | Analyst: ELS          |          |
| Barium                                    | 1.2    | 0.0056  | 0.010   |      | mg/L  | 5  | 9/21/2021 12:06:41 PM | B81434   |
| Beryllium                                 | ND     | 0.00088 | 0.0020  |      | mg/L  | 1  | 9/21/2021 12:05:15 PM | B81434   |
| Cadmium                                   | ND     | 0.0012  | 0.0020  |      | mg/L  | 1  | 9/21/2021 12:05:15 PM | B81434   |
| Chromium                                  | ND     | 0.0020  | 0.0060  |      | mg/L  | 1  | 9/21/2021 12:05:15 PM | B81434   |
| Cobalt                                    | 0.0043 | 0.0024  | 0.0060  | J    | mg/L  | 1  | 9/21/2021 12:05:15 PM | B81434   |
| Iron                                      | 1.5    | 0.052   | 0.10    | *    | mg/L  | 5  | 9/21/2021 12:06:41 PM | B81434   |
| Manganese                                 | 2.4    | 0.0029  | 0.010   | *    | mg/L  | 5  | 9/21/2021 12:06:41 PM | B81434   |
| Nickel                                    | 0.0066 | 0.0033  | 0.010   | J    | mg/L  | 1  | 9/21/2021 12:05:15 PM | B81434   |
| Silver                                    | ND     | 0.0013  | 0.0050  |      | mg/L  | 1  | 9/21/2021 12:05:15 PM | B81434   |
| Vanadium                                  | ND     | 0.0020  | 0.050   |      | mg/L  | 1  | 9/21/2021 12:05:15 PM | B81434   |
| Zinc                                      | 0.011  | 0.0060  | 0.010   |      | mg/L  | 1  | 9/21/2021 12:05:15 PM | B81434   |
| <b>EPA 200.8: DISSOLVED METALS</b>        |        |         |         |      |       |    | Analyst: bcv          |          |
| Antimony                                  | ND     | 0.0044  | 0.010   |      | mg/L  | 10 | 9/29/2021 3:58:34 PM  | C81686   |
| Arsenic                                   | 0.0036 | 0.0012  | 0.010   | J    | mg/L  | 10 | 9/29/2021 3:58:34 PM  | C81686   |
| Lead                                      | ND     | 0.00057 | 0.0050  |      | mg/L  | 10 | 9/29/2021 3:58:34 PM  | C81686   |
| Selenium                                  | ND     | 0.0034  | 0.010   |      | mg/L  | 10 | 9/29/2021 3:58:34 PM  | C81686   |
| <b>EPA METHOD 245.1: MERCURY</b>          |        |         |         |      |       |    | Analyst: ags          |          |
| Mercury                                   | ND     | 0.00012 | 0.00020 |      | mg/L  | 1  | 9/28/2021 12:44:16 PM | 62854    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-01R

Project: Additional Well Install

Collection Date: 9/17/2021 10:35:00 AM

Lab ID: 2109A01-005A

Matrix: Aqueous

| Analyses                       | Result | MDL  | RL  | Qual | Units | DF  | Date Analyzed        | Batch ID |
|--------------------------------|--------|------|-----|------|-------|-----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES    |        |      |     |      |       |     | Analyst: mb          |          |
| Benzene                        | 7100   | 23   | 100 |      | µg/L  | 100 | 9/23/2021 4:52:30 PM | R81542   |
| Toluene                        | 170    | 1.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| Ethylbenzene                   | 370    | 1.1  | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| Methyl tert-butyl ether (MTBE) | 86     | 2.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| 1,2,4-Trimethylbenzene         | 310    | 0.61 | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| 1,3,5-Trimethylbenzene         | 28     | 0.91 | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| 1,2-Dichloroethane (EDC)       | 2.4    | 1.3  | 5.0 | J    | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| 1,2-Dibromoethane (EDB)        | ND     | 1.5  | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| Naphthalene                    | 52     | 2.5  | 10  |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| 1-Methylnaphthalene            | 28     | 4.2  | 20  |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| 2-Methylnaphthalene            | 25     | 3.5  | 20  |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| Acetone                        | 47     | 13   | 50  | J    | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| Bromobenzene                   | ND     | 1.4  | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| Bromodichloromethane           | ND     | 1.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| Bromoform                      | ND     | 1.6  | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| Bromomethane                   | ND     | 4.3  | 15  |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| 2-Butanone                     | 22     | 10   | 50  | J    | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| Carbon disulfide               | ND     | 3.0  | 50  |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| Carbon Tetrachloride           | ND     | 0.88 | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| Chlorobenzene                  | ND     | 0.78 | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| Chloroethane                   | ND     | 1.9  | 10  |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| Chloroform                     | ND     | 0.67 | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| Chloromethane                  | ND     | 2.1  | 15  |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| 2-Chlorotoluene                | ND     | 0.66 | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| 4-Chlorotoluene                | ND     | 1.7  | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| cis-1,2-DCE                    | ND     | 1.9  | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| cis-1,3-Dichloropropene        | ND     | 1.8  | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| 1,2-Dibromo-3-chloropropane    | ND     | 2.9  | 10  |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| Dibromochloromethane           | ND     | 1.4  | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| Dibromomethane                 | ND     | 1.5  | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| 1,2-Dichlorobenzene            | ND     | 0.77 | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| 1,3-Dichlorobenzene            | ND     | 0.81 | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| 1,4-Dichlorobenzene            | ND     | 1.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| Dichlorodifluoromethane        | ND     | 2.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| 1,1-Dichloroethane             | 3.0    | 1.4  | 5.0 | J    | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| 1,1-Dichloroethene             | ND     | 1.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| 1,2-Dichloropropane            | ND     | 1.0  | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| 1,3-Dichloropropane            | ND     | 0.90 | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| 2,2-Dichloropropane            | ND     | 1.3  | 10  |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |
| 1,1-Dichloropropene            | ND     | 0.90 | 5.0 |      | µg/L  | 5   | 9/23/2021 5:22:05 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

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## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: Additional Well Install

Lab ID: 2109A01-005A

Client Sample ID: MKTF-01R

Collection Date: 9/17/2021 10:35:00 AM

Matrix: Aqueous

| Analyses                                | Result | MDL   | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------------------|--------|-------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>      |        |       |        |      |       |    | Analyst: mb          |          |
| Hexachlorobutadiene                     | ND     | 2.8   | 5.0    |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| 2-Hexanone                              | ND     | 9.0   | 50     |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| Isopropylbenzene                        | 20     | 0.91  | 5.0    |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| 4-Isopropyltoluene                      | 2.4    | 1.0   | 5.0    | J    | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| 4-Methyl-2-pentanone                    | ND     | 4.4   | 50     |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| Methylene Chloride                      | ND     | 2.5   | 15     |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| n-Butylbenzene                          | 6.9    | 1.3   | 15     | J    | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| n-Propylbenzene                         | 52     | 0.91  | 5.0    |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| sec-Butylbenzene                        | 3.2    | 0.72  | 5.0    | J    | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| Styrene                                 | ND     | 0.68  | 5.0    |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| tert-Butylbenzene                       | ND     | 1.2   | 5.0    |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| 1,1,1,2-Tetrachloroethane               | ND     | 1.3   | 5.0    |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| 1,1,2,2-Tetrachloroethane               | ND     | 1.4   | 10     |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| Tetrachloroethene (PCE)                 | ND     | 1.8   | 5.0    |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| trans-1,2-DCE                           | ND     | 0.97  | 5.0    |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| trans-1,3-Dichloropropene               | ND     | 1.7   | 5.0    |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| 1,2,3-Trichlorobenzene                  | ND     | 1.2   | 5.0    |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| 1,2,4-Trichlorobenzene                  | ND     | 1.2   | 5.0    |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| 1,1,1-Trichloroethane                   | ND     | 1.5   | 5.0    |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| 1,1,2-Trichloroethane                   | ND     | 0.99  | 5.0    |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| Trichloroethene (TCE)                   | ND     | 1.0   | 5.0    |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| Trichlorofluoromethane                  | ND     | 0.79  | 5.0    |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| 1,2,3-Trichloropropane                  | ND     | 2.2   | 10     |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| Vinyl chloride                          | 22     | 1.6   | 5.0    |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| Xylenes, Total                          | 850    | 1.9   | 7.5    |      | µg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| Surr: 1,2-Dichloroethane-d4             | 108    | 0     | 70-130 |      | %Rec  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 79.9   | 0     | 70-130 |      | %Rec  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| Surr: Dibromofluoromethane              | 97.8   | 0     | 70-130 |      | %Rec  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| Surr: Toluene-d8                        | 105    | 0     | 70-130 |      | %Rec  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b> |        |       |        |      |       |    | Analyst: mb          |          |
| Gasoline Range Organics (GRO)           | 19     | 0.061 | 0.25   |      | mg/L  | 5  | 9/23/2021 5:22:05 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 85.9   | 0     | 70-130 |      | %Rec  | 5  | 9/23/2021 5:22:05 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: Additional Well Install

Lab ID: 2109A01-005C

Client Sample ID: MKTF-01R

Collection Date: 9/17/2021 10:35:00 AM

Matrix: Aqueous

| Analyses                           | Result | MDL   | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------------------|--------|-------|--------|------|-------|----|----------------------|----------|
| EPA METHOD 8015D MOD: DIESEL RANGE |        |       |        |      |       |    | Analyst: SB          |          |
| Diesel Range Organics (DRO)        | 1.2    | 0.016 | 0.064  |      | mg/L  | 1  | 9/28/2021 2:51:55 PM | 62729    |
| Motor Oil Range Organics (MRO)     | ND     | 0.052 | 0.080  |      | mg/L  | 1  | 9/28/2021 2:51:55 PM | 62729    |
| Surr: DNOP                         | 93.1   | 0     | 15-142 |      | %Rec  | 1  | 9/28/2021 2:51:55 PM | 62729    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-01R

Project: Additional Well Install

Collection Date: 9/17/2021 10:35:00 AM

Lab ID: 2109A01-005D

Matrix: Aqueous

| Analyses                        | Result | MDL  | RL  | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------|--------|------|-----|------|-------|----|----------------------|----------|
| EPA METHOD 8270C: SEMIVOLATILES |        |      |     |      |       |    | Analyst: DAM         |          |
| Aniline                         | ND     | 0.50 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Azobenzene                      | ND     | 0.55 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Benzoic acid                    | ND     | 1.1  | 20  |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Benzyl alcohol                  | ND     | 0.68 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Bis(2-chloroethoxy)methane      | ND     | 0.41 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Bis(2-chloroethyl)ether         | ND     | 0.63 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Bis(2-chloroisopropyl)ether     | ND     | 0.54 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Bis(2-ethylhexyl)phthalate      | ND     | 4.5  | 10  |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 4-Bromophenyl phenyl ether      | ND     | 0.77 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Butyl benzyl phthalate          | ND     | 0.74 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Carbazole                       | ND     | 0.56 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 4-Chloro-3-methylphenol         | ND     | 0.41 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 4-Chloroaniline                 | ND     | 0.53 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 2-Chloronaphthalene             | ND     | 0.59 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 2-Chlorophenol                  | ND     | 0.62 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 4-Chlorophenyl phenyl ether     | ND     | 0.57 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Di-n-butyl phthalate            | ND     | 6.5  | 10  |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Di-n-octyl phthalate            | ND     | 3.1  | 20  |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Dibenzofuran                    | ND     | 0.38 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 1,2-Dichlorobenzene             | ND     | 0.75 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 1,3-Dichlorobenzene             | ND     | 0.64 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 1,4-Dichlorobenzene             | ND     | 0.70 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 3,3'-Dichlorobenzidine          | ND     | 0.51 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Diethyl phthalate               | ND     | 3.9  | 10  |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Dimethyl phthalate              | ND     | 2.0  | 10  |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 2,4-Dichlorophenol              | ND     | 0.58 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 2,4-Dimethylphenol              | 19     | 0.97 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.53 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 2,4-Dinitrophenol               | ND     | 0.50 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 2,4-Dinitrotoluene              | ND     | 0.62 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 2,6-Dinitrotoluene              | ND     | 0.58 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Hexachlorobenzene               | ND     | 0.66 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Hexachlorobutadiene             | ND     | 0.82 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Hexachlorocyclopentadiene       | ND     | 0.65 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Hexachloroethane                | ND     | 0.45 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Isophorone                      | ND     | 0.40 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 2-Methylphenol                  | 2.1    | 0.51 | 5.0 | J    | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 3+4-Methylphenol                | 5.3    | 0.45 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| N-Nitrosodi-n-propylamine       | ND     | 0.48 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| N-Nitrosodimethylamine          | ND     | 0.36 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-01R

Project: Additional Well Install

Collection Date: 9/17/2021 10:35:00 AM

Lab ID: 2109A01-005D

Matrix: Aqueous

| Analyses                               | Result | MDL  | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |      |           |      |       |    | Analyst: DAM         |          |
| N-Nitrosodiphenylamine                 | ND     | 1.0  | 5.0       |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 2-Nitroaniline                         | ND     | 0.31 | 5.0       |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 3-Nitroaniline                         | ND     | 1.6  | 5.0       |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 4-Nitroaniline                         | ND     | 0.47 | 5.0       |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Nitrobenzene                           | ND     | 0.51 | 5.0       |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 2-Nitrophenol                          | ND     | 0.47 | 5.0       |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 4-Nitrophenol                          | ND     | 0.28 | 5.0       |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Pentachlorophenol                      | ND     | 0.59 | 20        |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Phenol                                 | 92     | 0.33 | 5.0       |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Pyridine                               | ND     | 0.93 | 5.0       |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.58 | 5.0       |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 2,4,5-Trichlorophenol                  | ND     | 0.62 | 5.0       |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| 2,4,6-Trichlorophenol                  | ND     | 0.43 | 5.0       |      | µg/L  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Surr: 2-Fluorophenol                   | 50.7   | 0    | 15-87     |      | %Rec  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Surr: Phenol-d5                        | 46.8   | 0    | 15-67.5   |      | %Rec  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Surr: 2,4,6-Tribromophenol             | 47.5   | 0    | 15-122    |      | %Rec  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Surr: Nitrobenzene-d5                  | 71.0   | 0    | 15-103    |      | %Rec  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Surr: 2-Fluorobiphenyl                 | 68.0   | 0    | 15-103    |      | %Rec  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| Surr: 4-Terphenyl-d14                  | 61.4   | 0    | 45-137    |      | %Rec  | 1  | 9/24/2021 9:13:02 PM | 62689    |
| <b>EPA METHOD 8270SIM</b>              |        |      |           |      |       |    | Analyst: DAM         |          |
| Naphthalene                            | 21     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:58:00 PM | 62703    |
| 1-Methylnaphthalene                    | 11     | 0.24 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:58:00 PM | 62703    |
| 2-Methylnaphthalene                    | 8.2    | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:58:00 PM | 62703    |
| Acenaphthylene                         | ND     | 0.43 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:58:00 PM | 62703    |
| Acenaphthene                           | ND     | 0.31 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:58:00 PM | 62703    |
| Fluorene                               | ND     | 0.31 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:58:00 PM | 62703    |
| Phenanthrene                           | ND     | 0.57 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:58:00 PM | 62703    |
| Anthracene                             | ND     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:58:00 PM | 62703    |
| Fluoranthene                           | ND     | 1.0  | 2.0       | D    | µg/L  | 10 | 9/27/2021 6:58:00 PM | 62703    |
| Pyrene                                 | ND     | 1.6  | 2.0       | D    | µg/L  | 10 | 9/27/2021 6:58:00 PM | 62703    |
| Benz(a)anthracene                      | ND     | 0.36 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:58:00 PM | 62703    |
| Chrysene                               | ND     | 0.24 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:58:00 PM | 62703    |
| Benzo(b)fluoranthene                   | ND     | 0.57 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:58:00 PM | 62703    |
| Benzo(k)fluoranthene                   | ND     | 0.36 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:58:00 PM | 62703    |
| Benzo(a)pyrene                         | ND     | 0.34 | 0.70      | D    | µg/L  | 10 | 9/27/2021 6:58:00 PM | 62703    |
| Dibenz(a,h)anthracene                  | ND     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:58:00 PM | 62703    |
| Benzo(g,h,i)perylene                   | ND     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 6:58:00 PM | 62703    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.43 | 3.0       | D    | µg/L  | 10 | 9/27/2021 6:58:00 PM | 62703    |
| Surr: Nitrobenzene-d5                  | 0      | 0    | 21.9-89.8 | SD   | %Rec  | 10 | 9/27/2021 6:58:00 PM | 62703    |
| Surr: 2,4,6-Tribromophenol             | 0      | 0    | 23.4-71.6 | SD   | %Rec  | 10 | 9/27/2021 6:58:00 PM | 62703    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-01R

Project: Additional Well Install

Collection Date: 9/17/2021 10:35:00 AM

Lab ID: 2109A01-005D

Matrix: Aqueous

| Analyses               | Result | MDL | RL       | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------|--------|-----|----------|------|-------|----|----------------------|----------|
| EPA METHOD 8270SIM     |        |     |          |      |       |    | Analyst: DAM         |          |
| Surr: 2-Fluorobiphenyl | 0      | 0   | 15-84.5  | SD   | %Rec  | 10 | 9/27/2021 6:58:00 PM | 62703    |
| Surr: 4-Terphenyl-d14  | 0      | 0   | 73.1-152 | SD   | %Rec  | 10 | 9/27/2021 6:58:00 PM | 62703    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |



## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: Additional Well Install

Lab ID: 2109A01-005E

Client Sample ID: MKTF-01R

Collection Date: 9/17/2021 10:35:00 AM

Matrix: Aqueous

| Analyses                        | Result | MDL   | RL    | Qual | Units   | DF  | Date Analyzed         | Batch ID |
|---------------------------------|--------|-------|-------|------|---------|-----|-----------------------|----------|
| <b>EPA METHOD 300.0: ANIONS</b> |        |       |       |      |         |     | Analyst: <b>LRN</b>   |          |
| Fluoride                        | 0.43   | 0.20  | 0.50  | J    | mg/L    | 5   | 9/18/2021 2:31:50 PM  | R81380   |
| Chloride                        | 1200   | 25    | 50    | *    | mg/L    | 100 | 9/22/2021 12:26:46 PM | R81507   |
| Nitrogen, Nitrite (As N)        | ND     | 0.027 | 0.50  |      | mg/L    | 5   | 9/18/2021 2:31:50 PM  | R81380   |
| Nitrogen, Nitrate (As N)        | ND     | 0.050 | 0.50  |      | mg/L    | 5   | 9/18/2021 2:31:50 PM  | R81380   |
| Sulfate                         | 13     | 1.2   | 2.5   |      | mg/L    | 5   | 9/18/2021 2:31:50 PM  | R81380   |
| <b>SM2320B: ALKALINITY</b>      |        |       |       |      |         |     | Analyst: <b>CAS</b>   |          |
| Bicarbonate (As CaCO3)          | 611.8  | 20.00 | 20.00 |      | mg/L Ca | 1   | 9/21/2021 8:24:10 PM  | R81457   |
| Carbonate (As CaCO3)            | ND     | 2.000 | 2.000 |      | mg/L Ca | 1   | 9/21/2021 8:24:10 PM  | R81457   |
| Total Alkalinity (as CaCO3)     | 611.8  | 20.00 | 20.00 |      | mg/L Ca | 1   | 9/21/2021 8:24:10 PM  | R81457   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-01R

Project: Additional Well Install

Collection Date: 9/17/2021 10:35:00 AM

Lab ID: 2109A01-005F

Matrix: Aqueous

| Analyses                         | Result | MDL     | RL      | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------|--------|---------|---------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 200.7: METALS</b>  |        |         |         |      |       |    | Analyst: ELS          |          |
| Barium                           | 5.4    | 0.016   | 0.030   | *    | mg/L  | 10 | 9/24/2021 1:45:04 PM  | 62792    |
| Beryllium                        | ND     | 0.00088 | 0.0020  |      | mg/L  | 1  | 9/24/2021 1:43:42 PM  | 62792    |
| Cadmium                          | ND     | 0.0015  | 0.0020  |      | mg/L  | 1  | 9/24/2021 1:43:42 PM  | 62792    |
| Calcium                          | 230    | 1.1     | 10      |      | mg/L  | 10 | 9/24/2021 1:45:04 PM  | 62792    |
| Chromium                         | ND     | 0.0021  | 0.0060  |      | mg/L  | 1  | 9/24/2021 1:43:42 PM  | 62792    |
| Cobalt                           | 0.012  | 0.0024  | 0.0060  |      | mg/L  | 1  | 9/24/2021 1:43:42 PM  | 62792    |
| Iron                             | 5.7    | 0.13    | 0.50    | *    | mg/L  | 10 | 9/24/2021 1:45:04 PM  | 62792    |
| Magnesium                        | 55     | 0.067   | 1.0     |      | mg/L  | 1  | 9/24/2021 1:43:42 PM  | 62792    |
| Manganese                        | 3.4    | 0.0081  | 0.020   | *    | mg/L  | 10 | 9/24/2021 1:45:04 PM  | 62792    |
| Nickel                           | 0.035  | 0.0033  | 0.010   |      | mg/L  | 1  | 9/24/2021 1:43:42 PM  | 62792    |
| Potassium                        | 2.9    | 0.16    | 1.0     |      | mg/L  | 1  | 9/24/2021 1:43:42 PM  | 62792    |
| Silver                           | ND     | 0.0013  | 0.0050  |      | mg/L  | 1  | 9/24/2021 1:43:42 PM  | 62792    |
| Sodium                           | 720    | 1.9     | 10      |      | mg/L  | 10 | 9/24/2021 1:45:04 PM  | 62792    |
| Vanadium                         | ND     | 0.0024  | 0.050   |      | mg/L  | 1  | 9/24/2021 1:43:42 PM  | 62792    |
| Zinc                             | ND     | 0.0064  | 0.010   |      | mg/L  | 1  | 9/24/2021 1:43:42 PM  | 62792    |
| <b>EPA 200.8: METALS</b>         |        |         |         |      |       |    | Analyst: bcv          |          |
| Antimony                         | ND     | 0.0022  | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:41:02 PM  | 62792    |
| Arsenic                          | 0.0076 | 0.00063 | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:41:02 PM  | 62792    |
| Lead                             | 0.0095 | 0.00031 | 0.0025  |      | mg/L  | 5  | 9/30/2021 3:41:02 PM  | 62792    |
| Selenium                         | ND     | 0.0019  | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:41:02 PM  | 62792    |
| <b>EPA METHOD 245.1: MERCURY</b> |        |         |         |      |       |    | Analyst: ags          |          |
| Mercury                          | ND     | 0.00012 | 0.00020 |      | mg/L  | 1  | 9/28/2021 12:46:42 PM | 62854    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: Additional Well Install

Lab ID: 2109A01-005G

Client Sample ID: MKTF-01R

Collection Date: 9/17/2021 10:35:00 AM

Matrix: Aqueous

| Analyses                                  | Result | MDL     | RL      | Qual | Units | DF | Date Analyzed         | Batch ID |
|-------------------------------------------|--------|---------|---------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 200.7: DISSOLVED METALS</b> |        |         |         |      |       |    | Analyst: ELS          |          |
| Barium                                    | 4.7    | 0.0056  | 0.010   | *    | mg/L  | 5  | 9/21/2021 12:16:07 PM | B81434   |
| Beryllium                                 | ND     | 0.00088 | 0.0020  |      | mg/L  | 1  | 9/21/2021 12:14:39 PM | B81434   |
| Cadmium                                   | ND     | 0.0012  | 0.0020  |      | mg/L  | 1  | 9/21/2021 12:14:39 PM | B81434   |
| Chromium                                  | ND     | 0.0020  | 0.0060  |      | mg/L  | 1  | 9/21/2021 12:14:39 PM | B81434   |
| Cobalt                                    | 0.0080 | 0.0024  | 0.0060  |      | mg/L  | 1  | 9/21/2021 12:14:39 PM | B81434   |
| Iron                                      | 4.5    | 0.052   | 0.10    | *    | mg/L  | 5  | 9/21/2021 12:16:07 PM | B81434   |
| Manganese                                 | 3.1    | 0.0029  | 0.010   | *    | mg/L  | 5  | 9/21/2021 12:16:07 PM | B81434   |
| Nickel                                    | 0.029  | 0.0033  | 0.010   |      | mg/L  | 1  | 9/21/2021 12:14:39 PM | B81434   |
| Silver                                    | ND     | 0.0013  | 0.0050  |      | mg/L  | 1  | 9/21/2021 12:14:39 PM | B81434   |
| Vanadium                                  | ND     | 0.0020  | 0.050   |      | mg/L  | 1  | 9/21/2021 12:14:39 PM | B81434   |
| Zinc                                      | 0.011  | 0.0060  | 0.010   |      | mg/L  | 1  | 9/21/2021 12:14:39 PM | B81434   |
| <b>EPA 200.8: DISSOLVED METALS</b>        |        |         |         |      |       |    | Analyst: bcv          |          |
| Antimony                                  | ND     | 0.0044  | 0.010   |      | mg/L  | 10 | 9/29/2021 4:01:13 PM  | C81686   |
| Arsenic                                   | 0.0066 | 0.0012  | 0.010   | J    | mg/L  | 10 | 9/29/2021 4:01:13 PM  | C81686   |
| Lead                                      | ND     | 0.00057 | 0.0050  |      | mg/L  | 10 | 9/29/2021 4:01:13 PM  | C81686   |
| Selenium                                  | ND     | 0.0034  | 0.010   |      | mg/L  | 10 | 9/29/2021 4:01:13 PM  | C81686   |
| <b>EPA METHOD 245.1: MERCURY</b>          |        |         |         |      |       |    | Analyst: ags          |          |
| Mercury                                   | ND     | 0.00012 | 0.00020 |      | mg/L  | 1  | 9/28/2021 12:49:08 PM | 62854    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-02R

Project: Additional Well Install

Collection Date: 9/17/2021 11:00:00 AM

Lab ID: 2109A01-006A

Matrix: Aqueous

| Analyses                       | Result | MDL  | RL  | Qual | Units | DF | Date Analyzed        | Batch ID |
|--------------------------------|--------|------|-----|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES    |        |      |     |      |       |    | Analyst: mb          |          |
| Benzene                        | 29     | 1.1  | 5.0 |      | µg/L  | 5  | 9/23/2021 5:21:04 PM | R81542   |
| Toluene                        | ND     | 1.0  | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Ethylbenzene                   | ND     | 1.1  | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Methyl tert-butyl ether (MTBE) | 45     | 2.0  | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1,2,4-Trimethylbenzene         | ND     | 0.61 | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1,3,5-Trimethylbenzene         | ND     | 0.91 | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1,2-Dichloroethane (EDC)       | 67     | 1.3  | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1,2-Dibromoethane (EDB)        | ND     | 1.5  | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Naphthalene                    | ND     | 2.5  | 10  |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1-Methylnaphthalene            | ND     | 4.2  | 20  |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 2-Methylnaphthalene            | ND     | 3.5  | 20  |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Acetone                        | ND     | 13   | 50  |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Bromobenzene                   | ND     | 1.4  | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Bromodichloromethane           | ND     | 1.0  | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Bromoform                      | ND     | 1.6  | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Bromomethane                   | ND     | 4.3  | 15  |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 2-Butanone                     | ND     | 10   | 50  |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Carbon disulfide               | ND     | 3.0  | 50  |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Carbon Tetrachloride           | ND     | 0.88 | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Chlorobenzene                  | ND     | 0.78 | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Chloroethane                   | 4.5    | 1.9  | 10  | J    | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Chloroform                     | 1.3    | 0.67 | 5.0 | J    | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Chloromethane                  | 3.2    | 2.1  | 15  | J    | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 2-Chlorotoluene                | ND     | 0.66 | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 4-Chlorotoluene                | ND     | 1.7  | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| cis-1,2-DCE                    | 3.1    | 1.9  | 5.0 | J    | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| cis-1,3-Dichloropropene        | ND     | 1.8  | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1,2-Dibromo-3-chloropropane    | ND     | 2.9  | 10  |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Dibromochloromethane           | ND     | 1.4  | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Dibromomethane                 | ND     | 1.5  | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1,2-Dichlorobenzene            | ND     | 0.77 | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1,3-Dichlorobenzene            | ND     | 0.81 | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1,4-Dichlorobenzene            | ND     | 1.0  | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Dichlorodifluoromethane        | ND     | 2.0  | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1,1-Dichloroethane             | 110    | 1.4  | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1,1-Dichloroethene             | 280    | 1.0  | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1,2-Dichloropropane            | ND     | 1.0  | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1,3-Dichloropropane            | ND     | 0.90 | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 2,2-Dichloropropane            | ND     | 1.3  | 10  |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1,1-Dichloropropene            | ND     | 0.90 | 5.0 |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: Additional Well Install

Lab ID: 2109A01-006A

Client Sample ID: MKTF-02R

Collection Date: 9/17/2021 11:00:00 AM

Matrix: Aqueous

| Analyses                                | Result | MDL   | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------------------|--------|-------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>      |        |       |        |      |       |    | Analyst: mb          |          |
| Hexachlorobutadiene                     | ND     | 2.8   | 5.0    |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 2-Hexanone                              | ND     | 9.0   | 50     |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Isopropylbenzene                        | ND     | 0.91  | 5.0    |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 4-Isopropyltoluene                      | ND     | 1.0   | 5.0    |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 4-Methyl-2-pentanone                    | ND     | 4.4   | 50     |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Methylene Chloride                      | ND     | 2.5   | 15     |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| n-Butylbenzene                          | ND     | 1.3   | 15     |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| n-Propylbenzene                         | ND     | 0.91  | 5.0    |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| sec-Butylbenzene                        | ND     | 0.72  | 5.0    |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Styrene                                 | ND     | 0.68  | 5.0    |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| tert-Butylbenzene                       | ND     | 1.2   | 5.0    |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1,1,1,2-Tetrachloroethane               | ND     | 1.3   | 5.0    |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1,1,2,2-Tetrachloroethane               | ND     | 1.4   | 10     |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Tetrachloroethene (PCE)                 | ND     | 1.8   | 5.0    |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| trans-1,2-DCE                           | ND     | 0.97  | 5.0    |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| trans-1,3-Dichloropropene               | ND     | 1.7   | 5.0    |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1,2,3-Trichlorobenzene                  | ND     | 1.2   | 5.0    |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1,2,4-Trichlorobenzene                  | ND     | 1.2   | 5.0    |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1,1,1-Trichloroethane                   | ND     | 1.5   | 5.0    |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1,1,2-Trichloroethane                   | 7.9    | 0.99  | 5.0    |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Trichloroethene (TCE)                   | 23     | 1.0   | 5.0    |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Trichlorofluoromethane                  | ND     | 0.79  | 5.0    |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| 1,2,3-Trichloropropane                  | ND     | 2.2   | 10     |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Vinyl chloride                          | 1.9    | 1.6   | 5.0    | J    | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Xylenes, Total                          | ND     | 1.9   | 7.5    |      | µg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Surr: 1,2-Dichloroethane-d4             | 112    | 0     | 70-130 |      | %Rec  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 101    | 0     | 70-130 |      | %Rec  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Surr: Dibromofluoromethane              | 101    | 0     | 70-130 |      | %Rec  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Surr: Toluene-d8                        | 102    | 0     | 70-130 |      | %Rec  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b> |        |       |        |      |       |    | Analyst: mb          |          |
| Gasoline Range Organics (GRO)           | 0.56   | 0.061 | 0.25   |      | mg/L  | 5  | 9/23/2021 5:50:41 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 104    | 0     | 70-130 |      | %Rec  | 5  | 9/23/2021 5:50:41 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-02R

Project: Additional Well Install

Collection Date: 9/17/2021 11:00:00 AM

Lab ID: 2109A01-006C

Matrix: Aqueous

| Analyses                           | Result | MDL   | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------------------|--------|-------|--------|------|-------|----|----------------------|----------|
| EPA METHOD 8015D MOD: DIESEL RANGE |        |       |        |      |       |    | Analyst: SB          |          |
| Diesel Range Organics (DRO)        | 0.22   | 0.016 | 0.064  |      | mg/L  | 1  | 9/28/2021 3:39:47 PM | 62729    |
| Motor Oil Range Organics (MRO)     | ND     | 0.052 | 0.080  |      | mg/L  | 1  | 9/28/2021 3:39:47 PM | 62729    |
| Surr: DNOP                         | 99.9   | 0     | 15-142 |      | %Rec  | 1  | 9/28/2021 3:39:47 PM | 62729    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-02R

Project: Additional Well Install

Collection Date: 9/17/2021 11:00:00 AM

Lab ID: 2109A01-006D

Matrix: Aqueous

| Analyses                        | Result | MDL  | RL  | Qual | Units | DF | Date Analyzed        | Batch ID |
|---------------------------------|--------|------|-----|------|-------|----|----------------------|----------|
| EPA METHOD 8270C: SEMIVOLATILES |        |      |     |      |       |    | Analyst: DAM         |          |
| Aniline                         | ND     | 0.50 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Azobenzene                      | ND     | 0.55 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Benzoic acid                    | ND     | 1.1  | 20  |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Benzyl alcohol                  | ND     | 0.68 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Bis(2-chloroethoxy)methane      | ND     | 0.41 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Bis(2-chloroethyl)ether         | ND     | 0.63 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Bis(2-chloroisopropyl)ether     | ND     | 0.54 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Bis(2-ethylhexyl)phthalate      | ND     | 4.5  | 10  |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 4-Bromophenyl phenyl ether      | ND     | 0.77 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Butyl benzyl phthalate          | ND     | 0.74 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Carbazole                       | ND     | 0.56 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 4-Chloro-3-methylphenol         | ND     | 0.41 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 4-Chloroaniline                 | ND     | 0.53 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 2-Chloronaphthalene             | ND     | 0.59 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 2-Chlorophenol                  | ND     | 0.62 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 4-Chlorophenyl phenyl ether     | ND     | 0.57 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Di-n-butyl phthalate            | ND     | 6.5  | 10  |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Di-n-octyl phthalate            | ND     | 3.1  | 20  |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Dibenzofuran                    | ND     | 0.38 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 1,2-Dichlorobenzene             | ND     | 0.75 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 1,3-Dichlorobenzene             | ND     | 0.64 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 1,4-Dichlorobenzene             | ND     | 0.70 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 3,3'-Dichlorobenzidine          | ND     | 0.51 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Diethyl phthalate               | ND     | 3.9  | 10  |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Dimethyl phthalate              | ND     | 2.0  | 10  |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 2,4-Dichlorophenol              | ND     | 0.58 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 2,4-Dimethylphenol              | ND     | 0.97 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.53 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 2,4-Dinitrophenol               | ND     | 0.50 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 2,4-Dinitrotoluene              | ND     | 0.62 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 2,6-Dinitrotoluene              | ND     | 0.58 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Hexachlorobenzene               | ND     | 0.66 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Hexachlorobutadiene             | ND     | 0.82 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Hexachlorocyclopentadiene       | ND     | 0.65 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Hexachloroethane                | ND     | 0.45 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Isophorone                      | ND     | 0.40 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 2-Methylphenol                  | ND     | 0.51 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 3+4-Methylphenol                | ND     | 0.45 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| N-Nitrosodi-n-propylamine       | ND     | 0.48 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| N-Nitrosodimethylamine          | ND     | 0.36 | 5.0 |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |



## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-02R

Project: Additional Well Install

Collection Date: 9/17/2021 11:00:00 AM

Lab ID: 2109A01-006D

Matrix: Aqueous

| Analyses                               | Result | MDL   | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------------|--------|-------|-----------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |           |      |       |    | Analyst: DAM         |          |
| N-Nitrosodiphenylamine                 | ND     | 1.0   | 5.0       |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 2-Nitroaniline                         | ND     | 0.31  | 5.0       |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 3-Nitroaniline                         | ND     | 1.6   | 5.0       |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 4-Nitroaniline                         | ND     | 0.47  | 5.0       |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Nitrobenzene                           | ND     | 0.51  | 5.0       |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 2-Nitrophenol                          | ND     | 0.47  | 5.0       |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 4-Nitrophenol                          | ND     | 0.28  | 5.0       |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Pentachlorophenol                      | ND     | 0.59  | 20        |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Phenol                                 | 0.76   | 0.33  | 5.0       | J    | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Pyridine                               | ND     | 0.93  | 5.0       |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.58  | 5.0       |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 2,4,5-Trichlorophenol                  | ND     | 0.62  | 5.0       |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| 2,4,6-Trichlorophenol                  | ND     | 0.43  | 5.0       |      | µg/L  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Surr: 2-Fluorophenol                   | 54.0   | 0     | 15-87     |      | %Rec  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Surr: Phenol-d5                        | 41.1   | 0     | 15-67.5   |      | %Rec  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Surr: 2,4,6-Tribromophenol             | 83.5   | 0     | 15-122    |      | %Rec  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Surr: Nitrobenzene-d5                  | 64.4   | 0     | 15-103    |      | %Rec  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Surr: 2-Fluorobiphenyl                 | 60.8   | 0     | 15-103    |      | %Rec  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| Surr: 4-Terphenyl-d14                  | 65.5   | 0     | 45-137    |      | %Rec  | 1  | 9/24/2021 9:54:33 PM | 62689    |
| <b>EPA METHOD 8270SIM</b>              |        |       |           |      |       |    | Analyst: DAM         |          |
| Naphthalene                            | ND     | 0.034 | 0.10      |      | µg/L  | 1  | 9/27/2021 7:42:00 PM | 62703    |
| 1-Methylnaphthalene                    | ND     | 0.024 | 0.10      |      | µg/L  | 1  | 9/27/2021 7:42:00 PM | 62703    |
| 2-Methylnaphthalene                    | ND     | 0.034 | 0.10      |      | µg/L  | 1  | 9/27/2021 7:42:00 PM | 62703    |
| Acenaphthylene                         | ND     | 0.043 | 0.10      |      | µg/L  | 1  | 9/27/2021 7:42:00 PM | 62703    |
| Acenaphthene                           | ND     | 0.031 | 0.10      |      | µg/L  | 1  | 9/27/2021 7:42:00 PM | 62703    |
| Fluorene                               | ND     | 0.031 | 0.10      |      | µg/L  | 1  | 9/27/2021 7:42:00 PM | 62703    |
| Phenanthrene                           | ND     | 0.057 | 0.10      |      | µg/L  | 1  | 9/27/2021 7:42:00 PM | 62703    |
| Anthracene                             | ND     | 0.034 | 0.10      |      | µg/L  | 1  | 9/27/2021 7:42:00 PM | 62703    |
| Fluoranthene                           | ND     | 0.10  | 0.20      |      | µg/L  | 1  | 9/27/2021 7:42:00 PM | 62703    |
| Pyrene                                 | ND     | 0.16  | 0.20      |      | µg/L  | 1  | 9/27/2021 7:42:00 PM | 62703    |
| Benz(a)anthracene                      | ND     | 0.036 | 0.10      |      | µg/L  | 1  | 9/27/2021 7:42:00 PM | 62703    |
| Chrysene                               | ND     | 0.024 | 0.10      |      | µg/L  | 1  | 9/27/2021 7:42:00 PM | 62703    |
| Benzo(b)fluoranthene                   | ND     | 0.057 | 0.10      |      | µg/L  | 1  | 9/27/2021 7:42:00 PM | 62703    |
| Benzo(k)fluoranthene                   | ND     | 0.036 | 0.10      |      | µg/L  | 1  | 9/27/2021 7:42:00 PM | 62703    |
| Benzo(a)pyrene                         | ND     | 0.034 | 0.070     |      | µg/L  | 1  | 9/27/2021 7:42:00 PM | 62703    |
| Dibenz(a,h)anthracene                  | ND     | 0.034 | 0.10      |      | µg/L  | 1  | 9/27/2021 7:42:00 PM | 62703    |
| Benzo(g,h,i)perylene                   | ND     | 0.034 | 0.10      |      | µg/L  | 1  | 9/27/2021 7:42:00 PM | 62703    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.043 | 0.30      |      | µg/L  | 1  | 9/27/2021 7:42:00 PM | 62703    |
| Surr: Nitrobenzene-d5                  | 54.0   | 0     | 21.9-89.8 |      | %Rec  | 1  | 9/27/2021 7:42:00 PM | 62703    |
| Surr: 2,4,6-Tribromophenol             | 65.2   | 0     | 23.4-71.6 |      | %Rec  | 1  | 9/27/2021 7:42:00 PM | 62703    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-02R

Project: Additional Well Install

Collection Date: 9/17/2021 11:00:00 AM

Lab ID: 2109A01-006D

Matrix: Aqueous

| Analyses               | Result | MDL | RL       | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------|--------|-----|----------|------|-------|----|----------------------|----------|
| EPA METHOD 8270SIM     |        |     |          |      |       |    | Analyst: DAM         |          |
| Surr: 2-Fluorobiphenyl | 42.0   | 0   | 15-84.5  |      | %Rec  | 1  | 9/27/2021 7:42:00 PM | 62703    |
| Surr: 4-Terphenyl-d14  | 94.5   | 0   | 73.1-152 |      | %Rec  | 1  | 9/27/2021 7:42:00 PM | 62703    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: Additional Well Install

Lab ID: 2109A01-006E

Client Sample ID: MKTF-02R

Collection Date: 9/17/2021 11:00:00 AM

Matrix: Aqueous

| Analyses                        | Result | MDL   | RL    | Qual | Units   | DF  | Date Analyzed         | Batch ID |
|---------------------------------|--------|-------|-------|------|---------|-----|-----------------------|----------|
| <b>EPA METHOD 300.0: ANIONS</b> |        |       |       |      |         |     | Analyst: LRN          |          |
| Fluoride                        | ND     | 0.20  | 0.50  |      | mg/L    | 5   | 9/18/2021 2:57:36 PM  | R81380   |
| Chloride                        | 1800   | 50    | 100   | *    | mg/L    | 200 | 9/22/2021 12:39:38 PM | R81507   |
| Nitrogen, Nitrite (As N)        | ND     | 0.027 | 0.50  |      | mg/L    | 5   | 9/18/2021 2:57:36 PM  | R81380   |
| Nitrogen, Nitrate (As N)        | 0.20   | 0.050 | 0.50  | J    | mg/L    | 5   | 9/18/2021 2:57:36 PM  | R81380   |
| Sulfate                         | 710    | 5.0   | 10    | *    | mg/L    | 20  | 9/18/2021 3:10:28 PM  | R81380   |
| <b>SM2320B: ALKALINITY</b>      |        |       |       |      |         |     | Analyst: LRN          |          |
| Bicarbonate (As CaCO3)          | 146.6  | 20.00 | 20.00 |      | mg/L Ca | 1   | 9/23/2021 9:13:30 PM  | R81582   |
| Carbonate (As CaCO3)            | ND     | 2.000 | 2.000 |      | mg/L Ca | 1   | 9/23/2021 9:13:30 PM  | R81582   |
| Total Alkalinity (as CaCO3)     | 146.6  | 20.00 | 20.00 |      | mg/L Ca | 1   | 9/23/2021 9:13:30 PM  | R81582   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-02R

Project: Additional Well Install

Collection Date: 9/17/2021 11:00:00 AM

Lab ID: 2109A01-006F

Matrix: Aqueous

| Analyses                         | Result | MDL     | RL      | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------|--------|---------|---------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 200.7: METALS</b>  |        |         |         |      |       |    | Analyst: ELS          |          |
| Barium                           | 0.056  | 0.0016  | 0.0030  |      | mg/L  | 1  | 9/24/2021 1:46:29 PM  | 62792    |
| Beryllium                        | ND     | 0.00088 | 0.0020  |      | mg/L  | 1  | 9/24/2021 1:46:29 PM  | 62792    |
| Cadmium                          | ND     | 0.0015  | 0.0020  |      | mg/L  | 1  | 9/24/2021 1:46:29 PM  | 62792    |
| Calcium                          | 310    | 1.1     | 10      |      | mg/L  | 10 | 9/24/2021 1:48:05 PM  | 62792    |
| Chromium                         | ND     | 0.0021  | 0.0060  |      | mg/L  | 1  | 9/24/2021 1:46:29 PM  | 62792    |
| Cobalt                           | 0.0053 | 0.0024  | 0.0060  | J    | mg/L  | 1  | 9/24/2021 1:46:29 PM  | 62792    |
| Iron                             | 0.047  | 0.013   | 0.050   | J    | mg/L  | 1  | 9/24/2021 1:46:29 PM  | 62792    |
| Magnesium                        | 48     | 0.067   | 1.0     |      | mg/L  | 1  | 9/24/2021 1:46:29 PM  | 62792    |
| Manganese                        | 0.095  | 0.00081 | 0.0020  | *    | mg/L  | 1  | 9/24/2021 1:46:29 PM  | 62792    |
| Nickel                           | 0.0063 | 0.0033  | 0.010   | J    | mg/L  | 1  | 9/24/2021 1:46:29 PM  | 62792    |
| Potassium                        | 13     | 0.16    | 1.0     |      | mg/L  | 1  | 9/24/2021 1:46:29 PM  | 62792    |
| Silver                           | 0.0014 | 0.0013  | 0.0050  | J    | mg/L  | 1  | 9/24/2021 1:46:29 PM  | 62792    |
| Sodium                           | 1100   | 3.7     | 20      |      | mg/L  | 20 | 9/28/2021 11:09:50 AM | 62792    |
| Vanadium                         | ND     | 0.0024  | 0.050   |      | mg/L  | 1  | 9/24/2021 1:46:29 PM  | 62792    |
| Zinc                             | 0.019  | 0.0064  | 0.010   |      | mg/L  | 1  | 9/24/2021 1:46:29 PM  | 62792    |
| <b>EPA 200.8: METALS</b>         |        |         |         |      |       |    | Analyst: bcv          |          |
| Antimony                         | ND     | 0.0022  | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:43:27 PM  | 62792    |
| Arsenic                          | 0.0010 | 0.00063 | 0.0050  | J    | mg/L  | 5  | 9/30/2021 3:43:27 PM  | 62792    |
| Lead                             | ND     | 0.00031 | 0.0025  |      | mg/L  | 5  | 9/30/2021 3:43:27 PM  | 62792    |
| Selenium                         | ND     | 0.0019  | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:43:27 PM  | 62792    |
| <b>EPA METHOD 245.1: MERCURY</b> |        |         |         |      |       |    | Analyst: ags          |          |
| Mercury                          | ND     | 0.00012 | 0.00020 |      | mg/L  | 1  | 9/28/2021 12:56:25 PM | 62854    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-02R

Project: Additional Well Install

Collection Date: 9/17/2021 11:00:00 AM

Lab ID: 2109A01-006G

Matrix: Aqueous

| Analyses                                  | Result | MDL     | RL      | Qual | Units | DF | Date Analyzed         | Batch ID |
|-------------------------------------------|--------|---------|---------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 200.7: DISSOLVED METALS</b> |        |         |         |      |       |    | Analyst: ELS          |          |
| Barium                                    | 0.048  | 0.0011  | 0.0020  |      | mg/L  | 1  | 9/21/2021 12:17:34 PM | B81434   |
| Beryllium                                 | ND     | 0.00088 | 0.0020  |      | mg/L  | 1  | 9/21/2021 12:17:34 PM | B81434   |
| Cadmium                                   | ND     | 0.0012  | 0.0020  |      | mg/L  | 1  | 9/21/2021 12:17:34 PM | B81434   |
| Chromium                                  | ND     | 0.0020  | 0.0060  |      | mg/L  | 1  | 9/21/2021 12:17:34 PM | B81434   |
| Cobalt                                    | 0.0050 | 0.0024  | 0.0060  | J    | mg/L  | 1  | 9/21/2021 12:17:34 PM | B81434   |
| Iron                                      | ND     | 0.010   | 0.020   |      | mg/L  | 1  | 9/21/2021 12:17:34 PM | B81434   |
| Manganese                                 | 0.087  | 0.00058 | 0.0020  | *    | mg/L  | 1  | 9/21/2021 12:17:34 PM | B81434   |
| Nickel                                    | ND     | 0.0033  | 0.010   |      | mg/L  | 1  | 9/21/2021 12:17:34 PM | B81434   |
| Silver                                    | ND     | 0.0013  | 0.0050  |      | mg/L  | 1  | 9/21/2021 12:17:34 PM | B81434   |
| Vanadium                                  | 0.0022 | 0.0020  | 0.050   | J    | mg/L  | 1  | 9/21/2021 12:17:34 PM | B81434   |
| Zinc                                      | 0.034  | 0.0060  | 0.010   |      | mg/L  | 1  | 9/21/2021 12:17:34 PM | B81434   |
| <b>EPA 200.8: DISSOLVED METALS</b>        |        |         |         |      |       |    | Analyst: bcv          |          |
| Antimony                                  | ND     | 0.0044  | 0.010   |      | mg/L  | 10 | 9/29/2021 4:03:53 PM  | C81686   |
| Arsenic                                   | ND     | 0.0012  | 0.010   |      | mg/L  | 10 | 9/29/2021 4:03:53 PM  | C81686   |
| Lead                                      | ND     | 0.00057 | 0.0050  |      | mg/L  | 10 | 9/29/2021 4:03:53 PM  | C81686   |
| Selenium                                  | ND     | 0.0034  | 0.010   |      | mg/L  | 10 | 9/29/2021 4:03:53 PM  | C81686   |
| <b>EPA METHOD 245.1: MERCURY</b>          |        |         |         |      |       |    | Analyst: ags          |          |
| Mercury                                   | ND     | 0.00012 | 0.00020 |      | mg/L  | 1  | 9/28/2021 12:58:52 PM | 62854    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-68

Project: Additional Well Install

Collection Date: 9/17/2021 11:55:00 AM

Lab ID: 2109A01-007A

Matrix: Aqueous

| Analyses                       | Result | MDL  | RL  | Qual | Units | DF | Date Analyzed        | Batch ID |
|--------------------------------|--------|------|-----|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES    |        |      |     |      |       |    | Analyst: mb          |          |
| Benzene                        | 0.78   | 0.23 | 1.0 | J    | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Toluene                        | ND     | 0.20 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Ethylbenzene                   | 0.85   | 0.21 | 1.0 | J    | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Methyl tert-butyl ether (MTBE) | 1.3    | 0.39 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1,2,4-Trimethylbenzene         | 0.58   | 0.12 | 1.0 | J    | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1,3,5-Trimethylbenzene         | ND     | 0.18 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1,2-Dichloroethane (EDC)       | 0.30   | 0.25 | 1.0 | J    | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1,2-Dibromoethane (EDB)        | ND     | 0.30 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Naphthalene                    | ND     | 0.50 | 2.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1-Methylnaphthalene            | ND     | 0.84 | 4.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 2-Methylnaphthalene            | ND     | 0.69 | 4.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Acetone                        | 5.2    | 2.5  | 10  | J    | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Bromobenzene                   | ND     | 0.28 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Bromodichloromethane           | ND     | 0.20 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Bromoform                      | ND     | 0.31 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Bromomethane                   | ND     | 0.85 | 3.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 2-Butanone                     | 2.0    | 2.0  | 10  | J    | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Carbon disulfide               | ND     | 0.59 | 10  |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Carbon Tetrachloride           | ND     | 0.18 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Chlorobenzene                  | ND     | 0.16 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Chloroethane                   | ND     | 0.38 | 2.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Chloroform                     | ND     | 0.13 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Chloromethane                  | 2.3    | 0.41 | 3.0 | J    | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 2-Chlorotoluene                | ND     | 0.13 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 4-Chlorotoluene                | ND     | 0.34 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| cis-1,2-DCE                    | ND     | 0.39 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| cis-1,3-Dichloropropene        | ND     | 0.36 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1,2-Dibromo-3-chloropropane    | ND     | 0.59 | 2.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Dibromochloromethane           | ND     | 0.28 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Dibromomethane                 | ND     | 0.31 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1,2-Dichlorobenzene            | ND     | 0.15 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1,3-Dichlorobenzene            | ND     | 0.16 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1,4-Dichlorobenzene            | ND     | 0.21 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Dichlorodifluoromethane        | ND     | 0.40 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1,1-Dichloroethane             | ND     | 0.27 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1,1-Dichloroethene             | ND     | 0.20 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1,2-Dichloropropane            | ND     | 0.20 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1,3-Dichloropropane            | ND     | 0.18 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 2,2-Dichloropropane            | ND     | 0.26 | 2.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1,1-Dichloropropene            | ND     | 0.18 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-68

Project: Additional Well Install

Collection Date: 9/17/2021 11:55:00 AM

Lab ID: 2109A01-007A

Matrix: Aqueous

| Analyses                                | Result | MDL   | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------------------|--------|-------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>      |        |       |        |      |       |    | Analyst: mb          |          |
| Hexachlorobutadiene                     | ND     | 0.56  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 2-Hexanone                              | ND     | 1.8   | 10     |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Isopropylbenzene                        | ND     | 0.18  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 4-Isopropyltoluene                      | ND     | 0.20  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 4-Methyl-2-pentanone                    | ND     | 0.88  | 10     |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Methylene Chloride                      | ND     | 0.50  | 3.0    |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| n-Butylbenzene                          | ND     | 0.25  | 3.0    |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| n-Propylbenzene                         | 0.30   | 0.18  | 1.0    | J    | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| sec-Butylbenzene                        | ND     | 0.14  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Styrene                                 | ND     | 0.14  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| tert-Butylbenzene                       | ND     | 0.24  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1,1,1,2-Tetrachloroethane               | ND     | 0.27  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1,1,2,2-Tetrachloroethane               | ND     | 0.27  | 2.0    |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Tetrachloroethene (PCE)                 | ND     | 0.36  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| trans-1,2-DCE                           | ND     | 0.19  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| trans-1,3-Dichloropropene               | ND     | 0.34  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1,2,3-Trichlorobenzene                  | 0.37   | 0.25  | 1.0    | J    | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1,2,4-Trichlorobenzene                  | ND     | 0.24  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1,1,1-Trichloroethane                   | ND     | 0.30  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1,1,2-Trichloroethane                   | ND     | 0.20  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Trichloroethene (TCE)                   | ND     | 0.20  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Trichlorofluoromethane                  | ND     | 0.16  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| 1,2,3-Trichloropropane                  | ND     | 0.44  | 2.0    |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Vinyl chloride                          | ND     | 0.32  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Xylenes, Total                          | 0.87   | 0.37  | 1.5    | J    | µg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Surr: 1,2-Dichloroethane-d4             | 113    | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 97.9   | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Surr: Dibromofluoromethane              | 108    | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Surr: Toluene-d8                        | 102    | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b> |        |       |        |      |       |    | Analyst: mb          |          |
| Gasoline Range Organics (GRO)           | 1.7    | 0.012 | 0.050  |      | mg/L  | 1  | 9/23/2021 6:19:17 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 95.9   | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 6:19:17 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |



## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-68

Project: Additional Well Install

Collection Date: 9/17/2021 11:55:00 AM

Lab ID: 2109A01-007C

Matrix: Aqueous

| Analyses                           | Result | MDL   | RL     | Qual | Units | DF | Date Analyzed         | Batch ID |
|------------------------------------|--------|-------|--------|------|-------|----|-----------------------|----------|
| EPA METHOD 8015D MOD: DIESEL RANGE |        |       |        |      |       |    | Analyst: BRM          |          |
| Diesel Range Organics (DRO)        | 1.1    | 0.016 | 0.064  |      | mg/L  | 1  | 9/30/2021 10:38:45 AM | 62729    |
| Motor Oil Range Organics (MRO)     | 0.12   | 0.052 | 0.080  |      | mg/L  | 1  | 9/30/2021 10:38:45 AM | 62729    |
| Surr: DNOP                         | 91.7   | 0     | 15-142 |      | %Rec  | 1  | 9/30/2021 10:38:45 AM | 62729    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-68

Project: Additional Well Install

Collection Date: 9/17/2021 11:55:00 AM

Lab ID: 2109A01-007D

Matrix: Aqueous

| Analyses                        | Result | MDL  | RL  | Qual | Units | DF | Date Analyzed         | Batch ID |
|---------------------------------|--------|------|-----|------|-------|----|-----------------------|----------|
| EPA METHOD 8270C: SEMIVOLATILES |        |      |     |      |       |    | Analyst: DAM          |          |
| Aniline                         | ND     | 0.50 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Azobenzene                      | ND     | 0.55 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Benzoic acid                    | ND     | 1.1  | 20  |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Benzyl alcohol                  | ND     | 0.68 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Bis(2-chloroethoxy)methane      | ND     | 0.41 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Bis(2-chloroethyl)ether         | ND     | 0.63 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Bis(2-chloroisopropyl)ether     | ND     | 0.54 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Bis(2-ethylhexyl)phthalate      | ND     | 4.5  | 10  |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 4-Bromophenyl phenyl ether      | ND     | 0.77 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Butyl benzyl phthalate          | ND     | 0.74 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Carbazole                       | ND     | 0.56 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 4-Chloro-3-methylphenol         | ND     | 0.41 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 4-Chloroaniline                 | ND     | 0.53 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 2-Chloronaphthalene             | ND     | 0.59 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 2-Chlorophenol                  | ND     | 0.62 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 4-Chlorophenyl phenyl ether     | ND     | 0.57 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Di-n-butyl phthalate            | ND     | 6.5  | 10  |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Di-n-octyl phthalate            | ND     | 3.1  | 20  |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Dibenzofuran                    | ND     | 0.38 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 1,2-Dichlorobenzene             | ND     | 0.75 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 1,3-Dichlorobenzene             | ND     | 0.64 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 1,4-Dichlorobenzene             | ND     | 0.70 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 3,3'-Dichlorobenzidine          | ND     | 0.51 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Diethyl phthalate               | ND     | 3.9  | 10  |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Dimethyl phthalate              | ND     | 2.0  | 10  |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 2,4-Dichlorophenol              | ND     | 0.58 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 2,4-Dimethylphenol              | ND     | 0.97 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.53 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 2,4-Dinitrophenol               | ND     | 0.50 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 2,4-Dinitrotoluene              | ND     | 0.62 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 2,6-Dinitrotoluene              | ND     | 0.58 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Hexachlorobenzene               | ND     | 0.66 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Hexachlorobutadiene             | ND     | 0.82 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Hexachlorocyclopentadiene       | ND     | 0.65 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Hexachloroethane                | ND     | 0.45 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Isophorone                      | ND     | 0.40 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 2-Methylphenol                  | ND     | 0.51 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 3+4-Methylphenol                | ND     | 0.45 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| N-Nitrosodi-n-propylamine       | ND     | 0.48 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| N-Nitrosodimethylamine          | ND     | 0.36 | 5.0 |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

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## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-68

Project: Additional Well Install

Collection Date: 9/17/2021 11:55:00 AM

Lab ID: 2109A01-007D

Matrix: Aqueous

| Analyses                               | Result | MDL   | RL        | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------------|--------|-------|-----------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |           |      |       |    | Analyst: DAM          |          |
| N-Nitrosodiphenylamine                 | ND     | 1.0   | 5.0       |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 2-Nitroaniline                         | ND     | 0.31  | 5.0       |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 3-Nitroaniline                         | ND     | 1.6   | 5.0       |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 4-Nitroaniline                         | ND     | 0.47  | 5.0       |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Nitrobenzene                           | ND     | 0.51  | 5.0       |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 2-Nitrophenol                          | ND     | 0.47  | 5.0       |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 4-Nitrophenol                          | ND     | 0.28  | 5.0       |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Pentachlorophenol                      | ND     | 0.59  | 20        |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Phenol                                 | ND     | 0.33  | 5.0       |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Pyridine                               | ND     | 0.93  | 5.0       |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.58  | 5.0       |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 2,4,5-Trichlorophenol                  | ND     | 0.62  | 5.0       |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| 2,4,6-Trichlorophenol                  | ND     | 0.43  | 5.0       |      | µg/L  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Surr: 2-Fluorophenol                   | 50.8   | 0     | 15-87     |      | %Rec  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Surr: Phenol-d5                        | 39.4   | 0     | 15-67.5   |      | %Rec  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Surr: 2,4,6-Tribromophenol             | 75.9   | 0     | 15-122    |      | %Rec  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Surr: Nitrobenzene-d5                  | 57.6   | 0     | 15-103    |      | %Rec  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Surr: 2-Fluorobiphenyl                 | 60.2   | 0     | 15-103    |      | %Rec  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| Surr: 4-Terphenyl-d14                  | 79.1   | 0     | 45-137    |      | %Rec  | 1  | 9/24/2021 10:35:59 PM | 62689    |
| <b>EPA METHOD 8270SIM</b>              |        |       |           |      |       |    | Analyst: DAM          |          |
| Naphthalene                            | ND     | 0.034 | 0.10      |      | µg/L  | 1  | 9/27/2021 8:27:00 PM  | 62703    |
| 1-Methylnaphthalene                    | ND     | 0.024 | 0.10      |      | µg/L  | 1  | 9/27/2021 8:27:00 PM  | 62703    |
| 2-Methylnaphthalene                    | ND     | 0.034 | 0.10      |      | µg/L  | 1  | 9/27/2021 8:27:00 PM  | 62703    |
| Acenaphthylene                         | ND     | 0.043 | 0.10      |      | µg/L  | 1  | 9/27/2021 8:27:00 PM  | 62703    |
| Acenaphthene                           | 0.20   | 0.031 | 0.10      |      | µg/L  | 1  | 9/27/2021 8:27:00 PM  | 62703    |
| Fluorene                               | ND     | 0.031 | 0.10      |      | µg/L  | 1  | 9/27/2021 8:27:00 PM  | 62703    |
| Phenanthrene                           | ND     | 0.057 | 0.10      |      | µg/L  | 1  | 9/27/2021 8:27:00 PM  | 62703    |
| Anthracene                             | ND     | 0.034 | 0.10      |      | µg/L  | 1  | 9/27/2021 8:27:00 PM  | 62703    |
| Fluoranthene                           | ND     | 0.10  | 0.20      |      | µg/L  | 1  | 9/27/2021 8:27:00 PM  | 62703    |
| Pyrene                                 | 0.18   | 0.16  | 0.20      | J    | µg/L  | 1  | 9/27/2021 8:27:00 PM  | 62703    |
| Benz(a)anthracene                      | ND     | 0.036 | 0.10      |      | µg/L  | 1  | 9/27/2021 8:27:00 PM  | 62703    |
| Chrysene                               | ND     | 0.024 | 0.10      |      | µg/L  | 1  | 9/27/2021 8:27:00 PM  | 62703    |
| Benzo(b)fluoranthene                   | ND     | 0.057 | 0.10      |      | µg/L  | 1  | 9/27/2021 8:27:00 PM  | 62703    |
| Benzo(k)fluoranthene                   | ND     | 0.036 | 0.10      |      | µg/L  | 1  | 9/27/2021 8:27:00 PM  | 62703    |
| Benzo(a)pyrene                         | ND     | 0.034 | 0.070     |      | µg/L  | 1  | 9/27/2021 8:27:00 PM  | 62703    |
| Dibenz(a,h)anthracene                  | ND     | 0.034 | 0.10      |      | µg/L  | 1  | 9/27/2021 8:27:00 PM  | 62703    |
| Benzo(g,h,i)perylene                   | ND     | 0.034 | 0.10      |      | µg/L  | 1  | 9/27/2021 8:27:00 PM  | 62703    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.043 | 0.30      |      | µg/L  | 1  | 9/27/2021 8:27:00 PM  | 62703    |
| Surr: Nitrobenzene-d5                  | 68.5   | 0     | 21.9-89.8 |      | %Rec  | 1  | 9/27/2021 8:27:00 PM  | 62703    |
| Surr: 2,4,6-Tribromophenol             | 98.5   | 0     | 23.4-71.6 | S    | %Rec  | 1  | 9/27/2021 8:27:00 PM  | 62703    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-68

Project: Additional Well Install

Collection Date: 9/17/2021 11:55:00 AM

Lab ID: 2109A01-007D

Matrix: Aqueous

| Analyses               | Result | MDL | RL       | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------|--------|-----|----------|------|-------|----|----------------------|----------|
| EPA METHOD 8270SIM     |        |     |          |      |       |    | Analyst: DAM         |          |
| Surr: 2-Fluorobiphenyl | 50.0   | 0   | 15-84.5  |      | %Rec  | 1  | 9/27/2021 8:27:00 PM | 62703    |
| Surr: 4-Terphenyl-d14  | 96.0   | 0   | 73.1-152 |      | %Rec  | 1  | 9/27/2021 8:27:00 PM | 62703    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-68

Project: Additional Well Install

Collection Date: 9/17/2021 11:55:00 AM

Lab ID: 2109A01-007E

Matrix: Aqueous

| Analyses                        | Result | MDL   | RL    | Qual | Units   | DF  | Date Analyzed        | Batch ID |
|---------------------------------|--------|-------|-------|------|---------|-----|----------------------|----------|
| <b>EPA METHOD 300.0: ANIONS</b> |        |       |       |      |         |     | Analyst: LRN         |          |
| Fluoride                        | 6.4    | 0.20  | 0.50  | *    | mg/L    | 5   | 9/18/2021 3:23:21 PM | R81380   |
| Chloride                        | 5100   | 120   | 250   | *    | mg/L    | 500 | 9/22/2021 1:18:17 PM | R81507   |
| Nitrogen, Nitrite (As N)        | 0.14   | 0.027 | 0.50  | J    | mg/L    | 5   | 9/18/2021 3:23:21 PM | R81380   |
| Nitrogen, Nitrate (As N)        | 0.33   | 0.050 | 0.50  | J    | mg/L    | 5   | 9/18/2021 3:23:21 PM | R81380   |
| Sulfate                         | 800    | 5.0   | 10    | *    | mg/L    | 20  | 9/18/2021 3:36:14 PM | R81380   |
| <b>SM2320B: ALKALINITY</b>      |        |       |       |      |         |     | Analyst: LRN         |          |
| Bicarbonate (As CaCO3)          | 704.0  | 20.00 | 20.00 |      | mg/L Ca | 1   | 9/23/2021 9:23:48 PM | R81582   |
| Carbonate (As CaCO3)            | ND     | 2.000 | 2.000 |      | mg/L Ca | 1   | 9/23/2021 9:23:48 PM | R81582   |
| Total Alkalinity (as CaCO3)     | 704.0  | 20.00 | 20.00 |      | mg/L Ca | 1   | 9/23/2021 9:23:48 PM | R81582   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: Additional Well Install

Lab ID: 2109A01-007F

Client Sample ID: OW-68

Collection Date: 9/17/2021 11:55:00 AM

Matrix: Aqueous

| Analyses                         | Result | MDL     | RL      | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------|--------|---------|---------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 200.7: METALS</b>  |        |         |         |      |       |    | Analyst: ELS          |          |
| Barium                           | 0.13   | 0.0082  | 0.015   |      | mg/L  | 5  | 9/28/2021 11:16:30 AM | 62792    |
| Beryllium                        | ND     | 0.0044  | 0.010   |      | mg/L  | 5  | 9/28/2021 11:16:30 AM | 62792    |
| Cadmium                          | ND     | 0.0074  | 0.010   |      | mg/L  | 5  | 9/28/2021 11:16:30 AM | 62792    |
| Calcium                          | 790    | 1.1     | 10      |      | mg/L  | 10 | 9/24/2021 1:55:56 PM  | 62792    |
| Chromium                         | ND     | 0.011   | 0.030   |      | mg/L  | 5  | 9/28/2021 11:16:30 AM | 62792    |
| Cobalt                           | 0.10   | 0.012   | 0.030   |      | mg/L  | 5  | 9/28/2021 11:16:30 AM | 62792    |
| Iron                             | 2.9    | 0.13    | 0.50    | *    | mg/L  | 10 | 9/24/2021 1:55:56 PM  | 62792    |
| Magnesium                        | 130    | 0.67    | 10      |      | mg/L  | 10 | 9/24/2021 1:55:56 PM  | 62792    |
| Manganese                        | 11     | 0.041   | 0.10    | *    | mg/L  | 50 | 9/28/2021 11:18:13 AM | 62792    |
| Nickel                           | 0.17   | 0.016   | 0.050   | *    | mg/L  | 5  | 9/28/2021 11:16:30 AM | 62792    |
| Potassium                        | 15     | 0.16    | 1.0     |      | mg/L  | 1  | 9/24/2021 1:54:35 PM  | 62792    |
| Silver                           | ND     | 0.0063  | 0.025   |      | mg/L  | 5  | 9/28/2021 11:16:30 AM | 62792    |
| Sodium                           | 2500   | 9.3     | 50      |      | mg/L  | 50 | 9/28/2021 11:18:13 AM | 62792    |
| Vanadium                         | ND     | 0.012   | 0.25    |      | mg/L  | 5  | 9/28/2021 11:16:30 AM | 62792    |
| Zinc                             | ND     | 0.032   | 0.050   |      | mg/L  | 5  | 9/28/2021 11:16:30 AM | 62792    |
| <b>EPA 200.8: METALS</b>         |        |         |         |      |       |    | Analyst: bcv          |          |
| Antimony                         | ND     | 0.0022  | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:45:51 PM  | 62792    |
| Arsenic                          | 0.0058 | 0.00063 | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:45:51 PM  | 62792    |
| Lead                             | 0.0020 | 0.00031 | 0.0025  | J    | mg/L  | 5  | 9/30/2021 3:45:51 PM  | 62792    |
| Selenium                         | 0.0076 | 0.0019  | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:45:51 PM  | 62792    |
| <b>EPA METHOD 245.1: MERCURY</b> |        |         |         |      |       |    | Analyst: ags          |          |
| Mercury                          | ND     | 0.00012 | 0.00020 |      | mg/L  | 1  | 9/28/2021 1:01:17 PM  | 62854    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: Additional Well Install

Lab ID: 2109A01-007G

Client Sample ID: OW-68

Collection Date: 9/17/2021 11:55:00 AM

Matrix: Aqueous

| Analyses                                  | Result | MDL     | RL      | Qual | Units | DF | Date Analyzed         | Batch ID |
|-------------------------------------------|--------|---------|---------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 200.7: DISSOLVED METALS</b> |        |         |         |      |       |    | Analyst: ELS          |          |
| Barium                                    | 0.085  | 0.0011  | 0.0020  |      | mg/L  | 1  | 9/21/2021 12:20:54 PM | B81434   |
| Beryllium                                 | ND     | 0.00088 | 0.0020  |      | mg/L  | 1  | 9/21/2021 12:20:54 PM | B81434   |
| Cadmium                                   | ND     | 0.0012  | 0.0020  |      | mg/L  | 1  | 9/21/2021 12:20:54 PM | B81434   |
| Chromium                                  | ND     | 0.0020  | 0.0060  |      | mg/L  | 1  | 9/21/2021 12:20:54 PM | B81434   |
| Cobalt                                    | 0.079  | 0.0024  | 0.0060  |      | mg/L  | 1  | 9/21/2021 12:20:54 PM | B81434   |
| Iron                                      | 0.95   | 0.010   | 0.020   | *    | mg/L  | 1  | 9/21/2021 12:20:54 PM | B81434   |
| Manganese                                 | 9.6    | 0.0058  | 0.020   | *    | mg/L  | 10 | 9/21/2021 1:01:13 PM  | B81434   |
| Nickel                                    | 0.15   | 0.0033  | 0.010   | *    | mg/L  | 1  | 9/21/2021 12:20:54 PM | B81434   |
| Silver                                    | 0.0029 | 0.0013  | 0.0050  | J    | mg/L  | 1  | 9/21/2021 12:20:54 PM | B81434   |
| Vanadium                                  | 0.0023 | 0.0020  | 0.050   | J    | mg/L  | 1  | 9/21/2021 12:20:54 PM | B81434   |
| Zinc                                      | 0.039  | 0.0060  | 0.010   |      | mg/L  | 1  | 9/21/2021 12:20:54 PM | B81434   |
| <b>EPA 200.8: DISSOLVED METALS</b>        |        |         |         |      |       |    | Analyst: bcv          |          |
| Antimony                                  | ND     | 0.0044  | 0.010   |      | mg/L  | 10 | 9/29/2021 4:06:32 PM  | C81686   |
| Arsenic                                   | 0.0055 | 0.0012  | 0.010   | J    | mg/L  | 10 | 9/29/2021 4:06:32 PM  | C81686   |
| Lead                                      | 0.0012 | 0.00057 | 0.0050  | J    | mg/L  | 10 | 9/29/2021 4:06:32 PM  | C81686   |
| Selenium                                  | 0.0058 | 0.0034  | 0.010   | J    | mg/L  | 10 | 9/29/2021 4:06:32 PM  | C81686   |
| <b>EPA METHOD 245.1: MERCURY</b>          |        |         |         |      |       |    | Analyst: ags          |          |
| Mercury                                   | ND     | 0.00012 | 0.00020 |      | mg/L  | 1  | 9/28/2021 1:03:44 PM  | 62854    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |



## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-67

Project: Additional Well Install

Collection Date: 9/17/2021 12:15:00 PM

Lab ID: 2109A01-008A

Matrix: Aqueous

| Analyses                       | Result | MDL  | RL  | Qual | Units | DF | Date Analyzed        | Batch ID |
|--------------------------------|--------|------|-----|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES    |        |      |     |      |       |    | Analyst: mb          |          |
| Benzene                        | ND     | 0.23 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Toluene                        | ND     | 0.20 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Ethylbenzene                   | ND     | 0.21 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Methyl tert-butyl ether (MTBE) | 34     | 0.39 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1,2,4-Trimethylbenzene         | ND     | 0.12 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1,3,5-Trimethylbenzene         | ND     | 0.18 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1,2-Dichloroethane (EDC)       | ND     | 0.25 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1,2-Dibromoethane (EDB)        | ND     | 0.30 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Naphthalene                    | ND     | 0.50 | 2.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1-Methylnaphthalene            | ND     | 0.84 | 4.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 2-Methylnaphthalene            | ND     | 0.69 | 4.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Acetone                        | 4.7    | 2.5  | 10  | J    | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Bromobenzene                   | ND     | 0.28 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Bromodichloromethane           | ND     | 0.20 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Bromoform                      | ND     | 0.31 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Bromomethane                   | ND     | 0.85 | 3.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 2-Butanone                     | ND     | 2.0  | 10  |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Carbon disulfide               | ND     | 0.59 | 10  |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Carbon Tetrachloride           | ND     | 0.18 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Chlorobenzene                  | ND     | 0.16 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Chloroethane                   | ND     | 0.38 | 2.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Chloroform                     | ND     | 0.13 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Chloromethane                  | ND     | 0.41 | 3.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 2-Chlorotoluene                | ND     | 0.13 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 4-Chlorotoluene                | ND     | 0.34 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| cis-1,2-DCE                    | ND     | 0.39 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| cis-1,3-Dichloropropene        | ND     | 0.36 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1,2-Dibromo-3-chloropropane    | ND     | 0.59 | 2.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Dibromochloromethane           | ND     | 0.28 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Dibromomethane                 | ND     | 0.31 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1,2-Dichlorobenzene            | ND     | 0.15 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1,3-Dichlorobenzene            | ND     | 0.16 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1,4-Dichlorobenzene            | ND     | 0.21 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Dichlorodifluoromethane        | ND     | 0.40 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1,1-Dichloroethane             | ND     | 0.27 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1,1-Dichloroethene             | ND     | 0.20 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1,2-Dichloropropane            | ND     | 0.20 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1,3-Dichloropropane            | ND     | 0.18 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 2,2-Dichloropropane            | ND     | 0.26 | 2.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1,1-Dichloropropene            | ND     | 0.18 | 1.0 |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-67

Project: Additional Well Install

Collection Date: 9/17/2021 12:15:00 PM

Lab ID: 2109A01-008A

Matrix: Aqueous

| Analyses                                | Result | MDL   | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------------------|--------|-------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>      |        |       |        |      |       |    | Analyst: mb          |          |
| Hexachlorobutadiene                     | ND     | 0.56  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 2-Hexanone                              | ND     | 1.8   | 10     |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Isopropylbenzene                        | ND     | 0.18  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 4-Isopropyltoluene                      | ND     | 0.20  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 4-Methyl-2-pentanone                    | ND     | 0.88  | 10     |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Methylene Chloride                      | ND     | 0.50  | 3.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| n-Butylbenzene                          | ND     | 0.25  | 3.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| n-Propylbenzene                         | ND     | 0.18  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| sec-Butylbenzene                        | ND     | 0.14  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Styrene                                 | ND     | 0.14  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| tert-Butylbenzene                       | ND     | 0.24  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1,1,1,2-Tetrachloroethane               | ND     | 0.27  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1,1,2,2-Tetrachloroethane               | ND     | 0.27  | 2.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Tetrachloroethene (PCE)                 | ND     | 0.36  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| trans-1,2-DCE                           | ND     | 0.19  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| trans-1,3-Dichloropropene               | ND     | 0.34  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1,2,3-Trichlorobenzene                  | ND     | 0.25  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1,2,4-Trichlorobenzene                  | ND     | 0.24  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1,1,1-Trichloroethane                   | ND     | 0.30  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1,1,2-Trichloroethane                   | ND     | 0.20  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Trichloroethene (TCE)                   | ND     | 0.20  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Trichlorofluoromethane                  | ND     | 0.16  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| 1,2,3-Trichloropropane                  | ND     | 0.44  | 2.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Vinyl chloride                          | ND     | 0.32  | 1.0    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Xylenes, Total                          | ND     | 0.37  | 1.5    |      | µg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Surr: 1,2-Dichloroethane-d4             | 112    | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 98.1   | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Surr: Dibromofluoromethane              | 106    | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Surr: Toluene-d8                        | 99.3   | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b> |        |       |        |      |       |    | Analyst: mb          |          |
| Gasoline Range Organics (GRO)           | 0.41   | 0.012 | 0.050  |      | mg/L  | 1  | 9/23/2021 6:47:52 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 102    | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 6:47:52 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-67

Project: Additional Well Install

Collection Date: 9/17/2021 12:15:00 PM

Lab ID: 2109A01-008C

Matrix: Aqueous

| Analyses                           | Result | MDL   | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------------------|--------|-------|--------|------|-------|----|----------------------|----------|
| EPA METHOD 8015D MOD: DIESEL RANGE |        |       |        |      |       |    | Analyst: SB          |          |
| Diesel Range Organics (DRO)        | 0.56   | 0.016 | 0.064  |      | mg/L  | 1  | 9/28/2021 4:03:36 PM | 62729    |
| Motor Oil Range Organics (MRO)     | 0.064  | 0.052 | 0.080  | J    | mg/L  | 1  | 9/28/2021 4:03:36 PM | 62729    |
| Surr: DNOP                         | 92.0   | 0     | 15-142 |      | %Rec  | 1  | 9/28/2021 4:03:36 PM | 62729    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-67

Project: Additional Well Install

Collection Date: 9/17/2021 12:15:00 PM

Lab ID: 2109A01-008D

Matrix: Aqueous

| Analyses                        | Result | MDL  | RL  | Qual | Units | DF | Date Analyzed         | Batch ID |
|---------------------------------|--------|------|-----|------|-------|----|-----------------------|----------|
| EPA METHOD 8270C: SEMIVOLATILES |        |      |     |      |       |    | Analyst: DAM          |          |
| Aniline                         | ND     | 0.50 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Azobenzene                      | ND     | 0.55 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Benzoic acid                    | ND     | 1.1  | 20  |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Benzyl alcohol                  | ND     | 0.68 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Bis(2-chloroethoxy)methane      | ND     | 0.41 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Bis(2-chloroethyl)ether         | ND     | 0.63 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Bis(2-chloroisopropyl)ether     | ND     | 0.54 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Bis(2-ethylhexyl)phthalate      | ND     | 4.5  | 10  |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 4-Bromophenyl phenyl ether      | ND     | 0.77 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Butyl benzyl phthalate          | ND     | 0.74 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Carbazole                       | ND     | 0.56 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 4-Chloro-3-methylphenol         | ND     | 0.41 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 4-Chloroaniline                 | ND     | 0.53 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 2-Chloronaphthalene             | ND     | 0.59 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 2-Chlorophenol                  | ND     | 0.62 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 4-Chlorophenyl phenyl ether     | ND     | 0.57 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Di-n-butyl phthalate            | ND     | 6.5  | 10  |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Di-n-octyl phthalate            | ND     | 3.1  | 20  |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Dibenzofuran                    | ND     | 0.38 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 1,2-Dichlorobenzene             | ND     | 0.75 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 1,3-Dichlorobenzene             | ND     | 0.64 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 1,4-Dichlorobenzene             | ND     | 0.70 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 3,3'-Dichlorobenzidine          | ND     | 0.51 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Diethyl phthalate               | ND     | 3.9  | 10  |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Dimethyl phthalate              | ND     | 2.0  | 10  |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 2,4-Dichlorophenol              | ND     | 0.58 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 2,4-Dimethylphenol              | ND     | 0.97 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.53 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 2,4-Dinitrophenol               | ND     | 0.50 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 2,4-Dinitrotoluene              | ND     | 0.62 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 2,6-Dinitrotoluene              | ND     | 0.58 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Hexachlorobenzene               | ND     | 0.66 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Hexachlorobutadiene             | ND     | 0.82 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Hexachlorocyclopentadiene       | ND     | 0.65 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Hexachloroethane                | ND     | 0.45 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Isophorone                      | ND     | 0.40 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 2-Methylphenol                  | ND     | 0.51 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 3+4-Methylphenol                | ND     | 0.45 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| N-Nitrosodi-n-propylamine       | ND     | 0.48 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| N-Nitrosodimethylamine          | ND     | 0.36 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

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## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-67

Project: Additional Well Install

Collection Date: 9/17/2021 12:15:00 PM

Lab ID: 2109A01-008D

Matrix: Aqueous

| Analyses                               | Result | MDL   | RL        | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------------|--------|-------|-----------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |       |           |      |       |    | Analyst: DAM          |          |
| N-Nitrosodiphenylamine                 | ND     | 1.0   | 5.0       |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 2-Nitroaniline                         | ND     | 0.31  | 5.0       |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 3-Nitroaniline                         | ND     | 1.6   | 5.0       |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 4-Nitroaniline                         | ND     | 0.47  | 5.0       |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Nitrobenzene                           | ND     | 0.51  | 5.0       |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 2-Nitrophenol                          | ND     | 0.47  | 5.0       |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 4-Nitrophenol                          | ND     | 0.28  | 5.0       |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Pentachlorophenol                      | ND     | 0.59  | 20        |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Phenol                                 | ND     | 0.33  | 5.0       |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Pyridine                               | ND     | 0.93  | 5.0       |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.58  | 5.0       |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 2,4,5-Trichlorophenol                  | ND     | 0.62  | 5.0       |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| 2,4,6-Trichlorophenol                  | ND     | 0.43  | 5.0       |      | µg/L  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Surr: 2-Fluorophenol                   | 54.6   | 0     | 15-87     |      | %Rec  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Surr: Phenol-d5                        | 42.8   | 0     | 15-67.5   |      | %Rec  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Surr: 2,4,6-Tribromophenol             | 68.3   | 0     | 15-122    |      | %Rec  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Surr: Nitrobenzene-d5                  | 62.7   | 0     | 15-103    |      | %Rec  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Surr: 2-Fluorobiphenyl                 | 61.9   | 0     | 15-103    |      | %Rec  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| Surr: 4-Terphenyl-d14                  | 86.1   | 0     | 45-137    |      | %Rec  | 1  | 9/24/2021 11:17:34 PM | 62689    |
| <b>EPA METHOD 8270SIM</b>              |        |       |           |      |       |    | Analyst: DAM          |          |
| Naphthalene                            | ND     | 0.034 | 0.10      |      | µg/L  | 1  | 9/27/2021 9:12:00 PM  | 62703    |
| 1-Methylnaphthalene                    | ND     | 0.024 | 0.10      |      | µg/L  | 1  | 9/27/2021 9:12:00 PM  | 62703    |
| 2-Methylnaphthalene                    | ND     | 0.034 | 0.10      |      | µg/L  | 1  | 9/27/2021 9:12:00 PM  | 62703    |
| Acenaphthylene                         | ND     | 0.043 | 0.10      |      | µg/L  | 1  | 9/27/2021 9:12:00 PM  | 62703    |
| Acenaphthene                           | ND     | 0.031 | 0.10      |      | µg/L  | 1  | 9/27/2021 9:12:00 PM  | 62703    |
| Fluorene                               | ND     | 0.031 | 0.10      |      | µg/L  | 1  | 9/27/2021 9:12:00 PM  | 62703    |
| Phenanthrene                           | ND     | 0.057 | 0.10      |      | µg/L  | 1  | 9/27/2021 9:12:00 PM  | 62703    |
| Anthracene                             | ND     | 0.034 | 0.10      |      | µg/L  | 1  | 9/27/2021 9:12:00 PM  | 62703    |
| Fluoranthene                           | ND     | 0.10  | 0.20      |      | µg/L  | 1  | 9/27/2021 9:12:00 PM  | 62703    |
| Pyrene                                 | ND     | 0.16  | 0.20      |      | µg/L  | 1  | 9/27/2021 9:12:00 PM  | 62703    |
| Benz(a)anthracene                      | ND     | 0.036 | 0.10      |      | µg/L  | 1  | 9/27/2021 9:12:00 PM  | 62703    |
| Chrysene                               | ND     | 0.024 | 0.10      |      | µg/L  | 1  | 9/27/2021 9:12:00 PM  | 62703    |
| Benzo(b)fluoranthene                   | ND     | 0.057 | 0.10      |      | µg/L  | 1  | 9/27/2021 9:12:00 PM  | 62703    |
| Benzo(k)fluoranthene                   | ND     | 0.036 | 0.10      |      | µg/L  | 1  | 9/27/2021 9:12:00 PM  | 62703    |
| Benzo(a)pyrene                         | ND     | 0.034 | 0.070     |      | µg/L  | 1  | 9/27/2021 9:12:00 PM  | 62703    |
| Dibenz(a,h)anthracene                  | ND     | 0.034 | 0.10      |      | µg/L  | 1  | 9/27/2021 9:12:00 PM  | 62703    |
| Benzo(g,h,i)perylene                   | ND     | 0.034 | 0.10      |      | µg/L  | 1  | 9/27/2021 9:12:00 PM  | 62703    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.043 | 0.30      |      | µg/L  | 1  | 9/27/2021 9:12:00 PM  | 62703    |
| Surr: Nitrobenzene-d5                  | 69.5   | 0     | 21.9-89.8 |      | %Rec  | 1  | 9/27/2021 9:12:00 PM  | 62703    |
| Surr: 2,4,6-Tribromophenol             | 84.5   | 0     | 23.4-71.6 | S    | %Rec  | 1  | 9/27/2021 9:12:00 PM  | 62703    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-67

Project: Additional Well Install

Collection Date: 9/17/2021 12:15:00 PM

Lab ID: 2109A01-008D

Matrix: Aqueous

| Analyses               | Result | MDL | RL       | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------|--------|-----|----------|------|-------|----|----------------------|----------|
| EPA METHOD 8270SIM     |        |     |          |      |       |    | Analyst: DAM         |          |
| Surr: 2-Fluorobiphenyl | 46.0   | 0   | 15-84.5  |      | %Rec  | 1  | 9/27/2021 9:12:00 PM | 62703    |
| Surr: 4-Terphenyl-d14  | 96.5   | 0   | 73.1-152 |      | %Rec  | 1  | 9/27/2021 9:12:00 PM | 62703    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-67

Project: Additional Well Install

Collection Date: 9/17/2021 12:15:00 PM

Lab ID: 2109A01-008E

Matrix: Aqueous

| Analyses                        | Result | MDL   | RL    | Qual | Units   | DF  | Date Analyzed        | Batch ID |
|---------------------------------|--------|-------|-------|------|---------|-----|----------------------|----------|
| <b>EPA METHOD 300.0: ANIONS</b> |        |       |       |      |         |     | Analyst: LRN         |          |
| Fluoride                        | ND     | 0.20  | 0.50  |      | mg/L    | 5   | 9/18/2021 4:14:53 PM | R81380   |
| Chloride                        | 4900   | 120   | 250   | *    | mg/L    | 500 | 9/22/2021 1:31:09 PM | R81507   |
| Nitrogen, Nitrite (As N)        | ND     | 0.027 | 0.50  |      | mg/L    | 5   | 9/18/2021 4:14:53 PM | R81380   |
| Nitrogen, Nitrate (As N)        | 0.17   | 0.050 | 0.50  | J    | mg/L    | 5   | 9/18/2021 4:14:53 PM | R81380   |
| Sulfate                         | 760    | 5.0   | 10    | *    | mg/L    | 20  | 9/18/2021 4:27:45 PM | R81380   |
| <b>SM2320B: ALKALINITY</b>      |        |       |       |      |         |     | Analyst: LRN         |          |
| Bicarbonate (As CaCO3)          | 430.5  | 20.00 | 20.00 |      | mg/L Ca | 1   | 9/23/2021 9:50:28 PM | R81582   |
| Carbonate (As CaCO3)            | ND     | 2.000 | 2.000 |      | mg/L Ca | 1   | 9/23/2021 9:50:28 PM | R81582   |
| Total Alkalinity (as CaCO3)     | 430.5  | 20.00 | 20.00 |      | mg/L Ca | 1   | 9/23/2021 9:50:28 PM | R81582   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |



## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-67

Project: Additional Well Install

Collection Date: 9/17/2021 12:15:00 PM

Lab ID: 2109A01-008F

Matrix: Aqueous

| Analyses                         | Result | MDL     | RL      | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------|--------|---------|---------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 200.7: METALS</b>  |        |         |         |      |       |    | Analyst: ELS          |          |
| Barium                           | 0.080  | 0.0082  | 0.015   |      | mg/L  | 5  | 9/28/2021 11:19:53 AM | 62792    |
| Beryllium                        | ND     | 0.0044  | 0.010   |      | mg/L  | 5  | 9/28/2021 11:19:53 AM | 62792    |
| Cadmium                          | ND     | 0.0074  | 0.010   |      | mg/L  | 5  | 9/28/2021 11:19:53 AM | 62792    |
| Calcium                          | 1000   | 5.7     | 50      |      | mg/L  | 50 | 9/28/2021 11:21:32 AM | 62792    |
| Chromium                         | ND     | 0.011   | 0.030   |      | mg/L  | 5  | 9/28/2021 11:19:53 AM | 62792    |
| Cobalt                           | 0.029  | 0.012   | 0.030   | J    | mg/L  | 5  | 9/28/2021 11:19:53 AM | 62792    |
| Iron                             | 0.23   | 0.013   | 0.050   |      | mg/L  | 1  | 9/24/2021 1:57:35 PM  | 62792    |
| Magnesium                        | 180    | 0.67    | 10      |      | mg/L  | 10 | 9/24/2021 1:59:14 PM  | 62792    |
| Manganese                        | 8.0    | 0.0081  | 0.020   | *    | mg/L  | 10 | 9/24/2021 1:59:14 PM  | 62792    |
| Nickel                           | 0.11   | 0.016   | 0.050   | *    | mg/L  | 5  | 9/28/2021 11:19:53 AM | 62792    |
| Potassium                        | 4.6    | 0.16    | 1.0     |      | mg/L  | 1  | 9/24/2021 1:57:35 PM  | 62792    |
| Silver                           | ND     | 0.0063  | 0.025   |      | mg/L  | 5  | 9/28/2021 11:19:53 AM | 62792    |
| Sodium                           | 2300   | 9.3     | 50      |      | mg/L  | 50 | 9/28/2021 11:21:32 AM | 62792    |
| Vanadium                         | ND     | 0.012   | 0.25    |      | mg/L  | 5  | 9/28/2021 11:19:53 AM | 62792    |
| Zinc                             | ND     | 0.032   | 0.050   |      | mg/L  | 5  | 9/28/2021 11:19:53 AM | 62792    |
| <b>EPA 200.8: METALS</b>         |        |         |         |      |       |    | Analyst: bcv          |          |
| Antimony                         | ND     | 0.0022  | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:48:17 PM  | 62792    |
| Arsenic                          | 0.0025 | 0.00063 | 0.0050  | J    | mg/L  | 5  | 9/30/2021 3:48:17 PM  | 62792    |
| Lead                             | ND     | 0.00031 | 0.0025  |      | mg/L  | 5  | 9/30/2021 3:48:17 PM  | 62792    |
| Selenium                         | 0.0028 | 0.0019  | 0.0050  | J    | mg/L  | 5  | 9/30/2021 3:48:17 PM  | 62792    |
| <b>EPA METHOD 245.1: MERCURY</b> |        |         |         |      |       |    | Analyst: ags          |          |
| Mercury                          | ND     | 0.00012 | 0.00020 |      | mg/L  | 1  | 9/28/2021 1:06:10 PM  | 62854    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-67

Project: Additional Well Install

Collection Date: 9/17/2021 12:15:00 PM

Lab ID: 2109A01-008G

Matrix: Aqueous

| Analyses                                  | Result | MDL     | RL      | Qual | Units | DF | Date Analyzed         | Batch ID |
|-------------------------------------------|--------|---------|---------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 200.7: DISSOLVED METALS</b> |        |         |         |      |       |    | Analyst: ELS          |          |
| Barium                                    | 0.074  | 0.0011  | 0.0020  |      | mg/L  | 1  | 9/21/2021 12:24:03 PM | B81434   |
| Beryllium                                 | ND     | 0.00088 | 0.0020  |      | mg/L  | 1  | 9/21/2021 12:24:03 PM | B81434   |
| Cadmium                                   | ND     | 0.0012  | 0.0020  |      | mg/L  | 1  | 9/21/2021 12:24:03 PM | B81434   |
| Chromium                                  | ND     | 0.0020  | 0.0060  |      | mg/L  | 1  | 9/21/2021 12:24:03 PM | B81434   |
| Cobalt                                    | 0.011  | 0.0024  | 0.0060  |      | mg/L  | 1  | 9/21/2021 12:24:03 PM | B81434   |
| Iron                                      | 0.015  | 0.010   | 0.020   | J    | mg/L  | 1  | 9/21/2021 12:24:03 PM | B81434   |
| Manganese                                 | 7.4    | 0.0058  | 0.020   | *    | mg/L  | 10 | 9/21/2021 1:04:32 PM  | B81434   |
| Nickel                                    | 0.098  | 0.0033  | 0.010   |      | mg/L  | 1  | 9/21/2021 12:24:03 PM | B81434   |
| Silver                                    | 0.0039 | 0.0013  | 0.0050  | J    | mg/L  | 1  | 9/21/2021 12:24:03 PM | B81434   |
| Vanadium                                  | ND     | 0.0020  | 0.050   |      | mg/L  | 1  | 9/21/2021 12:24:03 PM | B81434   |
| Zinc                                      | 0.016  | 0.0060  | 0.010   |      | mg/L  | 1  | 9/21/2021 12:24:03 PM | B81434   |
| <b>EPA 200.8: DISSOLVED METALS</b>        |        |         |         |      |       |    | Analyst: bcv          |          |
| Antimony                                  | ND     | 0.0044  | 0.010   |      | mg/L  | 10 | 9/29/2021 4:09:12 PM  | C81686   |
| Arsenic                                   | 0.0023 | 0.0012  | 0.010   | J    | mg/L  | 10 | 9/29/2021 4:09:12 PM  | C81686   |
| Lead                                      | ND     | 0.00057 | 0.0050  |      | mg/L  | 10 | 9/29/2021 4:09:12 PM  | C81686   |
| Selenium                                  | ND     | 0.0034  | 0.010   |      | mg/L  | 10 | 9/29/2021 4:09:12 PM  | C81686   |
| <b>EPA METHOD 245.1: MERCURY</b>          |        |         |         |      |       |    | Analyst: ags          |          |
| Mercury                                   | ND     | 0.00012 | 0.00020 |      | mg/L  | 1  | 9/28/2021 1:08:36 PM  | 62854    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-66

Project: Additional Well Install

Collection Date: 9/17/2021 12:45:00 PM

Lab ID: 2109A01-009A

Matrix: Aqueous

| Analyses                       | Result | MDL | RL  | Qual | Units | DF  | Date Analyzed        | Batch ID |
|--------------------------------|--------|-----|-----|------|-------|-----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES    |        |     |     |      |       |     | Analyst: mb          |          |
| Benzene                        | 12000  | 45  | 200 |      | µg/L  | 200 | 9/23/2021 6:46:49 PM | R81542   |
| Toluene                        | 9200   | 40  | 200 |      | µg/L  | 200 | 9/23/2021 6:46:49 PM | R81542   |
| Ethylbenzene                   | 720    | 2.1 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Methyl tert-butyl ether (MTBE) | 680    | 3.9 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 1,2,4-Trimethylbenzene         | 1300   | 24  | 200 |      | µg/L  | 200 | 9/23/2021 6:46:49 PM | R81542   |
| 1,3,5-Trimethylbenzene         | 350    | 1.8 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 1,2-Dichloroethane (EDC)       | 4.4    | 2.5 | 10  | J    | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 1,2-Dibromoethane (EDB)        | ND     | 3.0 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Naphthalene                    | 130    | 5.0 | 20  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 1-Methylnaphthalene            | 35     | 8.4 | 40  | J    | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 2-Methylnaphthalene            | 61     | 6.9 | 40  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Acetone                        | 32     | 25  | 100 | J    | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Bromobenzene                   | ND     | 2.8 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Bromodichloromethane           | 2.1    | 2.0 | 10  | J    | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Bromoform                      | ND     | 3.1 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Bromomethane                   | ND     | 8.5 | 30  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 2-Butanone                     | 32     | 20  | 100 | J    | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Carbon disulfide               | ND     | 5.9 | 100 |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Carbon Tetrachloride           | ND     | 1.8 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Chlorobenzene                  | ND     | 1.6 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Chloroethane                   | ND     | 3.8 | 20  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Chloroform                     | ND     | 1.3 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Chloromethane                  | 28     | 4.1 | 30  | J    | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 2-Chlorotoluene                | ND     | 1.3 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 4-Chlorotoluene                | ND     | 3.4 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| cis-1,2-DCE                    | ND     | 3.9 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| cis-1,3-Dichloropropene        | ND     | 3.6 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 1,2-Dibromo-3-chloropropane    | ND     | 5.9 | 20  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Dibromochloromethane           | 6.2    | 2.8 | 10  | J    | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Dibromomethane                 | ND     | 3.1 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 1,2-Dichlorobenzene            | ND     | 1.5 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 1,3-Dichlorobenzene            | ND     | 1.6 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 1,4-Dichlorobenzene            | ND     | 2.1 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Dichlorodifluoromethane        | ND     | 4.0 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 1,1-Dichloroethane             | ND     | 2.7 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 1,1-Dichloroethene             | ND     | 2.0 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 1,2-Dichloropropane            | ND     | 2.0 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 1,3-Dichloropropane            | ND     | 1.8 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 2,2-Dichloropropane            | ND     | 2.6 | 20  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 1,1-Dichloropropene            | ND     | 1.8 | 10  |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-66

Project: Additional Well Install

Collection Date: 9/17/2021 12:45:00 PM

Lab ID: 2109A01-009A

Matrix: Aqueous

| Analyses                                | Result | MDL  | RL     | Qual | Units | DF  | Date Analyzed        | Batch ID |
|-----------------------------------------|--------|------|--------|------|-------|-----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>      |        |      |        |      |       |     | Analyst: mb          |          |
| Hexachlorobutadiene                     | ND     | 5.6  | 10     |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 2-Hexanone                              | ND     | 18   | 100    |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Isopropylbenzene                        | 26     | 1.8  | 10     |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 4-Isopropyltoluene                      | 4.4    | 2.0  | 10     | J    | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 4-Methyl-2-pentanone                    | ND     | 8.8  | 100    |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Methylene Chloride                      | ND     | 5.0  | 30     |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| n-Butylbenzene                          | 20     | 2.5  | 30     | J    | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| n-Propylbenzene                         | 140    | 1.8  | 10     |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| sec-Butylbenzene                        | 5.6    | 1.4  | 10     | J    | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Styrene                                 | 1.4    | 1.4  | 10     | J    | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| tert-Butylbenzene                       | ND     | 2.4  | 10     |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 1,1,1,2-Tetrachloroethane               | ND     | 2.7  | 10     |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 1,1,2,2-Tetrachloroethane               | ND     | 2.7  | 20     |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Tetrachloroethene (PCE)                 | ND     | 3.6  | 10     |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| trans-1,2-DCE                           | 2.7    | 1.9  | 10     | J    | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| trans-1,3-Dichloropropene               | 6.5    | 3.4  | 10     | J    | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 1,2,3-Trichlorobenzene                  | ND     | 2.5  | 10     |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 1,2,4-Trichlorobenzene                  | ND     | 2.4  | 10     |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 1,1,1-Trichloroethane                   | ND     | 3.0  | 10     |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 1,1,2-Trichloroethane                   | ND     | 2.0  | 10     |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Trichloroethene (TCE)                   | ND     | 2.0  | 10     |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Trichlorofluoromethane                  | ND     | 1.6  | 10     |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| 1,2,3-Trichloropropane                  | ND     | 4.4  | 20     |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Vinyl chloride                          | ND     | 3.2  | 10     |      | µg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Xylenes, Total                          | 6200   | 74   | 300    |      | µg/L  | 200 | 9/23/2021 6:46:49 PM | R81542   |
| Surr: 1,2-Dichloroethane-d4             | 107    | 0    | 70-130 |      | %Rec  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 82.6   | 0    | 70-130 |      | %Rec  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Surr: Dibromofluoromethane              | 92.3   | 0    | 70-130 |      | %Rec  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Surr: Toluene-d8                        | 110    | 0    | 70-130 |      | %Rec  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b> |        |      |        |      |       |     | Analyst: mb          |          |
| Gasoline Range Organics (GRO)           | 69     | 0.12 | 0.50   |      | mg/L  | 10  | 9/23/2021 7:16:24 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 89.1   | 0    | 70-130 |      | %Rec  | 10  | 9/23/2021 7:16:24 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-66

Project: Additional Well Install

Collection Date: 9/17/2021 12:45:00 PM

Lab ID: 2109A01-009C

Matrix: Aqueous

| Analyses                           | Result | MDL  | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------------------|--------|------|--------|------|-------|----|----------------------|----------|
| EPA METHOD 8015D MOD: DIESEL RANGE |        |      |        |      |       |    | Analyst: SB          |          |
| Diesel Range Organics (DRO)        | 4.0    | 0.16 | 0.64   |      | mg/L  | 10 | 9/27/2021 9:49:27 PM | 62729    |
| Motor Oil Range Organics (MRO)     | ND     | 0.52 | 0.80   | D    | mg/L  | 10 | 9/27/2021 9:49:27 PM | 62729    |
| Surr: DNOP                         | 0      | 0    | 15-142 | S    | %Rec  | 10 | 9/27/2021 9:49:27 PM | 62729    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-66

Project: Additional Well Install

Collection Date: 9/17/2021 12:45:00 PM

Lab ID: 2109A01-009D

Matrix: Aqueous

| Analyses                        | Result | MDL  | RL  | Qual | Units | DF | Date Analyzed         | Batch ID |
|---------------------------------|--------|------|-----|------|-------|----|-----------------------|----------|
| EPA METHOD 8270C: SEMIVOLATILES |        |      |     |      |       |    | Analyst: DAM          |          |
| Aniline                         | ND     | 0.50 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Azobenzene                      | ND     | 0.55 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Benzoic acid                    | ND     | 1.1  | 20  |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Benzyl alcohol                  | ND     | 0.68 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Bis(2-chloroethoxy)methane      | ND     | 0.41 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Bis(2-chloroethyl)ether         | ND     | 0.63 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Bis(2-chloroisopropyl)ether     | ND     | 0.54 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Bis(2-ethylhexyl)phthalate      | ND     | 4.5  | 10  |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 4-Bromophenyl phenyl ether      | ND     | 0.77 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Butyl benzyl phthalate          | ND     | 0.74 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Carbazole                       | 3.7    | 0.56 | 5.0 | J    | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 4-Chloro-3-methylphenol         | ND     | 0.41 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 4-Chloroaniline                 | ND     | 0.53 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 2-Chloronaphthalene             | ND     | 0.59 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 2-Chlorophenol                  | ND     | 0.62 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 4-Chlorophenyl phenyl ether     | ND     | 0.57 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Di-n-butyl phthalate            | ND     | 6.5  | 10  |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Di-n-octyl phthalate            | ND     | 3.1  | 20  |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Dibenzofuran                    | ND     | 0.38 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 1,2-Dichlorobenzene             | ND     | 0.75 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 1,3-Dichlorobenzene             | ND     | 0.64 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 1,4-Dichlorobenzene             | ND     | 0.70 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 3,3'-Dichlorobenzidine          | ND     | 0.51 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Diethyl phthalate               | ND     | 3.9  | 10  |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Dimethyl phthalate              | ND     | 2.0  | 10  |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 2,4-Dichlorophenol              | ND     | 0.58 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 2,4-Dimethylphenol              | 5.4    | 0.97 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.53 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 2,4-Dinitrophenol               | ND     | 0.50 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 2,4-Dinitrotoluene              | ND     | 0.62 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 2,6-Dinitrotoluene              | ND     | 0.58 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Hexachlorobenzene               | ND     | 0.66 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Hexachlorobutadiene             | ND     | 0.82 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Hexachlorocyclopentadiene       | ND     | 0.65 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Hexachloroethane                | ND     | 0.45 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Isophorone                      | ND     | 0.40 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 2-Methylphenol                  | 14     | 0.51 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 3+4-Methylphenol                | 17     | 0.45 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| N-Nitrosodi-n-propylamine       | ND     | 0.48 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| N-Nitrosodimethylamine          | ND     | 0.36 | 5.0 |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-66

Project: Additional Well Install

Collection Date: 9/17/2021 12:45:00 PM

Lab ID: 2109A01-009D

Matrix: Aqueous

| Analyses                               | Result | MDL  | RL        | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------------|--------|------|-----------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |      |           |      |       |    | Analyst: DAM          |          |
| N-Nitrosodiphenylamine                 | ND     | 1.0  | 5.0       |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 2-Nitroaniline                         | ND     | 0.31 | 5.0       |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 3-Nitroaniline                         | ND     | 1.6  | 5.0       |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 4-Nitroaniline                         | ND     | 0.47 | 5.0       |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Nitrobenzene                           | ND     | 0.51 | 5.0       |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 2-Nitrophenol                          | ND     | 0.47 | 5.0       |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 4-Nitrophenol                          | ND     | 0.28 | 5.0       |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Pentachlorophenol                      | ND     | 0.59 | 20        |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Phenol                                 | 18     | 0.33 | 5.0       |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Pyridine                               | ND     | 0.93 | 5.0       |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.58 | 5.0       |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 2,4,5-Trichlorophenol                  | ND     | 0.62 | 5.0       |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| 2,4,6-Trichlorophenol                  | ND     | 0.43 | 5.0       |      | µg/L  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Surr: 2-Fluorophenol                   | 0      | 0    | 15-87     | S    | %Rec  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Surr: Phenol-d5                        | 38.8   | 0    | 15-67.5   |      | %Rec  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Surr: 2,4,6-Tribromophenol             | 84.0   | 0    | 15-122    |      | %Rec  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Surr: Nitrobenzene-d5                  | 68.7   | 0    | 15-103    |      | %Rec  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Surr: 2-Fluorobiphenyl                 | 61.0   | 0    | 15-103    |      | %Rec  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| Surr: 4-Terphenyl-d14                  | 84.4   | 0    | 45-137    |      | %Rec  | 1  | 9/24/2021 11:59:01 PM | 62689    |
| <b>EPA METHOD 8270SIM</b>              |        |      |           |      |       |    | Analyst: DAM          |          |
| 1,4-Dioxane                            | ND     | 0.48 | 10        | D    | µg/L  | 10 | 9/27/2021 9:57:00 PM  | 62703    |
| Naphthalene                            | 110    | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 9:57:00 PM  | 62703    |
| 1-Methylnaphthalene                    | 33     | 0.24 | 1.0       | D    | µg/L  | 10 | 9/27/2021 9:57:00 PM  | 62703    |
| 2-Methylnaphthalene                    | 51     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 9:57:00 PM  | 62703    |
| Acenaphthylene                         | ND     | 0.43 | 1.0       | D    | µg/L  | 10 | 9/27/2021 9:57:00 PM  | 62703    |
| Acenaphthene                           | 1.0    | 0.31 | 1.0       | D    | µg/L  | 10 | 9/27/2021 9:57:00 PM  | 62703    |
| Fluorene                               | 2.2    | 0.31 | 1.0       | D    | µg/L  | 10 | 9/27/2021 9:57:00 PM  | 62703    |
| Phenanthrene                           | 2.6    | 0.57 | 1.0       | D    | µg/L  | 10 | 9/27/2021 9:57:00 PM  | 62703    |
| Anthracene                             | ND     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 9:57:00 PM  | 62703    |
| Fluoranthene                           | ND     | 1.0  | 2.0       | D    | µg/L  | 10 | 9/27/2021 9:57:00 PM  | 62703    |
| Pyrene                                 | ND     | 1.6  | 2.0       | D    | µg/L  | 10 | 9/27/2021 9:57:00 PM  | 62703    |
| Benz(a)anthracene                      | ND     | 0.36 | 1.0       | D    | µg/L  | 10 | 9/27/2021 9:57:00 PM  | 62703    |
| Chrysene                               | ND     | 0.24 | 1.0       | D    | µg/L  | 10 | 9/27/2021 9:57:00 PM  | 62703    |
| Benzo(b)fluoranthene                   | ND     | 0.57 | 1.0       | D    | µg/L  | 10 | 9/27/2021 9:57:00 PM  | 62703    |
| Benzo(k)fluoranthene                   | ND     | 0.36 | 1.0       | D    | µg/L  | 10 | 9/27/2021 9:57:00 PM  | 62703    |
| Benzo(a)pyrene                         | ND     | 0.34 | 0.70      | D    | µg/L  | 10 | 9/27/2021 9:57:00 PM  | 62703    |
| Dibenz(a,h)anthracene                  | ND     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 9:57:00 PM  | 62703    |
| Benzo(g,h,i)perylene                   | ND     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 9:57:00 PM  | 62703    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.43 | 3.0       | D    | µg/L  | 10 | 9/27/2021 9:57:00 PM  | 62703    |
| Surr: Nitrobenzene-d5                  | 0      | 0    | 21.9-89.8 | SD   | %Rec  | 10 | 9/27/2021 9:57:00 PM  | 62703    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |



## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-66

Project: Additional Well Install

Collection Date: 9/17/2021 12:45:00 PM

Lab ID: 2109A01-009D

Matrix: Aqueous

| Analyses                   | Result | MDL | RL        | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------|--------|-----|-----------|------|-------|----|----------------------|----------|
| EPA METHOD 8270SIM         |        |     |           |      |       |    | Analyst: DAM         |          |
| Surr: 2,4,6-Tribromophenol | 0      | 0   | 23.4-71.6 | SD   | %Rec  | 10 | 9/27/2021 9:57:00 PM | 62703    |
| Surr: 2-Fluorobiphenyl     | 0      | 0   | 15-84.5   | SD   | %Rec  | 10 | 9/27/2021 9:57:00 PM | 62703    |
| Surr: 4-Terphenyl-d14      | 0      | 0   | 73.1-152  | SD   | %Rec  | 10 | 9/27/2021 9:57:00 PM | 62703    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: Additional Well Install

Lab ID: 2109A01-009E

Client Sample ID: OW-66

Collection Date: 9/17/2021 12:45:00 PM

Matrix: Aqueous

| Analyses                        | Result | MDL   | RL    | Qual | Units   | DF | Date Analyzed         | Batch ID |
|---------------------------------|--------|-------|-------|------|---------|----|-----------------------|----------|
| <b>EPA METHOD 300.0: ANIONS</b> |        |       |       |      |         |    | Analyst: LRN          |          |
| Fluoride                        | ND     | 0.20  | 0.50  |      | mg/L    | 5  | 9/18/2021 4:40:37 PM  | R81380   |
| Chloride                        | 320    | 5.0   | 10    | *    | mg/L    | 20 | 9/18/2021 4:53:31 PM  | R81380   |
| Nitrogen, Nitrite (As N)        | ND     | 0.027 | 0.50  |      | mg/L    | 5  | 9/18/2021 4:40:37 PM  | R81380   |
| Nitrogen, Nitrate (As N)        | ND     | 0.050 | 0.50  |      | mg/L    | 5  | 9/18/2021 4:40:37 PM  | R81380   |
| Sulfate                         | 1.4    | 1.2   | 2.5   | J    | mg/L    | 5  | 9/18/2021 4:40:37 PM  | R81380   |
| <b>SM2320B: ALKALINITY</b>      |        |       |       |      |         |    | Analyst: LRN          |          |
| Bicarbonate (As CaCO3)          | 782.3  | 20.00 | 20.00 |      | mg/L Ca | 1  | 9/23/2021 10:09:30 PM | R81582   |
| Carbonate (As CaCO3)            | ND     | 2.000 | 2.000 |      | mg/L Ca | 1  | 9/23/2021 10:09:30 PM | R81582   |
| Total Alkalinity (as CaCO3)     | 782.3  | 20.00 | 20.00 |      | mg/L Ca | 1  | 9/23/2021 10:09:30 PM | R81582   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-66

Project: Additional Well Install

Collection Date: 9/17/2021 12:45:00 PM

Lab ID: 2109A01-009F

Matrix: Aqueous

| Analyses                         | Result | MDL     | RL      | Qual | Units | DF | Date Analyzed        | Batch ID |
|----------------------------------|--------|---------|---------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 200.7: METALS</b>  |        |         |         |      |       |    | Analyst: ELS         |          |
| Barium                           | 1.4    | 0.016   | 0.030   |      | mg/L  | 10 | 9/24/2021 2:02:10 PM | 62792    |
| Beryllium                        | ND     | 0.00088 | 0.0020  |      | mg/L  | 1  | 9/24/2021 2:00:51 PM | 62792    |
| Cadmium                          | ND     | 0.0015  | 0.0020  |      | mg/L  | 1  | 9/24/2021 2:00:51 PM | 62792    |
| Calcium                          | 87     | 0.11    | 1.0     |      | mg/L  | 1  | 9/24/2021 2:00:51 PM | 62792    |
| Chromium                         | 0.0027 | 0.0021  | 0.0060  | J    | mg/L  | 1  | 9/24/2021 2:00:51 PM | 62792    |
| Cobalt                           | 0.010  | 0.0024  | 0.0060  |      | mg/L  | 1  | 9/24/2021 2:00:51 PM | 62792    |
| Iron                             | 6.9    | 0.13    | 0.50    | *    | mg/L  | 10 | 9/24/2021 2:02:10 PM | 62792    |
| Magnesium                        | 22     | 0.067   | 1.0     |      | mg/L  | 1  | 9/24/2021 2:00:51 PM | 62792    |
| Manganese                        | 2.6    | 0.0081  | 0.020   | *    | mg/L  | 10 | 9/24/2021 2:02:10 PM | 62792    |
| Nickel                           | 0.38   | 0.0033  | 0.010   | *    | mg/L  | 1  | 9/24/2021 2:00:51 PM | 62792    |
| Potassium                        | 0.97   | 0.16    | 1.0     | J    | mg/L  | 1  | 9/24/2021 2:00:51 PM | 62792    |
| Silver                           | ND     | 0.0013  | 0.0050  |      | mg/L  | 1  | 9/24/2021 2:00:51 PM | 62792    |
| Sodium                           | 470    | 1.9     | 10      |      | mg/L  | 10 | 9/24/2021 2:02:10 PM | 62792    |
| Vanadium                         | 0.0083 | 0.0024  | 0.050   | J    | mg/L  | 1  | 9/24/2021 2:00:51 PM | 62792    |
| Zinc                             | 0.0095 | 0.0064  | 0.010   | J    | mg/L  | 1  | 9/24/2021 2:00:51 PM | 62792    |
| <b>EPA 200.8: METALS</b>         |        |         |         |      |       |    | Analyst: bcv         |          |
| Antimony                         | ND     | 0.0022  | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:50:42 PM | 62792    |
| Arsenic                          | 0.0048 | 0.00063 | 0.0050  | J    | mg/L  | 5  | 9/30/2021 3:50:42 PM | 62792    |
| Lead                             | 0.0090 | 0.00031 | 0.0025  |      | mg/L  | 5  | 9/30/2021 3:50:42 PM | 62792    |
| Selenium                         | ND     | 0.0019  | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:50:42 PM | 62792    |
| <b>EPA METHOD 245.1: MERCURY</b> |        |         |         |      |       |    | Analyst: ags         |          |
| Mercury                          | ND     | 0.00012 | 0.00020 |      | mg/L  | 1  | 9/28/2021 1:11:02 PM | 62854    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-66

Project: Additional Well Install

Collection Date: 9/17/2021 12:45:00 PM

Lab ID: 2109A01-009G

Matrix: Aqueous

| Analyses                                  | Result | MDL     | RL      | Qual | Units | DF | Date Analyzed         | Batch ID |
|-------------------------------------------|--------|---------|---------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 200.7: DISSOLVED METALS</b> |        |         |         |      |       |    | Analyst: ELS          |          |
| Barium                                    | 1.1    | 0.0056  | 0.010   |      | mg/L  | 5  | 9/21/2021 12:28:48 PM | B81434   |
| Beryllium                                 | ND     | 0.00088 | 0.0020  |      | mg/L  | 1  | 9/21/2021 12:27:20 PM | B81434   |
| Cadmium                                   | ND     | 0.0012  | 0.0020  |      | mg/L  | 1  | 9/21/2021 12:27:20 PM | B81434   |
| Chromium                                  | ND     | 0.0020  | 0.0060  |      | mg/L  | 1  | 9/21/2021 12:27:20 PM | B81434   |
| Cobalt                                    | 0.0084 | 0.0024  | 0.0060  |      | mg/L  | 1  | 9/21/2021 12:27:20 PM | B81434   |
| Iron                                      | 3.7    | 0.052   | 0.10    | *    | mg/L  | 5  | 9/21/2021 12:28:48 PM | B81434   |
| Manganese                                 | 2.4    | 0.0029  | 0.010   | *    | mg/L  | 5  | 9/21/2021 12:28:48 PM | B81434   |
| Nickel                                    | 0.35   | 0.0033  | 0.010   | *    | mg/L  | 1  | 9/21/2021 12:27:20 PM | B81434   |
| Silver                                    | ND     | 0.0013  | 0.0050  |      | mg/L  | 1  | 9/21/2021 12:27:20 PM | B81434   |
| Vanadium                                  | 0.0023 | 0.0020  | 0.050   | J    | mg/L  | 1  | 9/21/2021 12:27:20 PM | B81434   |
| Zinc                                      | ND     | 0.0060  | 0.010   |      | mg/L  | 1  | 9/21/2021 12:27:20 PM | B81434   |
| <b>EPA 200.8: DISSOLVED METALS</b>        |        |         |         |      |       |    | Analyst: bcv          |          |
| Antimony                                  | ND     | 0.0044  | 0.010   |      | mg/L  | 10 | 9/29/2021 4:11:51 PM  | C81686   |
| Arsenic                                   | 0.0037 | 0.0012  | 0.010   | J    | mg/L  | 10 | 9/29/2021 4:11:51 PM  | C81686   |
| Lead                                      | ND     | 0.00057 | 0.0050  |      | mg/L  | 10 | 9/29/2021 4:11:51 PM  | C81686   |
| Selenium                                  | ND     | 0.0034  | 0.010   |      | mg/L  | 10 | 9/29/2021 4:11:51 PM  | C81686   |
| <b>EPA METHOD 245.1: MERCURY</b>          |        |         |         |      |       |    | Analyst: ags          |          |
| Mercury                                   | ND     | 0.00012 | 0.00020 |      | mg/L  | 1  | 9/28/2021 1:13:28 PM  | 62854    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: DUP-09-17-21

Project: Additional Well Install

Collection Date: 9/17/2021

Lab ID: 2109A01-010A

Matrix: Aqueous

| Analyses                       | Result | MDL  | RL  | Qual | Units | DF  | Date Analyzed        | Batch ID |
|--------------------------------|--------|------|-----|------|-------|-----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES    |        |      |     |      |       |     | Analyst: RAA         |          |
| Benzene                        | 1200   | 23   | 100 |      | µg/L  | 100 | 9/27/2021 5:22:19 PM | R81622   |
| Toluene                        | 13     | 0.20 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| Ethylbenzene                   | 1100   | 11   | 50  |      | µg/L  | 10  | 9/23/2021 7:15:37 PM | R81542   |
| Methyl tert-butyl ether (MTBE) | 7800   | 20   | 50  |      | µg/L  | 10  | 9/23/2021 7:15:37 PM | R81542   |
| 1,2,4-Trimethylbenzene         | 780    | 6.1  | 50  |      | µg/L  | 10  | 9/23/2021 7:15:37 PM | R81542   |
| 1,3,5-Trimethylbenzene         | 30     | 0.18 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| 1,2-Dichloroethane (EDC)       | 1.5    | 0.25 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| 1,2-Dibromoethane (EDB)        | ND     | 0.30 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| Naphthalene                    | 77     | 0.50 | 2.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| 1-Methylnaphthalene            | 43     | 0.84 | 4.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| 2-Methylnaphthalene            | 54     | 0.69 | 4.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| Acetone                        | 19     | 2.5  | 10  |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| Bromobenzene                   | ND     | 0.28 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| Bromodichloromethane           | 0.49   | 0.20 | 1.0 | J    | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| Bromoform                      | ND     | 0.31 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| Bromomethane                   | ND     | 0.85 | 3.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| 2-Butanone                     | 8.0    | 2.0  | 10  | J    | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| Carbon disulfide               | ND     | 0.59 | 10  |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| Carbon Tetrachloride           | ND     | 0.18 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| Chlorobenzene                  | ND     | 0.16 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| Chloroethane                   | ND     | 0.38 | 2.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| Chloroform                     | ND     | 0.13 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| Chloromethane                  | 1.3    | 0.41 | 3.0 | J    | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| 2-Chlorotoluene                | ND     | 0.13 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| 4-Chlorotoluene                | ND     | 0.34 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| cis-1,2-DCE                    | 17     | 0.39 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| cis-1,3-Dichloropropene        | ND     | 0.36 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| 1,2-Dibromo-3-chloropropane    | ND     | 0.59 | 2.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| Dibromochloromethane           | 0.49   | 0.28 | 1.0 | J    | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| Dibromomethane                 | ND     | 0.31 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| 1,2-Dichlorobenzene            | 0.57   | 0.15 | 1.0 | J    | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| 1,3-Dichlorobenzene            | ND     | 0.16 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| 1,4-Dichlorobenzene            | ND     | 0.21 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| Dichlorodifluoromethane        | ND     | 0.40 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| 1,1-Dichloroethane             | 32     | 0.27 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| 1,1-Dichloroethene             | 44     | 0.20 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| 1,2-Dichloropropane            | 0.54   | 0.20 | 1.0 | J    | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| 1,3-Dichloropropane            | ND     | 0.18 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| 2,2-Dichloropropane            | ND     | 0.26 | 2.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |
| 1,1-Dichloropropene            | ND     | 0.18 | 1.0 |      | µg/L  | 1   | 9/23/2021 7:44:58 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: DUP-09-17-21

Project: Additional Well Install

Collection Date: 9/17/2021

Lab ID: 2109A01-010A

Matrix: Aqueous

| Analyses                                | Result | MDL   | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------------------|--------|-------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>      |        |       |        |      |       |    | Analyst: RAA         |          |
| Hexachlorobutadiene                     | ND     | 0.56  | 1.0    |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| 2-Hexanone                              | ND     | 1.8   | 10     |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| Isopropylbenzene                        | 12     | 0.18  | 1.0    |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| 4-Isopropyltoluene                      | 2.5    | 0.20  | 1.0    |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| 4-Methyl-2-pentanone                    | ND     | 0.88  | 10     |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| Methylene Chloride                      | ND     | 0.50  | 3.0    |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| n-Butylbenzene                          | 4.0    | 0.25  | 3.0    |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| n-Propylbenzene                         | 28     | 0.18  | 1.0    |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| sec-Butylbenzene                        | 1.9    | 0.14  | 1.0    |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| Styrene                                 | 0.21   | 0.14  | 1.0    | J    | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| tert-Butylbenzene                       | ND     | 0.24  | 1.0    |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| 1,1,1,2-Tetrachloroethane               | ND     | 0.27  | 1.0    |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| 1,1,2,2-Tetrachloroethane               | ND     | 0.27  | 2.0    |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| Tetrachloroethene (PCE)                 | ND     | 0.36  | 1.0    |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| trans-1,2-DCE                           | 0.32   | 0.19  | 1.0    | J    | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| trans-1,3-Dichloropropene               | 0.90   | 0.34  | 1.0    | J    | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| 1,2,3-Trichlorobenzene                  | ND     | 0.25  | 1.0    |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| 1,2,4-Trichlorobenzene                  | ND     | 0.24  | 1.0    |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| 1,1,1-Trichloroethane                   | ND     | 0.30  | 1.0    |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| 1,1,2-Trichloroethane                   | ND     | 0.20  | 1.0    |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| Trichloroethene (TCE)                   | ND     | 0.20  | 1.0    |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| Trichlorofluoromethane                  | ND     | 0.16  | 1.0    |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| 1,2,3-Trichloropropane                  | ND     | 0.44  | 2.0    |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| Vinyl chloride                          | 0.41   | 0.32  | 1.0    | J    | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| Xylenes, Total                          | 260    | 0.37  | 1.5    |      | µg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| Surr: 1,2-Dichloroethane-d4             | 100    | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 76.0   | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| Surr: Dibromofluoromethane              | 89.5   | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| Surr: Toluene-d8                        | 106    | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b> |        |       |        |      |       |    | Analyst: mb          |          |
| Gasoline Range Organics (GRO)           | 5.0    | 0.012 | 0.050  |      | mg/L  | 1  | 9/23/2021 7:44:58 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 81.4   | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 7:44:58 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: DUP-09-17-21

Project: Additional Well Install

Collection Date: 9/17/2021

Lab ID: 2109A01-010C

Matrix: Aqueous

| Analyses                           | Result | MDL   | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|------------------------------------|--------|-------|--------|------|-------|----|----------------------|----------|
| EPA METHOD 8015D MOD: DIESEL RANGE |        |       |        |      |       |    | Analyst: SB          |          |
| Diesel Range Organics (DRO)        | 2.6    | 0.016 | 0.064  |      | mg/L  | 1  | 9/28/2021 4:27:27 PM | 62729    |
| Motor Oil Range Organics (MRO)     | 0.090  | 0.052 | 0.080  |      | mg/L  | 1  | 9/28/2021 4:27:27 PM | 62729    |
| Surr: DNOP                         | 90.1   | 0     | 15-142 |      | %Rec  | 1  | 9/28/2021 4:27:27 PM | 62729    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |



## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: DUP-09-17-21

Project: Additional Well Install

Collection Date: 9/17/2021

Lab ID: 2109A01-010D

Matrix: Aqueous

| Analyses                        | Result | MDL  | RL  | Qual | Units | DF | Date Analyzed         | Batch ID |
|---------------------------------|--------|------|-----|------|-------|----|-----------------------|----------|
| EPA METHOD 8270C: SEMIVOLATILES |        |      |     |      |       |    | Analyst: DAM          |          |
| Aniline                         | ND     | 0.50 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Azobenzene                      | ND     | 0.55 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Benzoic acid                    | ND     | 1.1  | 20  |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Benzyl alcohol                  | ND     | 0.68 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Bis(2-chloroethoxy)methane      | ND     | 0.41 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Bis(2-chloroethyl)ether         | ND     | 0.63 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Bis(2-chloroisopropyl)ether     | ND     | 0.54 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Bis(2-ethylhexyl)phthalate      | ND     | 4.5  | 10  |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 4-Bromophenyl phenyl ether      | ND     | 0.77 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Butyl benzyl phthalate          | ND     | 0.74 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Carbazole                       | ND     | 0.56 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 4-Chloro-3-methylphenol         | ND     | 0.41 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 4-Chloroaniline                 | ND     | 0.53 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 2-Chloronaphthalene             | ND     | 0.59 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 2-Chlorophenol                  | ND     | 0.62 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 4-Chlorophenyl phenyl ether     | ND     | 0.57 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Di-n-butyl phthalate            | ND     | 6.5  | 10  |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Di-n-octyl phthalate            | ND     | 3.1  | 20  |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Dibenz(a,h)anthracene           | ND     | 0.83 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Dibenzofuran                    | ND     | 0.38 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 1,2-Dichlorobenzene             | ND     | 0.75 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 1,3-Dichlorobenzene             | ND     | 0.64 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 1,4-Dichlorobenzene             | ND     | 0.70 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 3,3'-Dichlorobenzidine          | ND     | 0.51 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Diethyl phthalate               | ND     | 3.9  | 10  |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Dimethyl phthalate              | ND     | 2.0  | 10  |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 2,4-Dichlorophenol              | ND     | 0.58 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 2,4-Dimethylphenol              | 3.9    | 0.97 | 5.0 | J    | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.53 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 2,4-Dinitrophenol               | ND     | 0.50 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 2,4-Dinitrotoluene              | ND     | 0.62 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 2,6-Dinitrotoluene              | ND     | 0.58 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Hexachlorobenzene               | ND     | 0.66 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Hexachlorobutadiene             | ND     | 0.82 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Hexachlorocyclopentadiene       | ND     | 0.65 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Hexachloroethane                | ND     | 0.45 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Isophorone                      | ND     | 0.40 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 2-Methylphenol                  | ND     | 0.51 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 3+4-Methylphenol                | ND     | 0.45 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| N-Nitrosodi-n-propylamine       | ND     | 0.48 | 5.0 |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: DUP-09-17-21

Project: Additional Well Install

Collection Date: 9/17/2021

Lab ID: 2109A01-010D

Matrix: Aqueous

| Analyses                               | Result | MDL  | RL        | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------------|--------|------|-----------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |      |           |      |       |    | Analyst: DAM          |          |
| N-Nitrosodimethylamine                 | ND     | 0.36 | 5.0       |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| N-Nitrosodiphenylamine                 | ND     | 1.0  | 5.0       |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 2-Nitroaniline                         | ND     | 0.31 | 5.0       |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 3-Nitroaniline                         | ND     | 1.6  | 5.0       |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 4-Nitroaniline                         | ND     | 0.47 | 5.0       |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Nitrobenzene                           | ND     | 0.51 | 5.0       |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 2-Nitrophenol                          | ND     | 0.47 | 5.0       |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 4-Nitrophenol                          | ND     | 0.28 | 5.0       |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Pentachlorophenol                      | ND     | 0.59 | 20        |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Phenol                                 | 8.2    | 0.33 | 5.0       |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Pyridine                               | ND     | 0.93 | 5.0       |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 1,2,4-Trichlorobenzene                 | ND     | 0.58 | 5.0       |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 2,4,5-Trichlorophenol                  | ND     | 0.62 | 5.0       |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| 2,4,6-Trichlorophenol                  | ND     | 0.43 | 5.0       |      | µg/L  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Surr: 2-Fluorophenol                   | 48.1   | 0    | 15-87     |      | %Rec  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Surr: Phenol-d5                        | 33.8   | 0    | 15-67.5   |      | %Rec  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Surr: 2,4,6-Tribromophenol             | 76.2   | 0    | 15-122    |      | %Rec  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Surr: Nitrobenzene-d5                  | 56.8   | 0    | 15-103    |      | %Rec  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Surr: 2-Fluorobiphenyl                 | 55.9   | 0    | 15-103    |      | %Rec  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| Surr: 4-Terphenyl-d14                  | 81.2   | 0    | 45-137    |      | %Rec  | 1  | 9/25/2021 12:40:37 AM | 62689    |
| <b>EPA METHOD 8270SIM</b>              |        |      |           |      |       |    | Analyst: DAM          |          |
| Naphthalene                            | 42     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 10:41:00 PM | 62703    |
| 1-Methylnaphthalene                    | 27     | 0.24 | 1.0       | D    | µg/L  | 10 | 9/27/2021 10:41:00 PM | 62703    |
| 2-Methylnaphthalene                    | 19     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 10:41:00 PM | 62703    |
| Acenaphthylene                         | ND     | 0.43 | 1.0       | D    | µg/L  | 10 | 9/27/2021 10:41:00 PM | 62703    |
| Acenaphthene                           | 3.0    | 0.31 | 1.0       | D    | µg/L  | 10 | 9/27/2021 10:41:00 PM | 62703    |
| Fluorene                               | 3.4    | 0.31 | 1.0       | D    | µg/L  | 10 | 9/27/2021 10:41:00 PM | 62703    |
| Phenanthrene                           | 1.2    | 0.57 | 1.0       | D    | µg/L  | 10 | 9/27/2021 10:41:00 PM | 62703    |
| Anthracene                             | ND     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 10:41:00 PM | 62703    |
| Fluoranthene                           | ND     | 1.0  | 2.0       | D    | µg/L  | 10 | 9/27/2021 10:41:00 PM | 62703    |
| Pyrene                                 | ND     | 1.6  | 2.0       | D    | µg/L  | 10 | 9/27/2021 10:41:00 PM | 62703    |
| Benz(a)anthracene                      | ND     | 0.36 | 1.0       | D    | µg/L  | 10 | 9/27/2021 10:41:00 PM | 62703    |
| Chrysene                               | ND     | 0.24 | 1.0       | D    | µg/L  | 10 | 9/27/2021 10:41:00 PM | 62703    |
| Benzo(b)fluoranthene                   | ND     | 0.57 | 1.0       | D    | µg/L  | 10 | 9/27/2021 10:41:00 PM | 62703    |
| Benzo(k)fluoranthene                   | ND     | 0.36 | 1.0       | D    | µg/L  | 10 | 9/27/2021 10:41:00 PM | 62703    |
| Benzo(a)pyrene                         | ND     | 0.34 | 0.70      | D    | µg/L  | 10 | 9/27/2021 10:41:00 PM | 62703    |
| Dibenz(a,h)anthracene                  | ND     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 10:41:00 PM | 62703    |
| Benzo(g,h,i)perylene                   | ND     | 0.34 | 1.0       | D    | µg/L  | 10 | 9/27/2021 10:41:00 PM | 62703    |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.43 | 3.0       | D    | µg/L  | 10 | 9/27/2021 10:41:00 PM | 62703    |
| Surr: Nitrobenzene-d5                  | 0      | 0    | 21.9-89.8 | SD   | %Rec  | 10 | 9/27/2021 10:41:00 PM | 62703    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: DUP-09-17-21

Project: Additional Well Install

Collection Date: 9/17/2021

Lab ID: 2109A01-010D

Matrix: Aqueous

| Analyses                   | Result | MDL | RL        | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------|--------|-----|-----------|------|-------|----|-----------------------|----------|
| EPA METHOD 8270SIM         |        |     |           |      |       |    | Analyst: DAM          |          |
| Surr: 2,4,6-Tribromophenol | 0      | 0   | 23.4-71.6 | SD   | %Rec  | 10 | 9/27/2021 10:41:00 PM | 62703    |
| Surr: 2-Fluorobiphenyl     | 0      | 0   | 15-84.5   | SD   | %Rec  | 10 | 9/27/2021 10:41:00 PM | 62703    |
| Surr: 4-Terphenyl-d14      | 0      | 0   | 73.1-152  | SD   | %Rec  | 10 | 9/27/2021 10:41:00 PM | 62703    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: DUP-09-17-21

Project: Additional Well Install

Collection Date: 9/17/2021

Lab ID: 2109A01-010E

Matrix: Aqueous

| Analyses                        | Result | MDL   | RL    | Qual | Units   | DF | Date Analyzed         | Batch ID |
|---------------------------------|--------|-------|-------|------|---------|----|-----------------------|----------|
| <b>EPA METHOD 300.0: ANIONS</b> |        |       |       |      |         |    | Analyst: LRN          |          |
| Fluoride                        | 0.65   | 0.20  | 0.50  |      | mg/L    | 5  | 9/18/2021 5:06:25 PM  | R81380   |
| Chloride                        | 220    | 5.0   | 10    |      | mg/L    | 20 | 9/18/2021 5:19:18 PM  | R81380   |
| Nitrogen, Nitrite (As N)        | ND     | 0.027 | 0.50  |      | mg/L    | 5  | 9/18/2021 5:06:25 PM  | R81380   |
| Nitrogen, Nitrate (As N)        | ND     | 0.050 | 0.50  |      | mg/L    | 5  | 9/18/2021 5:06:25 PM  | R81380   |
| Sulfate                         | 62     | 1.2   | 2.5   |      | mg/L    | 5  | 9/18/2021 5:06:25 PM  | R81380   |
| <b>SM2320B: ALKALINITY</b>      |        |       |       |      |         |    | Analyst: LRN          |          |
| Bicarbonate (As CaCO3)          | 623.0  | 20.00 | 20.00 |      | mg/L Ca | 1  | 9/23/2021 10:37:02 PM | R81582   |
| Carbonate (As CaCO3)            | ND     | 2.000 | 2.000 |      | mg/L Ca | 1  | 9/23/2021 10:37:02 PM | R81582   |
| Total Alkalinity (as CaCO3)     | 623.0  | 20.00 | 20.00 |      | mg/L Ca | 1  | 9/23/2021 10:37:02 PM | R81582   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: DUP-09-17-21

Project: Additional Well Install

Collection Date: 9/17/2021

Lab ID: 2109A01-010F

Matrix: Aqueous

| Analyses                         | Result | MDL     | RL      | Qual | Units | DF | Date Analyzed         | Batch ID |
|----------------------------------|--------|---------|---------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 200.7: METALS</b>  |        |         |         |      |       |    | Analyst: ELS          |          |
| Barium                           | 2.0    | 0.016   | 0.030   |      | mg/L  | 10 | 9/24/2021 2:04:56 PM  | 62792    |
| Beryllium                        | 0.0019 | 0.00088 | 0.0020  | J    | mg/L  | 1  | 9/24/2021 2:03:33 PM  | 62792    |
| Cadmium                          | ND     | 0.0015  | 0.0020  |      | mg/L  | 1  | 9/24/2021 2:03:33 PM  | 62792    |
| Calcium                          | 140    | 1.1     | 10      |      | mg/L  | 10 | 9/24/2021 2:04:56 PM  | 62792    |
| Chromium                         | 0.020  | 0.0021  | 0.0060  |      | mg/L  | 1  | 9/24/2021 2:03:33 PM  | 62792    |
| Cobalt                           | 0.015  | 0.0024  | 0.0060  |      | mg/L  | 1  | 9/24/2021 2:03:33 PM  | 62792    |
| Iron                             | 17     | 0.26    | 1.0     | *    | mg/L  | 20 | 9/28/2021 11:23:11 AM | 62792    |
| Magnesium                        | 36     | 0.067   | 1.0     |      | mg/L  | 1  | 9/24/2021 2:03:33 PM  | 62792    |
| Manganese                        | 2.9    | 0.0081  | 0.020   | *    | mg/L  | 10 | 9/24/2021 2:04:56 PM  | 62792    |
| Nickel                           | 0.026  | 0.0033  | 0.010   |      | mg/L  | 1  | 9/24/2021 2:03:33 PM  | 62792    |
| Potassium                        | 5.1    | 0.16    | 1.0     |      | mg/L  | 1  | 9/24/2021 2:03:33 PM  | 62792    |
| Silver                           | ND     | 0.0013  | 0.0050  |      | mg/L  | 1  | 9/24/2021 2:03:33 PM  | 62792    |
| Sodium                           | 320    | 1.9     | 10      |      | mg/L  | 10 | 9/24/2021 2:04:56 PM  | 62792    |
| Vanadium                         | 0.033  | 0.0024  | 0.050   | J    | mg/L  | 1  | 9/24/2021 2:03:33 PM  | 62792    |
| Zinc                             | 0.036  | 0.0064  | 0.010   |      | mg/L  | 1  | 9/24/2021 2:03:33 PM  | 62792    |
| <b>EPA 200.8: METALS</b>         |        |         |         |      |       |    | Analyst: bcv          |          |
| Antimony                         | ND     | 0.0022  | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:53:08 PM  | 62792    |
| Arsenic                          | 0.0063 | 0.00063 | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:53:08 PM  | 62792    |
| Lead                             | 0.046  | 0.00031 | 0.0025  | *    | mg/L  | 5  | 9/30/2021 3:53:08 PM  | 62792    |
| Selenium                         | 0.0063 | 0.0019  | 0.0050  |      | mg/L  | 5  | 9/30/2021 3:53:08 PM  | 62792    |
| <b>EPA METHOD 245.1: MERCURY</b> |        |         |         |      |       |    | Analyst: ags          |          |
| Mercury                          | ND     | 0.00012 | 0.00020 |      | mg/L  | 1  | 9/28/2021 1:15:54 PM  | 62854    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: DUP-09-17-21

Project: Additional Well Install

Collection Date: 9/17/2021

Lab ID: 2109A01-010G

Matrix: Aqueous

| Analyses                                  | Result | MDL     | RL      | Qual | Units | DF | Date Analyzed         | Batch ID |
|-------------------------------------------|--------|---------|---------|------|-------|----|-----------------------|----------|
| <b>EPA METHOD 200.7: DISSOLVED METALS</b> |        |         |         |      |       |    | Analyst: ELS          |          |
| Barium                                    | 1.2    | 0.0056  | 0.010   |      | mg/L  | 5  | 9/21/2021 12:36:41 PM | B81434   |
| Beryllium                                 | ND     | 0.00088 | 0.0020  |      | mg/L  | 1  | 9/21/2021 12:35:14 PM | B81434   |
| Cadmium                                   | ND     | 0.0012  | 0.0020  |      | mg/L  | 1  | 9/21/2021 12:35:14 PM | B81434   |
| Chromium                                  | ND     | 0.0020  | 0.0060  |      | mg/L  | 1  | 9/21/2021 12:35:14 PM | B81434   |
| Cobalt                                    | 0.0053 | 0.0024  | 0.0060  | J    | mg/L  | 1  | 9/21/2021 12:35:14 PM | B81434   |
| Iron                                      | 0.51   | 0.010   | 0.020   | *    | mg/L  | 1  | 9/21/2021 12:35:14 PM | B81434   |
| Manganese                                 | 2.4    | 0.0029  | 0.010   | *    | mg/L  | 5  | 9/21/2021 12:36:41 PM | B81434   |
| Nickel                                    | 0.0068 | 0.0033  | 0.010   | J    | mg/L  | 1  | 9/21/2021 12:35:14 PM | B81434   |
| Silver                                    | ND     | 0.0013  | 0.0050  |      | mg/L  | 1  | 9/21/2021 12:35:14 PM | B81434   |
| Vanadium                                  | ND     | 0.0020  | 0.050   |      | mg/L  | 1  | 9/21/2021 12:35:14 PM | B81434   |
| Zinc                                      | 0.011  | 0.0060  | 0.010   |      | mg/L  | 1  | 9/21/2021 12:35:14 PM | B81434   |
| <b>EPA 200.8: DISSOLVED METALS</b>        |        |         |         |      |       |    | Analyst: bcv          |          |
| Antimony                                  | ND     | 0.0044  | 0.010   |      | mg/L  | 10 | 9/29/2021 4:14:31 PM  | C81686   |
| Arsenic                                   | 0.0026 | 0.0012  | 0.010   | J    | mg/L  | 10 | 9/29/2021 4:14:31 PM  | C81686   |
| Lead                                      | ND     | 0.00057 | 0.0050  |      | mg/L  | 10 | 9/29/2021 4:14:31 PM  | C81686   |
| Selenium                                  | ND     | 0.0034  | 0.010   |      | mg/L  | 10 | 9/29/2021 4:14:31 PM  | C81686   |
| <b>EPA METHOD 245.1: MERCURY</b>          |        |         |         |      |       |    | Analyst: ags          |          |
| Mercury                                   | ND     | 0.00012 | 0.00020 |      | mg/L  | 1  | 9/28/2021 1:18:19 PM  | 62854    |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: FB-09-17-21

Project: Additional Well Install

Collection Date: 9/17/2021 12:45:00 PM

Lab ID: 2109A01-011A

Matrix: Aqueous

| Analyses                       | Result | MDL  | RL  | Qual | Units | DF | Date Analyzed        | Batch ID |
|--------------------------------|--------|------|-----|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES    |        |      |     |      |       |    | Analyst: mb          |          |
| Benzene                        | 0.42   | 0.23 | 1.0 | J    | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Toluene                        | ND     | 0.20 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Ethylbenzene                   | ND     | 0.21 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Methyl tert-butyl ether (MTBE) | ND     | 0.39 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1,2,4-Trimethylbenzene         | 0.16   | 0.12 | 1.0 | J    | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1,3,5-Trimethylbenzene         | ND     | 0.18 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1,2-Dichloroethane (EDC)       | ND     | 0.25 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1,2-Dibromoethane (EDB)        | ND     | 0.30 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Naphthalene                    | 0.63   | 0.50 | 2.0 | J    | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1-Methylnaphthalene            | 0.94   | 0.84 | 4.0 | J    | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 2-Methylnaphthalene            | 1.0    | 0.69 | 4.0 | J    | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Acetone                        | 7.3    | 2.5  | 10  | J    | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Bromobenzene                   | ND     | 0.28 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Bromodichloromethane           | ND     | 0.20 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Bromoform                      | ND     | 0.31 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Bromomethane                   | ND     | 0.85 | 3.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 2-Butanone                     | 2.2    | 2.0  | 10  | J    | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Carbon disulfide               | ND     | 0.59 | 10  |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Carbon Tetrachloride           | ND     | 0.18 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Chlorobenzene                  | ND     | 0.16 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Chloroethane                   | ND     | 0.38 | 2.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Chloroform                     | ND     | 0.13 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Chloromethane                  | ND     | 0.41 | 3.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 2-Chlorotoluene                | ND     | 0.13 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 4-Chlorotoluene                | ND     | 0.34 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| cis-1,2-DCE                    | ND     | 0.39 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| cis-1,3-Dichloropropene        | ND     | 0.36 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1,2-Dibromo-3-chloropropane    | ND     | 0.59 | 2.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Dibromochloromethane           | ND     | 0.28 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Dibromomethane                 | ND     | 0.31 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1,2-Dichlorobenzene            | ND     | 0.15 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1,3-Dichlorobenzene            | ND     | 0.16 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1,4-Dichlorobenzene            | ND     | 0.21 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Dichlorodifluoromethane        | ND     | 0.40 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1,1-Dichloroethane             | ND     | 0.27 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1,1-Dichloroethene             | ND     | 0.20 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1,2-Dichloropropane            | ND     | 0.20 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1,3-Dichloropropane            | ND     | 0.18 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 2,2-Dichloropropane            | ND     | 0.26 | 2.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1,1-Dichloropropene            | ND     | 0.18 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |



## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: FB-09-17-21

Project: Additional Well Install

Collection Date: 9/17/2021 12:45:00 PM

Lab ID: 2109A01-011A

Matrix: Aqueous

| Analyses                                | Result | MDL   | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------------------|--------|-------|--------|------|-------|----|----------------------|----------|
| <b>EPA METHOD 8260B: VOLATILES</b>      |        |       |        |      |       |    | Analyst: mb          |          |
| Hexachlorobutadiene                     | ND     | 0.56  | 1.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 2-Hexanone                              | ND     | 1.8   | 10     |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Isopropylbenzene                        | ND     | 0.18  | 1.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 4-Isopropyltoluene                      | ND     | 0.20  | 1.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 4-Methyl-2-pentanone                    | ND     | 0.88  | 10     |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Methylene Chloride                      | ND     | 0.50  | 3.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| n-Butylbenzene                          | ND     | 0.25  | 3.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| n-Propylbenzene                         | ND     | 0.18  | 1.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| sec-Butylbenzene                        | ND     | 0.14  | 1.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Styrene                                 | ND     | 0.14  | 1.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| tert-Butylbenzene                       | ND     | 0.24  | 1.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1,1,1,2-Tetrachloroethane               | ND     | 0.27  | 1.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1,1,2,2-Tetrachloroethane               | ND     | 0.27  | 2.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Tetrachloroethene (PCE)                 | ND     | 0.36  | 1.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| trans-1,2-DCE                           | ND     | 0.19  | 1.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| trans-1,3-Dichloropropene               | ND     | 0.34  | 1.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1,2,3-Trichlorobenzene                  | ND     | 0.25  | 1.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1,2,4-Trichlorobenzene                  | ND     | 0.24  | 1.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1,1,1-Trichloroethane                   | ND     | 0.30  | 1.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1,1,2-Trichloroethane                   | ND     | 0.20  | 1.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Trichloroethene (TCE)                   | ND     | 0.20  | 1.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Trichlorofluoromethane                  | ND     | 0.16  | 1.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| 1,2,3-Trichloropropane                  | ND     | 0.44  | 2.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Vinyl chloride                          | ND     | 0.32  | 1.0    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Xylenes, Total                          | ND     | 0.37  | 1.5    |      | µg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Surr: 1,2-Dichloroethane-d4             | 112    | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 104    | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Surr: Dibromofluoromethane              | 102    | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Surr: Toluene-d8                        | 106    | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b> |        |       |        |      |       |    | Analyst: mb          |          |
| Gasoline Range Organics (GRO)           | ND     | 0.012 | 0.050  |      | mg/L  | 1  | 9/23/2021 8:13:41 AM | R81501   |
| Surr: 4-Bromofluorobenzene              | 105    | 0     | 70-130 |      | %Rec  | 1  | 9/23/2021 8:13:41 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: Trip Blank

Project: Additional Well Install

Collection Date:

Lab ID: 2109A01-012A

Matrix: Trip Blank

| Analyses                       | Result | MDL  | RL  | Qual | Units | DF | Date Analyzed        | Batch ID |
|--------------------------------|--------|------|-----|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES    |        |      |     |      |       |    | Analyst: mb          |          |
| Benzene                        | ND     | 0.23 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Toluene                        | ND     | 0.20 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Ethylbenzene                   | ND     | 0.21 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Methyl tert-butyl ether (MTBE) | ND     | 0.39 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1,2,4-Trimethylbenzene         | ND     | 0.12 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1,3,5-Trimethylbenzene         | ND     | 0.18 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1,2-Dichloroethane (EDC)       | ND     | 0.25 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1,2-Dibromoethane (EDB)        | ND     | 0.30 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Naphthalene                    | ND     | 0.50 | 2.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1-Methylnaphthalene            | ND     | 0.84 | 4.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 2-Methylnaphthalene            | ND     | 0.69 | 4.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Acetone                        | ND     | 2.5  | 10  |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Bromobenzene                   | ND     | 0.28 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Bromodichloromethane           | ND     | 0.20 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Bromoform                      | ND     | 0.31 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Bromomethane                   | ND     | 0.85 | 3.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 2-Butanone                     | ND     | 2.0  | 10  |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Carbon disulfide               | ND     | 0.59 | 10  |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Carbon Tetrachloride           | ND     | 0.18 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Chlorobenzene                  | ND     | 0.16 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Chloroethane                   | ND     | 0.38 | 2.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Chloroform                     | ND     | 0.13 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Chloromethane                  | ND     | 0.41 | 3.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 2-Chlorotoluene                | ND     | 0.13 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 4-Chlorotoluene                | ND     | 0.34 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| cis-1,2-DCE                    | ND     | 0.39 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| cis-1,3-Dichloropropene        | ND     | 0.36 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1,2-Dibromo-3-chloropropane    | ND     | 0.59 | 2.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Dibromochloromethane           | ND     | 0.28 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Dibromomethane                 | ND     | 0.31 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1,2-Dichlorobenzene            | ND     | 0.15 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1,3-Dichlorobenzene            | ND     | 0.16 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1,4-Dichlorobenzene            | ND     | 0.21 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Dichlorodifluoromethane        | ND     | 0.40 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1,1-Dichloroethane             | ND     | 0.27 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1,1-Dichloroethene             | ND     | 0.20 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1,2-Dichloropropane            | ND     | 0.20 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1,3-Dichloropropane            | ND     | 0.18 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 2,2-Dichloropropane            | ND     | 0.26 | 2.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1,1-Dichloropropene            | ND     | 0.18 | 1.0 |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

## Analytical Report

Lab Order: 2109A01

Date Reported: 10/8/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: Trip Blank

Project: Additional Well Install

Collection Date:

Lab ID: 2109A01-012A

Matrix: Trip Blank

| Analyses                    | Result | MDL  | RL     | Qual | Units | DF | Date Analyzed        | Batch ID |
|-----------------------------|--------|------|--------|------|-------|----|----------------------|----------|
| EPA METHOD 8260B: VOLATILES |        |      |        |      |       |    | Analyst: mb          |          |
| Hexachlorobutadiene         | ND     | 0.56 | 1.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 2-Hexanone                  | ND     | 1.8  | 10     |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Isopropylbenzene            | ND     | 0.18 | 1.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 4-Isopropyltoluene          | ND     | 0.20 | 1.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 4-Methyl-2-pentanone        | ND     | 0.88 | 10     |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Methylene Chloride          | ND     | 0.50 | 3.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| n-Butylbenzene              | ND     | 0.25 | 3.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| n-Propylbenzene             | ND     | 0.18 | 1.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| sec-Butylbenzene            | ND     | 0.14 | 1.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Styrene                     | ND     | 0.14 | 1.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| tert-Butylbenzene           | ND     | 0.24 | 1.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.27 | 1.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.27 | 2.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Tetrachloroethene (PCE)     | ND     | 0.36 | 1.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| trans-1,2-DCE               | ND     | 0.19 | 1.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| trans-1,3-Dichloropropene   | ND     | 0.34 | 1.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1,2,3-Trichlorobenzene      | ND     | 0.25 | 1.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1,2,4-Trichlorobenzene      | ND     | 0.24 | 1.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1,1,1-Trichloroethane       | ND     | 0.30 | 1.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1,1,2-Trichloroethane       | ND     | 0.20 | 1.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Trichloroethene (TCE)       | ND     | 0.20 | 1.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Trichlorofluoromethane      | ND     | 0.16 | 1.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| 1,2,3-Trichloropropane      | ND     | 0.44 | 2.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Vinyl chloride              | ND     | 0.32 | 1.0    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Xylenes, Total              | ND     | 0.37 | 1.5    |      | µg/L  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Surr: 1,2-Dichloroethane-d4 | 112    | 0    | 70-130 |      | %Rec  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Surr: 4-Bromofluorobenzene  | 101    | 0    | 70-130 |      | %Rec  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Surr: Dibromofluoromethane  | 101    | 0    | 70-130 |      | %Rec  | 1  | 9/23/2021 8:42:24 AM | R81501   |
| Surr: Toluene-d8            | 105    | 0    | 70-130 |      | %Rec  | 1  | 9/23/2021 8:42:24 AM | R81501   |

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  | Value above quantitation range                  |
|             | 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 Quantitative Limit                          | RL | Reporting Limit                                 |
|             | S   | % Recovery outside of range due to dilution or matrix |    |                                                 |
|             |     |                                                       |    |                                                 |

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

|                             |                                 |                                           |
|-----------------------------|---------------------------------|-------------------------------------------|
| Sample ID: <b>MB-62792</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 200.7: Metals</b> |
| Client ID: <b>PBW</b>       | Batch ID: <b>62792</b>          | RunNo: <b>81569</b>                       |
| Prep Date: <b>9/23/2021</b> | Analysis Date: <b>9/24/2021</b> | SeqNo: <b>2882424</b> Units: <b>mg/L</b>  |

| 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 |           |             |      |          |           |      |          |      |
| Calcium   | ND     | 1.0    |           |             |      |          |           |      |          |      |
| Chromium  | ND     | 0.0060 |           |             |      |          |           |      |          |      |
| Cobalt    | ND     | 0.0060 |           |             |      |          |           |      |          |      |
| Iron      | ND     | 0.050  |           |             |      |          |           |      |          |      |
| Magnesium | ND     | 1.0    |           |             |      |          |           |      |          |      |
| Manganese | ND     | 0.0020 |           |             |      |          |           |      |          |      |
| Nickel    | ND     | 0.010  |           |             |      |          |           |      |          |      |
| Potassium | ND     | 1.0    |           |             |      |          |           |      |          |      |
| Silver    | ND     | 0.0050 |           |             |      |          |           |      |          |      |
| Sodium    | ND     | 1.0    |           |             |      |          |           |      |          |      |
| Vanadium  | ND     | 0.050  |           |             |      |          |           |      |          |      |
| Zinc      | ND     | 0.010  |           |             |      |          |           |      |          |      |

|                                |                                 |                                           |
|--------------------------------|---------------------------------|-------------------------------------------|
| Sample ID: <b>LL LCS-62792</b> | SampType: <b>LCSLL</b>          | TestCode: <b>EPA Method 200.7: Metals</b> |
| Client ID: <b>BatchQC</b>      | Batch ID: <b>62792</b>          | RunNo: <b>81569</b>                       |
| Prep Date: <b>9/23/2021</b>    | Analysis Date: <b>9/24/2021</b> | SeqNo: <b>2882426</b> Units: <b>mg/L</b>  |

| Analyte   | Result | PQL    | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|-----------|--------|--------|-----------|-------------|------|----------|-----------|------|----------|------|
| Barium    | 0.0027 | 0.0030 | 0.002000  | 0           | 137  | 50       | 150       |      |          | J    |
| Beryllium | 0.0017 | 0.0020 | 0.002000  | 0           | 84.7 | 50       | 150       |      |          | J    |
| Cadmium   | 0.0017 | 0.0020 | 0.002000  | 0           | 87.1 | 50       | 150       |      |          | J    |
| Calcium   | 0.49   | 1.0    | 0.5000    | 0           | 98.0 | 50       | 150       |      |          | J    |
| Chromium  | 0.0065 | 0.0060 | 0.006000  | 0           | 108  | 50       | 150       |      |          |      |
| Cobalt    | 0.0072 | 0.0060 | 0.006000  | 0           | 120  | 50       | 150       |      |          |      |
| Iron      | 0.024  | 0.050  | 0.02000   | 0           | 118  | 50       | 150       |      |          | J    |
| Magnesium | 0.49   | 1.0    | 0.5000    | 0           | 98.5 | 50       | 150       |      |          | J    |
| Manganese | 0.0020 | 0.0020 | 0.002000  | 0           | 99.8 | 50       | 150       |      |          | J    |
| Nickel    | 0.0046 | 0.010  | 0.005000  | 0           | 92.4 | 50       | 150       |      |          | J    |
| Potassium | 0.55   | 1.0    | 0.5000    | 0           | 111  | 50       | 150       |      |          | J    |
| Silver    | 0.0047 | 0.0050 | 0.005000  | 0           | 93.6 | 50       | 150       |      |          | J    |
| Sodium    | 0.53   | 1.0    | 0.5000    | 0           | 106  | 50       | 150       |      |          | J    |
| Vanadium  | 0.0096 | 0.050  | 0.01000   | 0           | 95.8 | 50       | 150       |      |          | J    |
| Zinc      | 0.012  | 0.010  | 0.01000   | 0           | 117  | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

| Sample ID: <b>LCS-62792</b> |        | SampType: <b>LCS</b>            |           | TestCode: <b>EPA Method 200.7: Metals</b> |      |                    |           |      |          |      |
|-----------------------------|--------|---------------------------------|-----------|-------------------------------------------|------|--------------------|-----------|------|----------|------|
| Client ID: <b>LCSW</b>      |        | Batch ID: <b>62792</b>          |           | RunNo: <b>81569</b>                       |      |                    |           |      |          |      |
| Prep Date: <b>9/23/2021</b> |        | Analysis Date: <b>9/24/2021</b> |           | SeqNo: <b>2882428</b>                     |      | Units: <b>mg/L</b> |           |      |          |      |
| Analyte                     | Result | PQL                             | SPK value | SPK Ref Val                               | %REC | LowLimit           | HighLimit | %RPD | RPDLimit | Qual |
| Barium                      | 0.50   | 0.0030                          | 0.5000    | 0                                         | 101  | 85                 | 115       |      |          |      |
| Beryllium                   | 0.52   | 0.0020                          | 0.5000    | 0                                         | 103  | 85                 | 115       |      |          |      |
| Cadmium                     | 0.50   | 0.0020                          | 0.5000    | 0                                         | 99.5 | 85                 | 115       |      |          |      |
| Calcium                     | 50     | 1.0                             | 50.00     | 0                                         | 99.5 | 85                 | 115       |      |          |      |
| Chromium                    | 0.49   | 0.0060                          | 0.5000    | 0                                         | 98.5 | 85                 | 115       |      |          |      |
| Cobalt                      | 0.48   | 0.0060                          | 0.5000    | 0                                         | 96.5 | 85                 | 115       |      |          |      |
| Iron                        | 0.52   | 0.050                           | 0.5000    | 0                                         | 104  | 85                 | 115       |      |          |      |
| Magnesium                   | 49     | 1.0                             | 50.00     | 0                                         | 99.0 | 85                 | 115       |      |          |      |
| Manganese                   | 0.48   | 0.0020                          | 0.5000    | 0                                         | 96.9 | 85                 | 115       |      |          |      |
| Nickel                      | 0.48   | 0.010                           | 0.5000    | 0                                         | 96.2 | 85                 | 115       |      |          |      |
| Potassium                   | 51     | 1.0                             | 50.00     | 0                                         | 101  | 85                 | 115       |      |          |      |
| Silver                      | 0.10   | 0.0050                          | 0.1000    | 0                                         | 101  | 85                 | 115       |      |          |      |
| Sodium                      | 51     | 1.0                             | 50.00     | 0                                         | 101  | 85                 | 115       |      |          |      |
| Vanadium                    | 0.50   | 0.050                           | 0.5000    | 0                                         | 101  | 85                 | 115       |      |          |      |
| Zinc                        | 0.49   | 0.010                           | 0.5000    | 0                                         | 97.8 | 85                 | 115       |      |          |      |

| Sample ID: <b>2109A01-001FMS</b> |        | SampType: <b>MS</b>             |           | TestCode: <b>EPA Method 200.7: Metals</b> |      |                    |           |      |          |      |
|----------------------------------|--------|---------------------------------|-----------|-------------------------------------------|------|--------------------|-----------|------|----------|------|
| Client ID: <b>EB-09-17-21</b>    |        | Batch ID: <b>62792</b>          |           | RunNo: <b>81569</b>                       |      |                    |           |      |          |      |
| Prep Date: <b>9/23/2021</b>      |        | Analysis Date: <b>9/24/2021</b> |           | SeqNo: <b>2882478</b>                     |      | Units: <b>mg/L</b> |           |      |          |      |
| Analyte                          | Result | PQL                             | SPK value | SPK Ref Val                               | %REC | LowLimit           | HighLimit | %RPD | RPDLimit | Qual |
| Barium                           | 0.53   | 0.0030                          | 0.5000    | 0                                         | 106  | 70                 | 130       |      |          |      |
| Beryllium                        | 0.53   | 0.0020                          | 0.5000    | 0                                         | 105  | 70                 | 130       |      |          |      |
| Cadmium                          | 0.53   | 0.0020                          | 0.5000    | 0                                         | 105  | 70                 | 130       |      |          |      |
| Calcium                          | 51     | 1.0                             | 50.00     | 0                                         | 101  | 70                 | 130       |      |          |      |
| Chromium                         | 0.53   | 0.0060                          | 0.5000    | 0                                         | 106  | 70                 | 130       |      |          |      |
| Cobalt                           | 0.52   | 0.0060                          | 0.5000    | 0                                         | 103  | 70                 | 130       |      |          |      |
| Iron                             | 0.53   | 0.050                           | 0.5000    | 0                                         | 105  | 70                 | 130       |      |          |      |
| Magnesium                        | 50     | 1.0                             | 50.00     | 0                                         | 99.1 | 70                 | 130       |      |          |      |
| Manganese                        | 0.51   | 0.0020                          | 0.5000    | 0                                         | 102  | 70                 | 130       |      |          |      |
| Nickel                           | 0.51   | 0.010                           | 0.5000    | 0                                         | 102  | 70                 | 130       |      |          |      |
| Potassium                        | 49     | 1.0                             | 50.00     | 0                                         | 98.4 | 70                 | 130       |      |          |      |
| Silver                           | 0.10   | 0.0050                          | 0.1000    | 0                                         | 104  | 70                 | 130       |      |          |      |
| Sodium                           | 52     | 1.0                             | 50.00     | 0                                         | 104  | 70                 | 130       |      |          |      |
| Vanadium                         | 0.53   | 0.050                           | 0.5000    | 0                                         | 105  | 70                 | 130       |      |          |      |
| Zinc                             | 0.50   | 0.010                           | 0.5000    | 0                                         | 100  | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

| Sample ID: <b>2109A01-001FMSD</b> |        | SampType: <b>MSD</b>            |           | TestCode: <b>EPA Method 200.7: Metals</b> |      |                    |           |        |          |      |
|-----------------------------------|--------|---------------------------------|-----------|-------------------------------------------|------|--------------------|-----------|--------|----------|------|
| Client ID: <b>EB-09-17-21</b>     |        | Batch ID: <b>62792</b>          |           | RunNo: <b>81569</b>                       |      |                    |           |        |          |      |
| Prep Date: <b>9/23/2021</b>       |        | Analysis Date: <b>9/24/2021</b> |           | SeqNo: <b>2882479</b>                     |      | Units: <b>mg/L</b> |           |        |          |      |
| Analyte                           | Result | PQL                             | SPK value | SPK Ref Val                               | %REC | LowLimit           | HighLimit | %RPD   | RPDLimit | Qual |
| Barium                            | 0.53   | 0.0030                          | 0.5000    | 0                                         | 106  | 70                 | 130       | 0.368  | 20       |      |
| Beryllium                         | 0.52   | 0.0020                          | 0.5000    | 0                                         | 104  | 70                 | 130       | 1.20   | 20       |      |
| Cadmium                           | 0.52   | 0.0020                          | 0.5000    | 0                                         | 104  | 70                 | 130       | 0.972  | 20       |      |
| Calcium                           | 51     | 1.0                             | 50.00     | 0                                         | 101  | 70                 | 130       | 0.298  | 20       |      |
| Chromium                          | 0.53   | 0.0060                          | 0.5000    | 0                                         | 105  | 70                 | 130       | 0.869  | 20       |      |
| Cobalt                            | 0.51   | 0.0060                          | 0.5000    | 0                                         | 102  | 70                 | 130       | 0.755  | 20       |      |
| Iron                              | 0.53   | 0.050                           | 0.5000    | 0                                         | 106  | 70                 | 130       | 0.190  | 20       |      |
| Magnesium                         | 49     | 1.0                             | 50.00     | 0                                         | 97.3 | 70                 | 130       | 1.80   | 20       |      |
| Manganese                         | 0.51   | 0.0020                          | 0.5000    | 0                                         | 101  | 70                 | 130       | 1.10   | 20       |      |
| Nickel                            | 0.50   | 0.010                           | 0.5000    | 0                                         | 101  | 70                 | 130       | 0.940  | 20       |      |
| Potassium                         | 48     | 1.0                             | 50.00     | 0                                         | 96.6 | 70                 | 130       | 1.83   | 20       |      |
| Silver                            | 0.10   | 0.0050                          | 0.1000    | 0                                         | 103  | 70                 | 130       | 0.804  | 20       |      |
| Sodium                            | 51     | 1.0                             | 50.00     | 0                                         | 103  | 70                 | 130       | 1.50   | 20       |      |
| Vanadium                          | 0.52   | 0.050                           | 0.5000    | 0                                         | 103  | 70                 | 130       | 1.90   | 20       |      |
| Zinc                              | 0.50   | 0.010                           | 0.5000    | 0                                         | 100  | 70                 | 130       | 0.0115 | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

| Sample ID: <b>MB</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 200.7: Dissolved Metals</b> |                    |             |      |          |           |      |          |      |
|-----------------------|---------------------------------|-----------------------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBW</b> | Batch ID: <b>B81434</b>         | RunNo: <b>81434</b>                                 |                    |             |      |          |           |      |          |      |
| Prep Date:            | Analysis Date: <b>9/21/2021</b> | SeqNo: <b>2876913</b>                               | Units: <b>mg/L</b> |             |      |          |           |      |          |      |
| Analyte               | Result                          | PQL                                                 | SPK value          | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|           |    |        |  |  |  |  |  |  |  |  |
|-----------|----|--------|--|--|--|--|--|--|--|--|
| Barium    | ND | 0.0020 |  |  |  |  |  |  |  |  |
| Beryllium | ND | 0.0020 |  |  |  |  |  |  |  |  |
| Cadmium   | ND | 0.0020 |  |  |  |  |  |  |  |  |
| Chromium  | ND | 0.0060 |  |  |  |  |  |  |  |  |
| Cobalt    | ND | 0.0060 |  |  |  |  |  |  |  |  |
| Iron      | ND | 0.020  |  |  |  |  |  |  |  |  |
| Manganese | ND | 0.0020 |  |  |  |  |  |  |  |  |
| Nickel    | ND | 0.010  |  |  |  |  |  |  |  |  |
| Silver    | ND | 0.0050 |  |  |  |  |  |  |  |  |
| Vanadium  | ND | 0.050  |  |  |  |  |  |  |  |  |
| Zinc      | ND | 0.010  |  |  |  |  |  |  |  |  |

| Sample ID: <b>LL LCS</b>  | SampType: <b>LCSLL</b>          | TestCode: <b>EPA Method 200.7: Dissolved Metals</b> |                    |             |      |          |           |      |          |      |
|---------------------------|---------------------------------|-----------------------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>BatchQC</b> | Batch ID: <b>B81434</b>         | RunNo: <b>81434</b>                                 |                    |             |      |          |           |      |          |      |
| Prep Date:                | Analysis Date: <b>9/21/2021</b> | SeqNo: <b>2876914</b>                               | Units: <b>mg/L</b> |             |      |          |           |      |          |      |
| Analyte                   | Result                          | PQL                                                 | SPK value          | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|           |        |        |          |   |      |    |     |  |  |   |
|-----------|--------|--------|----------|---|------|----|-----|--|--|---|
| Barium    | 0.0027 | 0.0020 | 0.002000 | 0 | 134  | 50 | 150 |  |  |   |
| Beryllium | 0.0022 | 0.0020 | 0.002000 | 0 | 109  | 50 | 150 |  |  |   |
| Cadmium   | 0.0020 | 0.0020 | 0.002000 | 0 | 101  | 50 | 150 |  |  |   |
| Chromium  | 0.0061 | 0.0060 | 0.006000 | 0 | 101  | 50 | 150 |  |  |   |
| Cobalt    | 0.0059 | 0.0060 | 0.006000 | 0 | 97.9 | 50 | 150 |  |  | J |
| Iron      | 0.019  | 0.020  | 0.02000  | 0 | 93.2 | 50 | 150 |  |  | J |
| Manganese | 0.0020 | 0.0020 | 0.002000 | 0 | 102  | 50 | 150 |  |  |   |
| Nickel    | 0.0045 | 0.010  | 0.005000 | 0 | 90.4 | 50 | 150 |  |  | J |
| Silver    | 0.0048 | 0.0050 | 0.005000 | 0 | 95.8 | 50 | 150 |  |  | J |
| Vanadium  | 0.0097 | 0.050  | 0.01000  | 0 | 96.6 | 50 | 150 |  |  | J |
| Zinc      | 0.012  | 0.010  | 0.01000  | 0 | 122  | 50 | 150 |  |  |   |

| Sample ID: <b>LCS</b>  | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 200.7: Dissolved Metals</b> |                    |             |      |          |           |      |          |      |
|------------------------|---------------------------------|-----------------------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSW</b> | Batch ID: <b>B81434</b>         | RunNo: <b>81434</b>                                 |                    |             |      |          |           |      |          |      |
| Prep Date:             | Analysis Date: <b>9/21/2021</b> | SeqNo: <b>2876915</b>                               | Units: <b>mg/L</b> |             |      |          |           |      |          |      |
| Analyte                | Result                          | PQL                                                 | SPK value          | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|           |      |        |        |   |      |    |     |  |  |  |
|-----------|------|--------|--------|---|------|----|-----|--|--|--|
| Barium    | 0.51 | 0.0020 | 0.5000 | 0 | 101  | 85 | 115 |  |  |  |
| Beryllium | 0.51 | 0.0020 | 0.5000 | 0 | 102  | 85 | 115 |  |  |  |
| Cadmium   | 0.50 | 0.0020 | 0.5000 | 0 | 100  | 85 | 115 |  |  |  |
| Chromium  | 0.50 | 0.0060 | 0.5000 | 0 | 99.6 | 85 | 115 |  |  |  |
| Cobalt    | 0.49 | 0.0060 | 0.5000 | 0 | 98.2 | 85 | 115 |  |  |  |
| Iron      | 0.51 | 0.020  | 0.5000 | 0 | 101  | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit



**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

| Sample ID: <b>LCS</b>  | SampType: <b>LCS</b>            |        | TestCode: <b>EPA Method 200.7: Dissolved Metals</b> |             |                    |          |           |      |          |      |
|------------------------|---------------------------------|--------|-----------------------------------------------------|-------------|--------------------|----------|-----------|------|----------|------|
| Client ID: <b>LCSW</b> | Batch ID: <b>B81434</b>         |        | RunNo: <b>81434</b>                                 |             |                    |          |           |      |          |      |
| Prep Date:             | Analysis Date: <b>9/21/2021</b> |        | SeqNo: <b>2876915</b>                               |             | Units: <b>mg/L</b> |          |           |      |          |      |
| Analyte                | Result                          | PQL    | SPK value                                           | SPK Ref Val | %REC               | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Manganese              | 0.49                            | 0.0020 | 0.5000                                              | 0           | 99.0               | 85       | 115       |      |          |      |
| Nickel                 | 0.48                            | 0.010  | 0.5000                                              | 0           | 97.0               | 85       | 115       |      |          |      |
| Silver                 | 0.10                            | 0.0050 | 0.1000                                              | 0           | 102                | 85       | 115       |      |          |      |
| Vanadium               | 0.52                            | 0.050  | 0.5000                                              | 0           | 104                | 85       | 115       |      |          |      |
| Zinc                   | 0.50                            | 0.010  | 0.5000                                              | 0           | 100                | 85       | 115       |      |          |      |

| Sample ID: <b>2109A01-001GMS</b> | SampType: <b>MS</b>             |        | TestCode: <b>EPA Method 200.7: Dissolved Metals</b> |             |                    |          |           |      |          |      |
|----------------------------------|---------------------------------|--------|-----------------------------------------------------|-------------|--------------------|----------|-----------|------|----------|------|
| Client ID: <b>EB-09-17-21</b>    | Batch ID: <b>B81434</b>         |        | RunNo: <b>81434</b>                                 |             |                    |          |           |      |          |      |
| Prep Date:                       | Analysis Date: <b>9/21/2021</b> |        | SeqNo: <b>2876945</b>                               |             | Units: <b>mg/L</b> |          |           |      |          |      |
| Analyte                          | Result                          | PQL    | SPK value                                           | SPK Ref Val | %REC               | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Barium                           | 0.47                            | 0.0020 | 0.5000                                              | 0           | 94.8               | 70       | 130       |      |          |      |
| Beryllium                        | 0.51                            | 0.0020 | 0.5000                                              | 0           | 102                | 70       | 130       |      |          |      |
| Cadmium                          | 0.48                            | 0.0020 | 0.5000                                              | 0           | 96.5               | 70       | 130       |      |          |      |
| Chromium                         | 0.47                            | 0.0060 | 0.5000                                              | 0           | 93.3               | 70       | 130       |      |          |      |
| Cobalt                           | 0.46                            | 0.0060 | 0.5000                                              | 0           | 92.6               | 70       | 130       |      |          |      |
| Iron                             | 0.48                            | 0.020  | 0.5000                                              | 0           | 96.3               | 70       | 130       |      |          |      |
| Manganese                        | 0.47                            | 0.0020 | 0.5000                                              | 0           | 94.0               | 70       | 130       |      |          |      |
| Nickel                           | 0.47                            | 0.010  | 0.5000                                              | 0           | 93.2               | 70       | 130       |      |          |      |
| Silver                           | 0.10                            | 0.0050 | 0.1000                                              | 0           | 99.6               | 70       | 130       |      |          |      |
| Vanadium                         | 0.50                            | 0.050  | 0.5000                                              | 0           | 99.2               | 70       | 130       |      |          |      |
| Zinc                             | 0.50                            | 0.010  | 0.5000                                              | 0.007132    | 98.9               | 70       | 130       |      |          |      |

| Sample ID: <b>2109A01-001GMSD</b> | SampType: <b>MSD</b>            |        | TestCode: <b>EPA Method 200.7: Dissolved Metals</b> |             |                    |          |           |       |          |      |
|-----------------------------------|---------------------------------|--------|-----------------------------------------------------|-------------|--------------------|----------|-----------|-------|----------|------|
| Client ID: <b>EB-09-17-21</b>     | Batch ID: <b>B81434</b>         |        | RunNo: <b>81434</b>                                 |             |                    |          |           |       |          |      |
| Prep Date:                        | Analysis Date: <b>9/21/2021</b> |        | SeqNo: <b>2876949</b>                               |             | Units: <b>mg/L</b> |          |           |       |          |      |
| Analyte                           | Result                          | PQL    | SPK value                                           | SPK Ref Val | %REC               | LowLimit | HighLimit | %RPD  | RPDLimit | Qual |
| Barium                            | 0.48                            | 0.0020 | 0.5000                                              | 0           | 96.3               | 70       | 130       | 1.50  | 20       |      |
| Beryllium                         | 0.51                            | 0.0020 | 0.5000                                              | 0           | 103                | 70       | 130       | 1.33  | 20       |      |
| Cadmium                           | 0.49                            | 0.0020 | 0.5000                                              | 0           | 98.2               | 70       | 130       | 1.73  | 20       |      |
| Chromium                          | 0.47                            | 0.0060 | 0.5000                                              | 0           | 94.0               | 70       | 130       | 0.747 | 20       |      |
| Cobalt                            | 0.47                            | 0.0060 | 0.5000                                              | 0           | 93.4               | 70       | 130       | 0.916 | 20       |      |
| Iron                              | 0.48                            | 0.020  | 0.5000                                              | 0           | 95.6               | 70       | 130       | 0.765 | 20       |      |
| Manganese                         | 0.47                            | 0.0020 | 0.5000                                              | 0           | 94.8               | 70       | 130       | 0.880 | 20       |      |
| Nickel                            | 0.47                            | 0.010  | 0.5000                                              | 0           | 94.4               | 70       | 130       | 1.27  | 20       |      |
| Silver                            | 0.10                            | 0.0050 | 0.1000                                              | 0           | 101                | 70       | 130       | 1.05  | 20       |      |
| Vanadium                          | 0.49                            | 0.050  | 0.5000                                              | 0           | 98.7               | 70       | 130       | 0.534 | 20       |      |
| Zinc                              | 0.52                            | 0.010  | 0.5000                                              | 0.007132    | 102                | 70       | 130       | 3.07  | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

| Sample ID: <b>MB-62792</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA 200.8: Metals</b> |                    |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBW</b>       | Batch ID: <b>62792</b>          | RunNo: <b>81552</b>                |                    |             |      |          |           |      |          |      |
| Prep Date: <b>9/23/2021</b> | Analysis Date: <b>9/24/2021</b> | SeqNo: <b>2881768</b>              | Units: <b>mg/L</b> |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                | SPK value          | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Antimony                    | ND                              | 0.0010                             |                    |             |      |          |           |      |          |      |
| Arsenic                     | ND                              | 0.0010                             |                    |             |      |          |           |      |          |      |
| Lead                        | ND                              | 0.00050                            |                    |             |      |          |           |      |          |      |
| Selenium                    | ND                              | 0.0010                             |                    |             |      |          |           |      |          |      |

| Sample ID: <b>MSLLCS-62792</b> | SampType: <b>LCSLL</b>          | TestCode: <b>EPA 200.8: Metals</b> |                    |             |      |          |           |      |          |      |
|--------------------------------|---------------------------------|------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>BatchQC</b>      | Batch ID: <b>62792</b>          | RunNo: <b>81552</b>                |                    |             |      |          |           |      |          |      |
| Prep Date: <b>9/23/2021</b>    | Analysis Date: <b>9/24/2021</b> | SeqNo: <b>2881769</b>              | Units: <b>mg/L</b> |             |      |          |           |      |          |      |
| Analyte                        | Result                          | PQL                                | SPK value          | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Antimony                       | 0.0012                          | 0.0010                             | 0.001000           | 0           | 117  | 50       | 150       |      |          |      |
| Arsenic                        | 0.00093                         | 0.0010                             | 0.001000           | 0           | 92.8 | 50       | 150       |      |          | J    |
| Lead                           | 0.00051                         | 0.00050                            | 0.0005000          | 0           | 102  | 50       | 150       |      |          |      |
| Selenium                       | 0.00085                         | 0.0010                             | 0.001000           | 0           | 84.5 | 50       | 150       |      |          | J    |

| Sample ID: <b>MSLCS-62792</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA 200.8: Metals</b> |                    |             |      |          |           |      |          |      |
|-------------------------------|---------------------------------|------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSW</b>        | Batch ID: <b>62792</b>          | RunNo: <b>81552</b>                |                    |             |      |          |           |      |          |      |
| Prep Date: <b>9/23/2021</b>   | Analysis Date: <b>9/24/2021</b> | SeqNo: <b>2881770</b>              | Units: <b>mg/L</b> |             |      |          |           |      |          |      |
| Analyte                       | Result                          | PQL                                | SPK value          | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Antimony                      | 0.027                           | 0.0010                             | 0.02500            | 0           | 107  | 85       | 115       |      |          |      |
| Arsenic                       | 0.024                           | 0.0010                             | 0.02500            | 0           | 95.6 | 85       | 115       |      |          |      |
| Lead                          | 0.012                           | 0.00050                            | 0.01250            | 0           | 98.2 | 85       | 115       |      |          |      |
| Selenium                      | 0.025                           | 0.0010                             | 0.02500            | 0           | 101  | 85       | 115       |      |          |      |

| Sample ID: <b>2109A01-002FMSLL</b> | SampType: <b>MS</b>             | TestCode: <b>EPA 200.8: Metals</b> |                    |             |      |          |           |      |          |      |
|------------------------------------|---------------------------------|------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>MKTF-17R</b>         | Batch ID: <b>62792</b>          | RunNo: <b>81711</b>                |                    |             |      |          |           |      |          |      |
| Prep Date: <b>9/23/2021</b>        | Analysis Date: <b>9/30/2021</b> | SeqNo: <b>2888684</b>              | Units: <b>mg/L</b> |             |      |          |           |      |          |      |
| Analyte                            | Result                          | PQL                                | SPK value          | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Antimony                           | 0.024                           | 0.0050                             | 0.02500            | 0           | 95.4 | 70       | 130       |      |          |      |
| Arsenic                            | 0.029                           | 0.0050                             | 0.02500            | 0.005548    | 94.0 | 70       | 130       |      |          |      |
| Lead                               | 0.012                           | 0.0025                             | 0.01250            | 0.0003855   | 92.8 | 70       | 130       |      |          |      |
| Selenium                           | 0.024                           | 0.0050                             | 0.02500            | 0           | 95.0 | 70       | 130       |      |          |      |

| Sample ID: <b>2109A01-002FMSDL</b> | SampType: <b>MSD</b>            | TestCode: <b>EPA 200.8: Metals</b> |                    |             |      |          |           |      |          |      |
|------------------------------------|---------------------------------|------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>MKTF-17R</b>         | Batch ID: <b>62792</b>          | RunNo: <b>81711</b>                |                    |             |      |          |           |      |          |      |
| Prep Date: <b>9/23/2021</b>        | Analysis Date: <b>9/30/2021</b> | SeqNo: <b>2888685</b>              | Units: <b>mg/L</b> |             |      |          |           |      |          |      |
| 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2109A01

08-Oct-21

Client: Marathon

Project: Additional Well Install

|                             |        |                          |           |                             |      |             |           |      |          |      |
|-----------------------------|--------|--------------------------|-----------|-----------------------------|------|-------------|-----------|------|----------|------|
| Sample ID: 2109A01-002FMSDL |        | SampType: MSD            |           | TestCode: EPA 200.8: Metals |      |             |           |      |          |      |
| Client ID: MKTF-17R         |        | Batch ID: 62792          |           | RunNo: 81711                |      |             |           |      |          |      |
| Prep Date: 9/23/2021        |        | Analysis Date: 9/30/2021 |           | SeqNo: 2888685              |      | Units: mg/L |           |      |          |      |
| Analyte                     | Result | PQL                      | SPK value | SPK Ref Val                 | %REC | LowLimit    | HighLimit | %RPD | RPDLimit | Qual |
| Antimony                    | 0.024  | 0.0050                   | 0.02500   | 0                           | 96.4 | 70          | 130       | 1.10 | 20       |      |
| Arsenic                     | 0.027  | 0.0050                   | 0.02500   | 0.005548                    | 87.5 | 70          | 130       | 5.78 | 20       |      |
| Lead                        | 0.011  | 0.0025                   | 0.01250   | 0.0003855                   | 85.7 | 70          | 130       | 7.66 | 20       |      |
| Selenium                    | 0.021  | 0.0050                   | 0.02500   | 0                           | 85.4 | 70          | 130       | 10.6 | 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 Quantitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

| Sample ID: <b>MB</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA 200.8: Dissolved Metals</b> |           |             |      |          |           |      |          |      |
|-----------------------|---------------------------------|----------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBW</b> | Batch ID: <b>C81686</b>         | RunNo: <b>81686</b>                          |           |             |      |          |           |      |          |      |
| Prep Date:            | Analysis Date: <b>9/29/2021</b> | SeqNo: <b>2887260</b> Units: <b>mg/L</b>     |           |             |      |          |           |      |          |      |
| Analyte               | Result                          | PQL                                          | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Antimony              | ND                              | 0.0010                                       |           |             |      |          |           |      |          |      |
| Arsenic               | ND                              | 0.0010                                       |           |             |      |          |           |      |          |      |
| Lead                  | ND                              | 0.00050                                      |           |             |      |          |           |      |          |      |
| Selenium              | ND                              | 0.0010                                       |           |             |      |          |           |      |          |      |

| Sample ID: <b>LCSLL</b>   | SampType: <b>LCSLL</b>          | TestCode: <b>EPA 200.8: Dissolved Metals</b> |           |             |      |          |           |      |          |      |
|---------------------------|---------------------------------|----------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>BatchQC</b> | Batch ID: <b>C81686</b>         | RunNo: <b>81686</b>                          |           |             |      |          |           |      |          |      |
| Prep Date:                | Analysis Date: <b>9/29/2021</b> | SeqNo: <b>2887261</b> Units: <b>mg/L</b>     |           |             |      |          |           |      |          |      |
| Analyte                   | Result                          | PQL                                          | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Antimony                  | 0.0010                          | 0.0010                                       | 0.001000  | 0           | 104  | 50       | 150       |      |          |      |
| Arsenic                   | 0.00098                         | 0.0010                                       | 0.001000  | 0           | 98.3 | 50       | 150       |      |          | J    |
| Lead                      | 0.00052                         | 0.00050                                      | 0.0005000 | 0           | 104  | 50       | 150       |      |          |      |
| Selenium                  | 0.00082                         | 0.0010                                       | 0.001000  | 0           | 81.6 | 50       | 150       |      |          | J    |

| Sample ID: <b>LCS</b>  | SampType: <b>LCS</b>            | TestCode: <b>EPA 200.8: Dissolved Metals</b> |           |             |      |          |           |      |          |      |
|------------------------|---------------------------------|----------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSW</b> | Batch ID: <b>C81686</b>         | RunNo: <b>81686</b>                          |           |             |      |          |           |      |          |      |
| Prep Date:             | Analysis Date: <b>9/29/2021</b> | SeqNo: <b>2887262</b> Units: <b>mg/L</b>     |           |             |      |          |           |      |          |      |
| Analyte                | Result                          | PQL                                          | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Antimony               | 0.024                           | 0.0010                                       | 0.02500   | 0           | 96.6 | 85       | 115       |      |          |      |
| Arsenic                | 0.025                           | 0.0010                                       | 0.02500   | 0           | 98.4 | 85       | 115       |      |          |      |
| Lead                   | 0.012                           | 0.00050                                      | 0.01250   | 0           | 98.1 | 85       | 115       |      |          |      |
| Selenium               | 0.022                           | 0.0010                                       | 0.02500   | 0           | 88.9 | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

|                             |                                 |                                                                      |
|-----------------------------|---------------------------------|----------------------------------------------------------------------|
| Sample ID: <b>MB-62854</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 245.1: Mercury</b>                           |
| Client ID: <b>PBW</b>       | Batch ID: <b>62854</b>          | RunNo: <b>81625</b>                                                  |
| Prep Date: <b>9/27/2021</b> | Analysis Date: <b>9/28/2021</b> | SeqNo: <b>2884681</b> Units: <b>mg/L</b>                             |
| Analyte                     | Result                          | PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual |
| Mercury                     | ND                              | 0.00020                                                              |

|                              |                                 |                                                                      |
|------------------------------|---------------------------------|----------------------------------------------------------------------|
| Sample ID: <b>LLCS-62854</b> | SampType: <b>LCSLL</b>          | TestCode: <b>EPA Method 245.1: Mercury</b>                           |
| Client ID: <b>BatchQC</b>    | Batch ID: <b>62854</b>          | RunNo: <b>81625</b>                                                  |
| Prep Date: <b>9/27/2021</b>  | Analysis Date: <b>9/28/2021</b> | SeqNo: <b>2884682</b> Units: <b>mg/L</b>                             |
| Analyte                      | Result                          | PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual |
| Mercury                      | 0.00016                         | 0.00020 0.0001500 0 104 50 150 J                                     |

|                             |                                 |                                                                      |
|-----------------------------|---------------------------------|----------------------------------------------------------------------|
| Sample ID: <b>LCS-62854</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 245.1: Mercury</b>                           |
| Client ID: <b>LCSW</b>      | Batch ID: <b>62854</b>          | RunNo: <b>81625</b>                                                  |
| Prep Date: <b>9/27/2021</b> | Analysis Date: <b>9/28/2021</b> | SeqNo: <b>2884683</b> Units: <b>mg/L</b>                             |
| Analyte                     | Result                          | PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual |
| Mercury                     | 0.0049                          | 0.00020 0.005000 0 97.8 85 115                                       |

|                                  |                                 |                                                                      |
|----------------------------------|---------------------------------|----------------------------------------------------------------------|
| Sample ID: <b>2109A01-003FMS</b> | SampType: <b>MS</b>             | TestCode: <b>EPA Method 245.1: Mercury</b>                           |
| Client ID: <b>MKTF-18R</b>       | Batch ID: <b>62854</b>          | RunNo: <b>81625</b>                                                  |
| Prep Date: <b>9/27/2021</b>      | Analysis Date: <b>9/28/2021</b> | SeqNo: <b>2884717</b> Units: <b>mg/L</b>                             |
| Analyte                          | Result                          | PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual |
| Mercury                          | 0.0043                          | 0.00020 0.005000 0 85.7 75 125                                       |

|                                   |                                 |                                                                      |
|-----------------------------------|---------------------------------|----------------------------------------------------------------------|
| Sample ID: <b>2109A01-003FMSD</b> | SampType: <b>MSD</b>            | TestCode: <b>EPA Method 245.1: Mercury</b>                           |
| Client ID: <b>MKTF-18R</b>        | Batch ID: <b>62854</b>          | RunNo: <b>81625</b>                                                  |
| Prep Date: <b>9/27/2021</b>       | Analysis Date: <b>9/28/2021</b> | SeqNo: <b>2884718</b> Units: <b>mg/L</b>                             |
| Analyte                           | Result                          | PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual |
| Mercury                           | 0.0042                          | 0.00020 0.005000 0 84.1 75 125 1.89 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

| Sample ID: <b>MB</b>     | SampType: <b>mbk</b>            | TestCode: <b>EPA Method 300.0: Anions</b> |           |             |      |          |           |      |          |      |
|--------------------------|---------------------------------|-------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBW</b>    | Batch ID: <b>R81380</b>         | RunNo: <b>81380</b>                       |           |             |      |          |           |      |          |      |
| Prep Date:               | Analysis Date: <b>9/18/2021</b> | SeqNo: <b>2874311</b> Units: <b>mg/L</b>  |           |             |      |          |           |      |          |      |
| Analyte                  | Result                          | PQL                                       | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Fluoride                 | ND                              | 0.10                                      |           |             |      |          |           |      |          |      |
| Chloride                 | ND                              | 0.50                                      |           |             |      |          |           |      |          |      |
| Nitrogen, Nitrite (As N) | ND                              | 0.10                                      |           |             |      |          |           |      |          |      |
| Nitrogen, Nitrate (As N) | ND                              | 0.10                                      |           |             |      |          |           |      |          |      |
| Sulfate                  | ND                              | 0.50                                      |           |             |      |          |           |      |          |      |

| Sample ID: <b>LCS</b>    | SampType: <b>lcs</b>            | TestCode: <b>EPA Method 300.0: Anions</b> |           |             |      |          |           |      |          |      |
|--------------------------|---------------------------------|-------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSW</b>   | Batch ID: <b>R81380</b>         | RunNo: <b>81380</b>                       |           |             |      |          |           |      |          |      |
| Prep Date:               | Analysis Date: <b>9/18/2021</b> | SeqNo: <b>2874312</b> Units: <b>mg/L</b>  |           |             |      |          |           |      |          |      |
| Analyte                  | Result                          | PQL                                       | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Fluoride                 | 0.51                            | 0.10                                      | 0.5000    | 0           | 103  | 90       | 110       |      |          |      |
| Chloride                 | 4.8                             | 0.50                                      | 5.000     | 0           | 96.4 | 90       | 110       |      |          |      |
| Nitrogen, Nitrite (As N) | 0.98                            | 0.10                                      | 1.000     | 0           | 97.9 | 90       | 110       |      |          |      |
| Nitrogen, Nitrate (As N) | 2.5                             | 0.10                                      | 2.500     | 0           | 101  | 90       | 110       |      |          |      |
| Sulfate                  | 10                              | 0.50                                      | 10.00     | 0           | 99.8 | 90       | 110       |      |          |      |

| Sample ID: <b>2109A01-001EMS</b> | SampType: <b>ms</b>             | TestCode: <b>EPA Method 300.0: Anions</b> |           |             |      |          |           |      |          |      |
|----------------------------------|---------------------------------|-------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>EB-09-17-21</b>    | Batch ID: <b>R81380</b>         | RunNo: <b>81380</b>                       |           |             |      |          |           |      |          |      |
| Prep Date:                       | Analysis Date: <b>9/18/2021</b> | SeqNo: <b>2874314</b> Units: <b>mg/L</b>  |           |             |      |          |           |      |          |      |
| Analyte                          | Result                          | PQL                                       | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Fluoride                         | 0.52                            | 0.10                                      | 0.5000    | 0           | 105  | 73.3     | 111       |      |          |      |
| Chloride                         | 5.1                             | 0.50                                      | 5.000     | 0.2855      | 95.3 | 84.2     | 117       |      |          |      |
| Nitrogen, Nitrite (As N)         | 0.98                            | 0.10                                      | 1.000     | 0           | 97.8 | 75.5     | 113       |      |          |      |
| Nitrogen, Nitrate (As N)         | 2.9                             | 0.10                                      | 2.500     | 0.3118      | 103  | 86.8     | 110       |      |          |      |
| Sulfate                          | 12                              | 0.50                                      | 10.00     | 1.678       | 101  | 83.3     | 112       |      |          |      |

| Sample ID: <b>2109A01-001EMSD</b> | SampType: <b>msd</b>            | TestCode: <b>EPA Method 300.0: Anions</b> |           |             |      |          |           |         |          |      |
|-----------------------------------|---------------------------------|-------------------------------------------|-----------|-------------|------|----------|-----------|---------|----------|------|
| Client ID: <b>EB-09-17-21</b>     | Batch ID: <b>R81380</b>         | RunNo: <b>81380</b>                       |           |             |      |          |           |         |          |      |
| Prep Date:                        | Analysis Date: <b>9/18/2021</b> | SeqNo: <b>2874315</b> Units: <b>mg/L</b>  |           |             |      |          |           |         |          |      |
| Analyte                           | Result                          | PQL                                       | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD    | RPDLimit | Qual |
| Fluoride                          | 0.52                            | 0.10                                      | 0.5000    | 0           | 105  | 73.3     | 111       | 0.0997  | 20       |      |
| Chloride                          | 5.1                             | 0.50                                      | 5.000     | 0.2855      | 95.3 | 84.2     | 117       | 0.0286  | 20       |      |
| Nitrogen, Nitrite (As N)          | 0.99                            | 0.10                                      | 1.000     | 0           | 98.6 | 75.5     | 113       | 0.828   | 20       |      |
| Nitrogen, Nitrate (As N)          | 2.9                             | 0.10                                      | 2.500     | 0.3118      | 103  | 86.8     | 110       | 0.00673 | 20       |      |
| Sulfate                           | 12                              | 0.50                                      | 10.00     | 1.678       | 101  | 83.3     | 112       | 0.430   | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2109A01

08-Oct-21

Client: Marathon

Project: Additional Well Install

|                |                          |                                    |           |             |      |          |           |      |          |      |
|----------------|--------------------------|------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: MB  | SampType: mblk           | TestCode: EPA Method 300.0: Anions |           |             |      |          |           |      |          |      |
| Client ID: PBW | Batch ID: R81507         | RunNo: 81507                       |           |             |      |          |           |      |          |      |
| Prep Date:     | Analysis Date: 9/22/2021 | SeqNo: 2879514                     |           | 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: R81507         | RunNo: 81507                       |           |             |      |          |           |      |          |      |
| Prep Date:      | Analysis Date: 9/22/2021 | SeqNo: 2879515                     |           | Units: mg/L |      |          |           |      |          |      |
| Analyte         | Result                   | PQL                                | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride        | 5.0                      | 0.50                               | 5.000     | 0           | 99.4 | 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 Quantitative Limit

S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit



**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

| Sample ID: <b>MB-62729</b>     | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8015D Mod: Diesel Range</b> |           |             |      |          |           |      |          |      |
|--------------------------------|---------------------------------|-----------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBW</b>          | Batch ID: <b>62729</b>          | RunNo: <b>81612</b>                                 |           |             |      |          |           |      |          |      |
| Prep Date: <b>9/21/2021</b>    | Analysis Date: <b>9/28/2021</b> | SeqNo: <b>2885933</b> Units: <b>mg/L</b>            |           |             |      |          |           |      |          |      |
| Analyte                        | Result                          | PQL                                                 | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO)    | ND                              | 0.064                                               |           |             |      |          |           |      |          |      |
| Motor Oil Range Organics (MRO) | ND                              | 0.080                                               |           |             |      |          |           |      |          |      |
| Surr: DNOP                     | 0.037                           |                                                     | 0.03750   |             | 99.3 | 15       | 142       |      |          |      |

| Sample ID: <b>LCS-62729</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8015D Mod: Diesel Range</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|-----------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSW</b>      | Batch ID: <b>62729</b>          | RunNo: <b>81612</b>                                 |           |             |      |          |           |      |          |      |
| Prep Date: <b>9/21/2021</b> | Analysis Date: <b>9/28/2021</b> | SeqNo: <b>2885938</b> Units: <b>mg/L</b>            |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                                 | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 0.090                           | 0.064                                               | 0.1875    | 0           | 48.2 | 21.1     | 126       |      |          |      |
| Surr: DNOP                  | 0.019                           |                                                     | 0.01875   |             | 100  | 15       | 142       |      |          |      |

| Sample ID: <b>LCSD-62729</b> | SampType: <b>LCSD</b>           | TestCode: <b>EPA Method 8015D Mod: Diesel Range</b> |           |             |      |          |           |      |          |      |
|------------------------------|---------------------------------|-----------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS02</b>     | Batch ID: <b>62729</b>          | RunNo: <b>81612</b>                                 |           |             |      |          |           |      |          |      |
| Prep Date: <b>9/21/2021</b>  | Analysis Date: <b>9/28/2021</b> | SeqNo: <b>2885939</b> Units: <b>mg/L</b>            |           |             |      |          |           |      |          |      |
| Analyte                      | Result                          | PQL                                                 | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO)  | 0.089                           | 0.064                                               | 0.1875    | 0           | 47.3 | 21.1     | 126       | 1.81 | 20       |      |
| Surr: DNOP                   | 0.018                           |                                                     | 0.01875   |             | 95.1 | 15       | 142       | 0    | 0        |      |

**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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

| Sample ID: <b>mb</b>           | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8260B: VOLATILES</b> |                    |             |      |          |           |      |          |      |
|--------------------------------|---------------------------------|----------------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBW</b>          | Batch ID: <b>R81501</b>         | RunNo: <b>81501</b>                          |                    |             |      |          |           |      |          |      |
| Prep Date:                     | Analysis Date: <b>9/22/2021</b> | SeqNo: <b>2879728</b>                        | Units: <b>µg/L</b> |             |      |          |           |      |          |      |
| 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            | ND                              | 4.0                                          |                    |             |      |          |           |      |          |      |
| 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                                          |                    |             |      |          |           |      |          |      |
| 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                                          |                    |             |      |          |           |      |          |      |

## 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
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P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

| Sample ID: <b>mb</b>        | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8260B: VOLATILES</b> |                    |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBW</b>       | Batch ID: <b>R81501</b>         | RunNo: <b>81501</b>                          |                    |             |      |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>9/22/2021</b> | SeqNo: <b>2879728</b>                        | Units: <b>µg/L</b> |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                          | SPK value          | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 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                                          |                    |             |      |          |           |      |          |      |
| Vinyl chloride              | ND                              | 1.0                                          |                    |             |      |          |           |      |          |      |
| Xylenes, Total              | ND                              | 1.5                                          |                    |             |      |          |           |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 11                              |                                              | 10.00              |             | 108  | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 10                              |                                              | 10.00              |             | 99.7 | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 9.9                             |                                              | 10.00              |             | 98.5 | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 10                              |                                              | 10.00              |             | 104  | 70       | 130       |      |          |      |

| Sample ID: <b>mb</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8260B: VOLATILES</b> |                    |             |      |          |           |      |          |      |
|-----------------------|---------------------------------|----------------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBW</b> | Batch ID: <b>R81501</b>         | RunNo: <b>81501</b>                          |                    |             |      |          |           |      |          |      |
| Prep Date:            | Analysis Date: <b>9/23/2021</b> | SeqNo: <b>2879729</b>                        | Units: <b>µg/L</b> |             |      |          |           |      |          |      |
| 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                                          |                    |             |      |          |           |      |          |      |

**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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

| Sample ID: <b>mb</b>           | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8260B: VOLATILES</b> |                    |             |      |          |           |      |          |      |
|--------------------------------|---------------------------------|----------------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBW</b>          | Batch ID: <b>R81501</b>         | RunNo: <b>81501</b>                          |                    |             |      |          |           |      |          |      |
| Prep Date:                     | Analysis Date: <b>9/23/2021</b> | SeqNo: <b>2879729</b>                        | Units: <b>µg/L</b> |             |      |          |           |      |          |      |
| Analyte                        | Result                          | PQL                                          | SPK value          | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 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            | ND                              | 4.0                                          |                    |             |      |          |           |      |          |      |
| 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                                          |                    |             |      |          |           |      |          |      |
| 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                                           |                    |             |      |          |           |      |          |      |

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
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S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

| Sample ID: <b>mb</b>        | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8260B: VOLATILES</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBW</b>       | Batch ID: <b>R81501</b>         | RunNo: <b>81501</b>                          |           |             |      |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>9/23/2021</b> | SeqNo: <b>2879729</b> Units: <b>µg/L</b>     |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                          | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 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                                          |           |             |      |          |           |      |          |      |
| Vinyl chloride              | ND                              | 1.0                                          |           |             |      |          |           |      |          |      |
| Xylenes, Total              | ND                              | 1.5                                          |           |             |      |          |           |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 11                              |                                              | 10.00     |             | 108  | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 9.9                             |                                              | 10.00     |             | 99.1 | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 10                              |                                              | 10.00     |             | 99.8 | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 11                              |                                              | 10.00     |             | 106  | 70       | 130       |      |          |      |

| Sample ID: <b>100ng lcs</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8260B: VOLATILES</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSW</b>      | Batch ID: <b>R81501</b>         | RunNo: <b>81501</b>                          |           |             |      |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>9/22/2021</b> | SeqNo: <b>2879730</b> Units: <b>µg/L</b>     |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                          | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 24                              | 1.0                                          | 20.00     | 0           | 119  | 70       | 130       |      |          |      |
| Toluene                     | 20                              | 1.0                                          | 20.00     | 0           | 102  | 70       | 130       |      |          |      |
| Chlorobenzene               | 20                              | 1.0                                          | 20.00     | 0           | 102  | 70       | 130       |      |          |      |
| 1,1-Dichloroethene          | 20                              | 1.0                                          | 20.00     | 0           | 102  | 70       | 130       |      |          |      |
| Trichloroethene (TCE)       | 21                              | 1.0                                          | 20.00     | 0           | 103  | 70       | 130       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 11                              |                                              | 10.00     |             | 109  | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

| Sample ID: <b>100ng lcs</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8260B: VOLATILES</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSW</b>      | Batch ID: <b>R81501</b>         | RunNo: <b>81501</b>                          |           |             |      |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>9/22/2021</b> | SeqNo: <b>2879730</b> Units: <b>µg/L</b>     |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                          | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene  | 9.9                             |                                              | 10.00     |             | 99.3 | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 10                              |                                              | 10.00     |             | 102  | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 11                              |                                              | 10.00     |             | 105  | 70       | 130       |      |          |      |

| Sample ID: <b>100ng lcs</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8260B: VOLATILES</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSW</b>      | Batch ID: <b>R81501</b>         | RunNo: <b>81501</b>                          |           |             |      |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>9/23/2021</b> | SeqNo: <b>2879731</b> Units: <b>µg/L</b>     |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                          | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 24                              | 1.0                                          | 20.00     | 0           | 121  | 70       | 130       |      |          |      |
| Toluene                     | 21                              | 1.0                                          | 20.00     | 0           | 105  | 70       | 130       |      |          |      |
| Chlorobenzene               | 20                              | 1.0                                          | 20.00     | 0           | 102  | 70       | 130       |      |          |      |
| 1,1-Dichloroethene          | 21                              | 1.0                                          | 20.00     | 0           | 103  | 70       | 130       |      |          |      |
| Trichloroethene (TCE)       | 20                              | 1.0                                          | 20.00     | 0           | 100  | 70       | 130       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 11                              |                                              | 10.00     |             | 110  | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 11                              |                                              | 10.00     |             | 106  | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 10                              |                                              | 10.00     |             | 103  | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 11                              |                                              | 10.00     |             | 105  | 70       | 130       |      |          |      |

| Sample ID: <b>100ng lcs</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8260B: VOLATILES</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSW</b>      | Batch ID: <b>R81542</b>         | RunNo: <b>81542</b>                          |           |             |      |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>9/23/2021</b> | SeqNo: <b>2881350</b> Units: <b>µg/L</b>     |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                          | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 25                              | 1.0                                          | 20.00     | 0           | 123  | 70       | 130       |      |          |      |
| Toluene                     | 20                              | 1.0                                          | 20.00     | 0           | 100  | 70       | 130       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 11                              |                                              | 10.00     |             | 112  | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 10                              |                                              | 10.00     |             | 100  | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 11                              |                                              | 10.00     |             | 105  | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 10                              |                                              | 10.00     |             | 102  | 70       | 130       |      |          |      |

| Sample ID: <b>mb</b>           | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8260B: VOLATILES</b> |           |             |      |          |           |      |          |      |
|--------------------------------|---------------------------------|----------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBW</b>          | Batch ID: <b>R81542</b>         | RunNo: <b>81542</b>                          |           |             |      |          |           |      |          |      |
| Prep Date:                     | Analysis Date: <b>9/23/2021</b> | SeqNo: <b>2881354</b> Units: <b>µg/L</b>     |           |             |      |          |           |      |          |      |
| 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                                          |           |             |      |          |           |      |          |      |

**Qualifiers:**

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S % Recovery outside of range due to dilution or matrix

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P Sample pH Not In Range  
RL Reporting Limit

## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

| Sample ID: <b>mb</b>        | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8260B: VOLATILES</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBW</b>       | Batch ID: <b>R81542</b>         | RunNo: <b>81542</b>                          |           |             |      |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>9/23/2021</b> | SeqNo: <b>2881354</b> Units: <b>µg/L</b>     |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                          | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 1,2,4-Trimethylbenzene      | ND                              | 1.0                                          |           |             |      |          |           |      |          |      |
| Xylenes, Total              | ND                              | 1.5                                          |           |             |      |          |           |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 11                              |                                              | 10.00     |             | 106  | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 9.9                             |                                              | 10.00     |             | 99.2 | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 10                              |                                              | 10.00     |             | 99.9 | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 9.7                             |                                              | 10.00     |             | 96.8 | 70       | 130       |      |          |      |

| Sample ID: <b>100ng lcs</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8260B: VOLATILES</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSW</b>      | Batch ID: <b>R81622</b>         | RunNo: <b>81622</b>                          |           |             |      |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>9/27/2021</b> | SeqNo: <b>2884501</b> Units: <b>µg/L</b>     |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                          | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 25                              | 1.0                                          | 20.00     | 0           | 123  | 70       | 130       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 10                              |                                              | 10.00     |             | 104  | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 10                              |                                              | 10.00     |             | 103  | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 10                              |                                              | 10.00     |             | 100  | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 10                              |                                              | 10.00     |             | 102  | 70       | 130       |      |          |      |

| Sample ID: <b>mb</b>        | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8260B: VOLATILES</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBW</b>       | Batch ID: <b>R81622</b>         | RunNo: <b>81622</b>                          |           |             |      |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>9/27/2021</b> | SeqNo: <b>2884520</b> Units: <b>µg/L</b>     |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                          | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | ND                              | 1.0                                          |           |             |      |          |           |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 11                              |                                              | 10.00     |             | 113  | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 10                              |                                              | 10.00     |             | 101  | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 10                              |                                              | 10.00     |             | 104  | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 11                              |                                              | 10.00     |             | 108  | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit



## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

| Sample ID: <b>mb-62689</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|--------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBW</b>       | Batch ID: <b>62689</b>          | RunNo: <b>81566</b>                              |           |             |      |          |           |      |          |      |
| Prep Date: <b>9/20/2021</b> | Analysis Date: <b>9/24/2021</b> | SeqNo: <b>2882371</b> Units: <b>µg/L</b>         |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                              | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Aniline                     | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Anthracene                  | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Azobenzene                  | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Benzoic acid                | ND                              | 20                                               |           |             |      |          |           |      |          |      |
| Benzyl alcohol              | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Bis(2-chloroethoxy)methane  | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Bis(2-chloroethyl)ether     | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Bis(2-chloroisopropyl)ether | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Bis(2-ethylhexyl)phthalate  | ND                              | 10                                               |           |             |      |          |           |      |          |      |
| 4-Bromophenyl phenyl ether  | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Butyl benzyl phthalate      | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Carbazole                   | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 4-Chloro-3-methylphenol     | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 4-Chloroaniline             | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 2-Chloronaphthalene         | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 2-Chlorophenol              | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 4-Chlorophenyl phenyl ether | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Di-n-butyl phthalate        | ND                              | 10                                               |           |             |      |          |           |      |          |      |
| Di-n-octyl phthalate        | ND                              | 20                                               |           |             |      |          |           |      |          |      |
| Dibenz(a,h)anthracene       | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Dibenzofuran                | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 1,2-Dichlorobenzene         | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 1,3-Dichlorobenzene         | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 1,4-Dichlorobenzene         | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 3,3'-Dichlorobenzidine      | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Diethyl phthalate           | ND                              | 10                                               |           |             |      |          |           |      |          |      |
| Dimethyl phthalate          | ND                              | 10                                               |           |             |      |          |           |      |          |      |
| 2,4-Dichlorophenol          | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 2,4-Dimethylphenol          | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 4,6-Dinitro-2-methylphenol  | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 2,4-Dinitrophenol           | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 2,4-Dinitrotoluene          | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 2,6-Dinitrotoluene          | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Hexachlorobenzene           | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Hexachlorobutadiene         | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Hexachlorocyclopentadiene   | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Hexachloroethane            | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Isophorone                  | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 2-Methylphenol              | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |

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## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

| Sample ID: <b>mb-62689</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|--------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBW</b>       | Batch ID: <b>62689</b>          | RunNo: <b>81566</b>                              |           |             |      |          |           |      |          |      |
| Prep Date: <b>9/20/2021</b> | Analysis Date: <b>9/24/2021</b> | SeqNo: <b>2882371</b> Units: <b>µg/L</b>         |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                              | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 3+4-Methylphenol            | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| N-Nitrosodi-n-propylamine   | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| N-Nitrosodimethylamine      | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| N-Nitrosodiphenylamine      | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 2-Nitroaniline              | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 3-Nitroaniline              | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 4-Nitroaniline              | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Nitrobenzene                | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 2-Nitrophenol               | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 4-Nitrophenol               | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Pentachlorophenol           | ND                              | 20                                               |           |             |      |          |           |      |          |      |
| Phenol                      | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Pyridine                    | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 1,2,4-Trichlorobenzene      | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 2,4,5-Trichlorophenol       | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| 2,4,6-Trichlorophenol       | ND                              | 5.0                                              |           |             |      |          |           |      |          |      |
| Surr: 2-Fluorophenol        | 120                             |                                                  | 200.0     |             | 57.8 | 15       | 87        |      |          |      |
| Surr: Phenol-d5             | 93                              |                                                  | 200.0     |             | 46.6 | 15       | 67.5      |      |          |      |
| Surr: 2,4,6-Tribromophenol  | 130                             |                                                  | 200.0     |             | 62.5 | 15       | 122       |      |          |      |
| Surr: Nitrobenzene-d5       | 65                              |                                                  | 100.0     |             | 64.6 | 15       | 103       |      |          |      |
| Surr: 2-Fluorobiphenyl      | 60                              |                                                  | 100.0     |             | 60.0 | 15       | 103       |      |          |      |
| Surr: 4-Terphenyl-d14       | 110                             |                                                  | 100.0     |             | 110  | 45       | 137       |      |          |      |

| Sample ID: <b>lcs-62689</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|--------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSW</b>      | Batch ID: <b>62689</b>          | RunNo: <b>81566</b>                              |           |             |      |          |           |      |          |      |
| Prep Date: <b>9/20/2021</b> | Analysis Date: <b>9/24/2021</b> | SeqNo: <b>2882372</b> Units: <b>µg/L</b>         |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                              | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 4-Chloro-3-methylphenol     | 120                             | 5.0                                              | 200.0     | 0           | 61.5 | 28.3     | 103       |      |          |      |
| 2-Chlorophenol              | 130                             | 5.0                                              | 200.0     | 0           | 65.1 | 29.3     | 105       |      |          |      |
| 1,4-Dichlorobenzene         | 53                              | 5.0                                              | 100.0     | 0           | 52.6 | 15       | 87.6      |      |          |      |
| 2,4-Dinitrotoluene          | 62                              | 5.0                                              | 100.0     | 0           | 61.5 | 23.6     | 90.9      |      |          |      |
| N-Nitrosodi-n-propylamine   | 61                              | 5.0                                              | 100.0     | 0           | 60.9 | 23.1     | 94.6      |      |          |      |
| 4-Nitrophenol               | 120                             | 5.0                                              | 200.0     | 0           | 61.3 | 15       | 77        |      |          |      |
| Pentachlorophenol           | 150                             | 20                                               | 200.0     | 0           | 75.5 | 21       | 111       |      |          |      |
| Phenol                      | 77                              | 5.0                                              | 200.0     | 0           | 38.3 | 16.8     | 70.5      |      |          |      |
| 1,2,4-Trichlorobenzene      | 52                              | 5.0                                              | 100.0     | 0           | 52.1 | 15       | 88.2      |      |          |      |
| Surr: 2-Fluorophenol        | 87                              |                                                  | 200.0     |             | 43.5 | 15       | 84.2      |      |          |      |
| Surr: Phenol-d5             | 66                              |                                                  | 200.0     |             | 33.2 | 15       | 67.5      |      |          |      |

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B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

| Sample ID: <b>lcs-62689</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |                    |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|--------------------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSW</b>      | Batch ID: <b>62689</b>          | RunNo: <b>81566</b>                              |                    |             |      |          |           |      |          |      |
| Prep Date: <b>9/20/2021</b> | Analysis Date: <b>9/24/2021</b> | SeqNo: <b>2882372</b>                            | Units: <b>µg/L</b> |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                              | SPK value          | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 2,4,6-Tribromophenol  | 130                             |                                                  | 200.0              |             | 62.9 | 15       | 115       |      |          |      |
| Surr: Nitrobenzene-d5       | 56                              |                                                  | 100.0              |             | 56.1 | 15       | 103       |      |          |      |
| Surr: 2-Fluorobiphenyl      | 50                              |                                                  | 100.0              |             | 49.8 | 15       | 105       |      |          |      |
| Surr: 4-Terphenyl-d14       | 110                             |                                                  | 100.0              |             | 108  | 42.3     | 137       |      |          |      |

| Sample ID: <b>lcsd-62689</b> | SampType: <b>LCSD</b>           | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |                    |             |      |          |           |       |          |      |
|------------------------------|---------------------------------|--------------------------------------------------|--------------------|-------------|------|----------|-----------|-------|----------|------|
| Client ID: <b>LCSS02</b>     | Batch ID: <b>62689</b>          | RunNo: <b>81566</b>                              |                    |             |      |          |           |       |          |      |
| Prep Date: <b>9/20/2021</b>  | Analysis Date: <b>9/24/2021</b> | SeqNo: <b>2882373</b>                            | Units: <b>µg/L</b> |             |      |          |           |       |          |      |
| Analyte                      | Result                          | PQL                                              | SPK value          | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD  | RPDLimit | Qual |
| 4-Chloro-3-methylphenol      | 140                             | 5.0                                              | 200.0              | 0           | 69.0 | 28.3     | 103       | 11.4  | 44.7     |      |
| 2-Chlorophenol               | 150                             | 5.0                                              | 200.0              | 0           | 73.9 | 29.3     | 105       | 12.8  | 35.6     |      |
| 1,4-Dichlorobenzene          | 58                              | 5.0                                              | 100.0              | 0           | 58.2 | 15       | 87.6      | 10.1  | 30.4     |      |
| 2,4-Dinitrotoluene           | 62                              | 5.0                                              | 100.0              | 0           | 62.1 | 23.6     | 90.9      | 0.928 | 53.1     |      |
| N-Nitrosodi-n-propylamine    | 65                              | 5.0                                              | 100.0              | 0           | 65.3 | 23.1     | 94.6      | 6.95  | 31.1     |      |
| 4-Nitrophenol                | 120                             | 5.0                                              | 200.0              | 0           | 61.7 | 15       | 77        | 0.713 | 52.4     |      |
| Pentachlorophenol            | 160                             | 20                                               | 200.0              | 0           | 78.8 | 21       | 111       | 4.31  | 71.6     |      |
| Phenol                       | 82                              | 5.0                                              | 200.0              | 0           | 40.9 | 16.8     | 70.5      | 6.57  | 37.2     |      |
| 1,2,4-Trichlorobenzene       | 57                              | 5.0                                              | 100.0              | 0           | 57.1 | 15       | 88.2      | 9.07  | 31.8     |      |
| Surr: 2-Fluorophenol         | 97                              |                                                  | 200.0              |             | 48.3 | 15       | 87        | 0     | 0        |      |
| Surr: Phenol-d5              | 73                              |                                                  | 200.0              |             | 36.7 | 15       | 67.5      | 0     | 0        |      |
| Surr: 2,4,6-Tribromophenol   | 140                             |                                                  | 200.0              |             | 70.0 | 15       | 122       | 0     | 0        |      |
| Surr: Nitrobenzene-d5        | 60                              |                                                  | 100.0              |             | 60.5 | 15       | 103       | 0     | 0        |      |
| Surr: 2-Fluorobiphenyl       | 58                              |                                                  | 100.0              |             | 58.0 | 15       | 103       | 0     | 0        |      |
| Surr: 4-Terphenyl-d14        | 110                             |                                                  | 100.0              |             | 107  | 45       | 137       | 0     | 0        |      |

**Qualifiers:**

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D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
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RL Reporting Limit

## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

| Sample ID: <b>mb-62703</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8270SIM</b> |                    |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|-------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBW</b>       | Batch ID: <b>62703</b>          | RunNo: <b>81600</b>                 |                    |             |      |          |           |      |          |      |
| Prep Date: <b>9/21/2021</b> | Analysis Date: <b>9/27/2021</b> | SeqNo: <b>2883642</b>               | Units: <b>µg/L</b> |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                 | SPK value          | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 1,4-Dioxane                 | ND                              | 1.0                                 |                    |             |      |          |           |      |          |      |
| Naphthalene                 | ND                              | 0.10                                |                    |             |      |          |           |      |          |      |
| 1-Methylnaphthalene         | ND                              | 0.10                                |                    |             |      |          |           |      |          |      |
| 2-Methylnaphthalene         | ND                              | 0.10                                |                    |             |      |          |           |      |          |      |
| Acenaphthylene              | ND                              | 0.10                                |                    |             |      |          |           |      |          |      |
| Acenaphthene                | ND                              | 0.10                                |                    |             |      |          |           |      |          |      |
| Fluorene                    | ND                              | 0.10                                |                    |             |      |          |           |      |          |      |
| Phenanthrene                | ND                              | 0.10                                |                    |             |      |          |           |      |          |      |
| Anthracene                  | ND                              | 0.10                                |                    |             |      |          |           |      |          |      |
| Fluoranthene                | ND                              | 0.20                                |                    |             |      |          |           |      |          |      |
| Pyrene                      | 0.18                            | 0.20                                |                    |             |      |          |           |      |          | J    |
| Benz(a)anthracene           | ND                              | 0.10                                |                    |             |      |          |           |      |          |      |
| Chrysene                    | ND                              | 0.10                                |                    |             |      |          |           |      |          |      |
| Benzo(b)fluoranthene        | ND                              | 0.10                                |                    |             |      |          |           |      |          |      |
| Benzo(k)fluoranthene        | ND                              | 0.10                                |                    |             |      |          |           |      |          |      |
| Benzo(a)pyrene              | ND                              | 0.070                               |                    |             |      |          |           |      |          |      |
| Dibenz(a,h)anthracene       | ND                              | 0.10                                |                    |             |      |          |           |      |          |      |
| Benzo(g,h,i)perylene        | ND                              | 0.10                                |                    |             |      |          |           |      |          |      |
| Indeno(1,2,3-cd)pyrene      | ND                              | 0.30                                |                    |             |      |          |           |      |          |      |
| Surr: Nitrobenzene-d5       | 2.4                             |                                     | 4.000              |             | 60.5 | 21.9     | 89.8      |      |          |      |
| Surr: 2,4,6-Tribromophenol  | 3.9                             |                                     | 8.000              |             | 48.8 | 23.4     | 71.6      |      |          |      |
| Surr: 2-Fluorobiphenyl      | 1.9                             |                                     | 4.000              |             | 48.5 | 15       | 84.5      |      |          |      |
| Surr: 4-Terphenyl-d14       | 3.8                             |                                     | 4.000              |             | 94.0 | 73.1     | 152       |      |          |      |

| Sample ID: <b>lcs-62703</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8270SIM</b> |                    |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|-------------------------------------|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSW</b>      | Batch ID: <b>62703</b>          | RunNo: <b>81600</b>                 |                    |             |      |          |           |      |          |      |
| Prep Date: <b>9/21/2021</b> | Analysis Date: <b>9/27/2021</b> | SeqNo: <b>2883643</b>               | Units: <b>µg/L</b> |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                 | SPK value          | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 1,4-Dioxane                 | 0.70                            | 0.10                                | 2.000              | 0           | 35.0 | 15       | 79.8      |      |          |      |
| Naphthalene                 | 1.0                             | 0.10                                | 2.000              | 0           | 50.0 | 26.5     | 90.9      |      |          |      |
| 1-Methylnaphthalene         | 1.0                             | 0.10                                | 2.000              | 0           | 51.0 | 27.9     | 88.2      |      |          |      |
| 2-Methylnaphthalene         | 1.0                             | 0.10                                | 2.000              | 0           | 50.0 | 29.2     | 87.5      |      |          |      |
| Acenaphthylene              | 1.2                             | 0.10                                | 2.000              | 0           | 61.0 | 30       | 92.9      |      |          |      |
| Acenaphthene                | 1.1                             | 0.10                                | 2.000              | 0           | 57.0 | 25.6     | 93.9      |      |          |      |
| Fluorene                    | 1.2                             | 0.10                                | 2.000              | 0           | 61.0 | 27.4     | 95.1      |      |          |      |
| Phenanthrene                | 1.3                             | 0.10                                | 2.000              | 0           | 65.0 | 25.1     | 104       |      |          |      |
| Anthracene                  | 1.3                             | 0.10                                | 2.000              | 0           | 67.0 | 30.1     | 100       |      |          |      |
| Fluoranthene                | 1.7                             | 0.20                                | 2.000              | 0           | 87.0 | 41.6     | 126       |      |          |      |

## 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

| Sample ID: <b>lcs-62703</b> | SampType: <b>LCS</b>            |       |           | TestCode: <b>EPA Method 8270SIM</b> |      |                    |           |      |          |      |
|-----------------------------|---------------------------------|-------|-----------|-------------------------------------|------|--------------------|-----------|------|----------|------|
| Client ID: <b>LCSW</b>      | Batch ID: <b>62703</b>          |       |           | RunNo: <b>81600</b>                 |      |                    |           |      |          |      |
| Prep Date: <b>9/21/2021</b> | Analysis Date: <b>9/27/2021</b> |       |           | SeqNo: <b>2883643</b>               |      | Units: <b>µg/L</b> |           |      |          |      |
| Analyte                     | Result                          | PQL   | SPK value | SPK Ref Val                         | %REC | LowLimit           | HighLimit | %RPD | RPDLimit | Qual |
| Pyrene                      | 1.5                             | 0.20  | 2.000     | 0                                   | 76.0 | 34.5               | 112       |      |          |      |
| Benz(a)anthracene           | 2.0                             | 0.10  | 2.000     | 0                                   | 100  | 43.9               | 132       |      |          |      |
| Chrysene                    | 1.6                             | 0.10  | 2.000     | 0                                   | 82.0 | 39.8               | 118       |      |          |      |
| Benzo(b)fluoranthene        | 1.7                             | 0.10  | 2.000     | 0                                   | 87.0 | 37.2               | 134       |      |          |      |
| Benzo(k)fluoranthene        | 1.7                             | 0.10  | 2.000     | 0                                   | 86.0 | 43.8               | 122       |      |          |      |
| Benzo(a)pyrene              | 1.7                             | 0.070 | 2.000     | 0                                   | 86.0 | 36.6               | 122       |      |          |      |
| Dibenz(a,h)anthracene       | 1.7                             | 0.10  | 2.000     | 0                                   | 84.0 | 35.5               | 129       |      |          |      |
| Benzo(g,h,i)perylene        | 1.6                             | 0.10  | 2.000     | 0                                   | 82.0 | 39.4               | 120       |      |          |      |
| Indeno(1,2,3-cd)pyrene      | 1.8                             | 0.30  | 2.000     | 0                                   | 91.0 | 24.9               | 150       |      |          |      |
| Surr: Nitrobenzene-d5       | 3.3                             |       | 5.000     |                                     | 65.2 | 21.9               | 89.8      |      |          |      |
| Surr: 2,4,6-Tribromophenol  | 5.2                             |       | 10.00     |                                     | 51.8 | 23.4               | 71.6      |      |          |      |
| Surr: 2-Fluorobiphenyl      | 2.3                             |       | 5.000     |                                     | 45.2 | 15                 | 84.5      |      |          |      |
| Surr: 4-Terphenyl-d14       | 5.3                             |       | 5.000     |                                     | 106  | 73.1               | 152       |      |          |      |

| Sample ID: <b>lcsd-62703</b> | SampType: <b>LCSD</b>           |       |           | TestCode: <b>EPA Method 8270SIM</b> |      |                    |           |      |          |      |
|------------------------------|---------------------------------|-------|-----------|-------------------------------------|------|--------------------|-----------|------|----------|------|
| Client ID: <b>LCSS02</b>     | Batch ID: <b>62703</b>          |       |           | RunNo: <b>81600</b>                 |      |                    |           |      |          |      |
| Prep Date: <b>9/21/2021</b>  | Analysis Date: <b>9/27/2021</b> |       |           | SeqNo: <b>2883644</b>               |      | Units: <b>µg/L</b> |           |      |          |      |
| Analyte                      | Result                          | PQL   | SPK value | SPK Ref Val                         | %REC | LowLimit           | HighLimit | %RPD | RPDLimit | Qual |
| 1,4-Dioxane                  | 0.78                            | 0.10  | 2.000     | 0                                   | 39.0 | 15                 | 79.8      | 10.8 | 34.2     |      |
| Naphthalene                  | 1.1                             | 0.10  | 2.000     | 0                                   | 56.0 | 26.5               | 90.9      | 11.3 | 37.6     |      |
| 1-Methylnaphthalene          | 1.1                             | 0.10  | 2.000     | 0                                   | 57.0 | 27.9               | 88.2      | 11.1 | 33.1     |      |
| 2-Methylnaphthalene          | 1.1                             | 0.10  | 2.000     | 0                                   | 57.0 | 29.2               | 87.5      | 13.1 | 35.4     |      |
| Acenaphthylene               | 1.3                             | 0.10  | 2.000     | 0                                   | 67.0 | 30                 | 92.9      | 9.38 | 31.7     |      |
| Acenaphthene                 | 1.3                             | 0.10  | 2.000     | 0                                   | 63.0 | 25.6               | 93.9      | 10.0 | 36.3     |      |
| Fluorene                     | 1.4                             | 0.10  | 2.000     | 0                                   | 68.0 | 27.4               | 95.1      | 10.9 | 32.2     |      |
| Phenanthrene                 | 1.4                             | 0.10  | 2.000     | 0                                   | 72.0 | 25.1               | 104       | 10.2 | 32.9     |      |
| Anthracene                   | 1.5                             | 0.10  | 2.000     | 0                                   | 73.0 | 30.1               | 100       | 8.57 | 31.5     |      |
| Fluoranthene                 | 1.8                             | 0.20  | 2.000     | 0                                   | 89.0 | 41.6               | 126       | 2.27 | 26.5     |      |
| Pyrene                       | 1.6                             | 0.20  | 2.000     | 0                                   | 80.0 | 34.5               | 112       | 5.13 | 23.3     |      |
| Benz(a)anthracene            | 1.8                             | 0.10  | 2.000     | 0                                   | 92.0 | 43.9               | 132       | 8.33 | 29.5     |      |
| Chrysene                     | 1.7                             | 0.10  | 2.000     | 0                                   | 83.0 | 39.8               | 118       | 1.21 | 22.3     |      |
| Benzo(b)fluoranthene         | 1.7                             | 0.10  | 2.000     | 0                                   | 86.0 | 37.2               | 134       | 1.16 | 25.2     |      |
| Benzo(k)fluoranthene         | 1.7                             | 0.10  | 2.000     | 0                                   | 85.0 | 43.8               | 122       | 1.17 | 23.1     |      |
| Benzo(a)pyrene               | 1.7                             | 0.070 | 2.000     | 0                                   | 84.0 | 36.6               | 122       | 2.35 | 22.4     |      |
| Dibenz(a,h)anthracene        | 1.7                             | 0.10  | 2.000     | 0                                   | 83.0 | 35.5               | 129       | 1.20 | 23.7     |      |
| Benzo(g,h,i)perylene         | 1.6                             | 0.10  | 2.000     | 0                                   | 81.0 | 39.4               | 120       | 1.23 | 22.9     |      |
| Indeno(1,2,3-cd)pyrene       | 1.8                             | 0.30  | 2.000     | 0                                   | 90.0 | 24.9               | 150       | 1.10 | 26.6     |      |
| Surr: Nitrobenzene-d5        | 3.7                             |       | 5.000     |                                     | 74.4 | 21.9               | 89.8      | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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QC SUMMARY REPORT  
Hall Environmental Analysis Laboratory, Inc.

WO#: 2109A01  
08-Oct-21

Client: Marathon  
Project: Additional Well Install

|                              |        |                                 |           |                                     |                       |          |                    |      |          |      |
|------------------------------|--------|---------------------------------|-----------|-------------------------------------|-----------------------|----------|--------------------|------|----------|------|
| Sample ID: <b>lcsd-62703</b> |        | SampType: <b>LCSD</b>           |           | TestCode: <b>EPA Method 8270SIM</b> |                       |          |                    |      |          |      |
| Client ID: <b>LCSS02</b>     |        | Batch ID: <b>62703</b>          |           |                                     | RunNo: <b>81600</b>   |          |                    |      |          |      |
| Prep Date: <b>9/21/2021</b>  |        | Analysis Date: <b>9/27/2021</b> |           |                                     | SeqNo: <b>2883644</b> |          | Units: <b>µg/L</b> |      |          |      |
| Analyte                      | Result | PQL                             | SPK value | SPK Ref Val                         | %REC                  | LowLimit | HighLimit          | %RPD | RPDLimit | Qual |
| Surr: 2,4,6-Tribromophenol   | 6.0    |                                 | 10.00     |                                     | 60.2                  | 23.4     | 71.6               | 0    | 0        |      |
| Surr: 2-Fluorobiphenyl       | 2.6    |                                 | 5.000     |                                     | 51.2                  | 15       | 84.5               | 0    | 0        |      |
| Surr: 4-Terphenyl-d14        | 5.5    |                                 | 5.000     |                                     | 110                   | 73.1     | 152                | 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 Quantitative Limit
- S

% Recovery outside of range due to dilution or matrix
- B

Analyte detected in the associated Method Blank
- E

Value above quantitation range
- J

Analyte detected below quantitation limits
- P

Sample pH Not In Range
- RL

Reporting Limit

## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

| Sample ID: <b>mb</b>          | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8015D: Gasoline Range</b> |           |             |      |          |           |      |          |      |
|-------------------------------|---------------------------------|---------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBW</b>         | Batch ID: <b>R81501</b>         | RunNo: <b>81501</b>                               |           |             |      |          |           |      |          |      |
| Prep Date:                    | Analysis Date: <b>9/22/2021</b> | SeqNo: <b>2879769</b> Units: <b>mg/L</b>          |           |             |      |          |           |      |          |      |
| Analyte                       | Result                          | PQL                                               | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND                              | 0.050                                             |           |             |      |          |           |      |          |      |
| Surr: 4-Bromofluorobenzene    | 10                              |                                                   | 10.00     |             | 105  | 70       | 130       |      |          |      |

| Sample ID: <b>mb</b>          | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8015D: Gasoline Range</b> |           |             |      |          |           |      |          |      |
|-------------------------------|---------------------------------|---------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBW</b>         | Batch ID: <b>R81501</b>         | RunNo: <b>81501</b>                               |           |             |      |          |           |      |          |      |
| Prep Date:                    | Analysis Date: <b>9/23/2021</b> | SeqNo: <b>2879770</b> Units: <b>mg/L</b>          |           |             |      |          |           |      |          |      |
| Analyte                       | Result                          | PQL                                               | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND                              | 0.050                                             |           |             |      |          |           |      |          |      |
| Surr: 4-Bromofluorobenzene    | 11                              |                                                   | 10.00     |             | 105  | 70       | 130       |      |          |      |

| Sample ID: <b>2.5ug gro lcs</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8015D: Gasoline Range</b> |           |             |      |          |           |      |          |      |
|---------------------------------|---------------------------------|---------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSW</b>          | Batch ID: <b>R81501</b>         | RunNo: <b>81501</b>                               |           |             |      |          |           |      |          |      |
| Prep Date:                      | Analysis Date: <b>9/22/2021</b> | SeqNo: <b>2879771</b> Units: <b>mg/L</b>          |           |             |      |          |           |      |          |      |
| 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           | 86.3 | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene      | 10                              |                                                   | 10.00     |             | 104  | 70       | 130       |      |          |      |

| Sample ID: <b>2.5ug gro lcs</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8015D: Gasoline Range</b> |           |             |      |          |           |      |          |      |
|---------------------------------|---------------------------------|---------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSW</b>          | Batch ID: <b>R81501</b>         | RunNo: <b>81501</b>                               |           |             |      |          |           |      |          |      |
| Prep Date:                      | Analysis Date: <b>9/23/2021</b> | SeqNo: <b>2879772</b> Units: <b>mg/L</b>          |           |             |      |          |           |      |          |      |
| Analyte                         | Result                          | PQL                                               | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO)   | 0.42                            | 0.050                                             | 0.5000    | 0           | 83.1 | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene      | 9.5                             |                                                   | 10.00     |             | 95.1 | 70       | 130       |      |          |      |

| Sample ID: <b>2.5ug gro lcs1</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8015D: Gasoline Range</b> |           |             |      |          |           |      |          |      |
|----------------------------------|---------------------------------|---------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSW</b>           | Batch ID: <b>R81542</b>         | RunNo: <b>81542</b>                               |           |             |      |          |           |      |          |      |
| Prep Date:                       | Analysis Date: <b>9/23/2021</b> | SeqNo: <b>2881464</b> Units: <b>%Rec</b>          |           |             |      |          |           |      |          |      |
| Analyte                          | Result                          | PQL                                               | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene       | 10                              |                                                   | 10.00     |             | 103  | 70       | 130       |      |          |      |

| Sample ID: <b>mb</b>       | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8015D: Gasoline Range</b> |           |             |      |          |           |      |          |      |
|----------------------------|---------------------------------|---------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBW</b>      | Batch ID: <b>R81542</b>         | RunNo: <b>81542</b>                               |           |             |      |          |           |      |          |      |
| Prep Date:                 | Analysis Date: <b>9/23/2021</b> | SeqNo: <b>2881466</b> Units: <b>%Rec</b>          |           |             |      |          |           |      |          |      |
| Analyte                    | Result                          | PQL                                               | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene | 9.8                             |                                                   | 10.00     |             | 97.7 | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit



**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2109A01

08-Oct-21

**Client:** Marathon  
**Project:** Additional Well Install

|                             |                                 |                                                |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: <b>mb-1 alk</b>  | SampType: <b>mblk</b>           | TestCode: <b>SM2320B: Alkalinity</b>           |           |             |      |          |           |      |          |      |
| Client ID: <b>PBW</b>       | Batch ID: <b>R81457</b>         | RunNo: <b>81457</b>                            |           |             |      |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>9/21/2021</b> | SeqNo: <b>2877862</b> Units: <b>mg/L CaCO3</b> |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                            | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Total Alkalinity (as CaCO3) | ND                              | 20.00                                          |           |             |      |          |           |      |          |      |

|                             |                                 |                                                |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: <b>lcs-1 alk</b> | SampType: <b>lcs</b>            | TestCode: <b>SM2320B: Alkalinity</b>           |           |             |      |          |           |      |          |      |
| Client ID: <b>LCSW</b>      | Batch ID: <b>R81457</b>         | RunNo: <b>81457</b>                            |           |             |      |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>9/21/2021</b> | SeqNo: <b>2877863</b> Units: <b>mg/L CaCO3</b> |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                            | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Total Alkalinity (as CaCO3) | 80.40                           | 20.00                                          | 80.00     | 0           | 101  | 90       | 110       |      |          |      |

|                             |                                 |                                                |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: <b>mb-2 alk</b>  | SampType: <b>mblk</b>           | TestCode: <b>SM2320B: Alkalinity</b>           |           |             |      |          |           |      |          |      |
| Client ID: <b>PBW</b>       | Batch ID: <b>R81457</b>         | RunNo: <b>81457</b>                            |           |             |      |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>9/21/2021</b> | SeqNo: <b>2877885</b> Units: <b>mg/L CaCO3</b> |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                            | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Total Alkalinity (as CaCO3) | ND                              | 20.00                                          |           |             |      |          |           |      |          |      |

|                             |                                 |                                                |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: <b>lcs-2 alk</b> | SampType: <b>lcs</b>            | TestCode: <b>SM2320B: Alkalinity</b>           |           |             |      |          |           |      |          |      |
| Client ID: <b>LCSW</b>      | Batch ID: <b>R81457</b>         | RunNo: <b>81457</b>                            |           |             |      |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>9/21/2021</b> | SeqNo: <b>2877886</b> Units: <b>mg/L CaCO3</b> |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                            | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Total Alkalinity (as CaCO3) | 82.04                           | 20.00                                          | 80.00     | 0           | 103  | 90       | 110       |      |          |      |

|                             |                                 |                                                |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: <b>mb-1 alk</b>  | SampType: <b>mblk</b>           | TestCode: <b>SM2320B: Alkalinity</b>           |           |             |      |          |           |      |          |      |
| Client ID: <b>PBW</b>       | Batch ID: <b>R81582</b>         | RunNo: <b>81582</b>                            |           |             |      |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>9/23/2021</b> | SeqNo: <b>2883100</b> Units: <b>mg/L CaCO3</b> |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                            | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Total Alkalinity (as CaCO3) | ND                              | 20.00                                          |           |             |      |          |           |      |          |      |

|                             |                                 |                                                |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: <b>lcs-1 alk</b> | SampType: <b>lcs</b>            | TestCode: <b>SM2320B: Alkalinity</b>           |           |             |      |          |           |      |          |      |
| Client ID: <b>LCSW</b>      | Batch ID: <b>R81582</b>         | RunNo: <b>81582</b>                            |           |             |      |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>9/23/2021</b> | SeqNo: <b>2883101</b> Units: <b>mg/L CaCO3</b> |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                            | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Total Alkalinity (as CaCO3) | 80.64                           | 20.00                                          | 80.00     | 0           | 101  | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2109A01

08-Oct-21

Client: Marathon

Project: Additional Well Install

|                             |        |                                 |           |                                      |      |                          |           |      |          |      |
|-----------------------------|--------|---------------------------------|-----------|--------------------------------------|------|--------------------------|-----------|------|----------|------|
| Sample ID: <b>mb-2 alk</b>  |        | SampType: <b>mblk</b>           |           | TestCode: <b>SM2320B: Alkalinity</b> |      |                          |           |      |          |      |
| Client ID: <b>PBW</b>       |        | Batch ID: <b>R81582</b>         |           | RunNo: <b>81582</b>                  |      |                          |           |      |          |      |
| Prep Date:                  |        | Analysis Date: <b>9/23/2021</b> |           | SeqNo: <b>2883126</b>                |      | Units: <b>mg/L CaCO3</b> |           |      |          |      |
| Analyte                     | Result | PQL                             | SPK value | SPK Ref Val                          | %REC | LowLimit                 | HighLimit | %RPD | RPDLimit | Qual |
| Total Alkalinity (as CaCO3) |        | ND                              | 20.00     |                                      |      |                          |           |      |          |      |

|                             |        |                                 |           |                                      |      |                          |           |      |          |      |
|-----------------------------|--------|---------------------------------|-----------|--------------------------------------|------|--------------------------|-----------|------|----------|------|
| Sample ID: <b>lcs-2 alk</b> |        | SampType: <b>lcs</b>            |           | TestCode: <b>SM2320B: Alkalinity</b> |      |                          |           |      |          |      |
| Client ID: <b>LCSW</b>      |        | Batch ID: <b>R81582</b>         |           | RunNo: <b>81582</b>                  |      |                          |           |      |          |      |
| Prep Date:                  |        | Analysis Date: <b>9/23/2021</b> |           | SeqNo: <b>2883127</b>                |      | Units: <b>mg/L CaCO3</b> |           |      |          |      |
| Analyte                     | Result | PQL                             | SPK value | SPK Ref Val                          | %REC | LowLimit                 | HighLimit | %RPD | RPDLimit | Qual |
| Total Alkalinity (as CaCO3) |        | 84.32                           | 20.00     | 80.00                                | 0    | 105                      | 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 Quantitative Limit

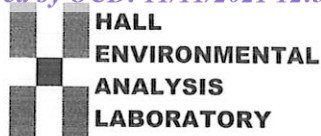
S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit



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

## Sample Log-In Check List

Client Name: Marathon

Work Order Number: 2109A01

RcptNo: 1

Received By: Cheyenne Cason 9/18/2021 10:13:00 AM

Completed By: Desiree Dominguez 9/18/2021 10:54:02 AM

Reviewed By: CMC 9/18/2021

125 combo: 9/18/21

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  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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 ☐ TMC 9-20-21
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 ☐
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:  
G 20  
<2 or >12 unless noted)

Adjusted? Yes

Checked by: 9/18/21

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: Added 40ml of HNO<sub>3</sub> to samples 001G, 002G, 003G, 004G and 009G for pH.

17. Cooler Information: Added 50ml of HNO<sub>3</sub> to samples 001F, 003F, and 009F for pH

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|-----------|---------|-----------|-------------|---------|-----------|-----------|
| 1         | 3.6     |           |             |         |           |           |
| 2         | 1.8     |           |             |         |           |           |
| 3         | 1.6     |           |             |         |           |           |
| 4         | 4.1     |           |             |         |           |           |
| 5         | 3.7     |           |             |         |           |           |
| 6         | 4.9     |           |             |         |           |           |
| 7         | 3.4     |           |             |         |           |           |



# HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

## Analysis Request

|                                                                 |       |                                                                             |                     |
|-----------------------------------------------------------------|-------|-----------------------------------------------------------------------------|---------------------|
| <input type="checkbox"/> Standard <input type="checkbox"/> Rush |       | Project Name:<br>Adit-onal well Install                                     |                     |
| 2021-GW Sampling - 3rd Quarter                                  |       | Project #:<br>697-060-001- 697-092-001                                      |                     |
| PO#: 4500267009 4500267036                                      |       | Project Manager:<br>Lesli Alexander<br>Brian McLoughlin                     |                     |
| Sampler:                                                        |       | On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |                     |
| # of Coolers: 7                                                 |       | Cooler Temp (including CF): See Check List                                  |                     |
| Container Type and #                                            |       | Preservative Type                                                           | HEAL No.<br>2109A01 |
| Date                                                            | Time  | Matrix                                                                      | Sample Name         |
| 9-17-21                                                         | 9:00  | water                                                                       | EB-09-17-21         |
| 9-17-21                                                         | 9:00  | water                                                                       | MKT-17-21           |
| 9-17-21                                                         | 9:25  | water                                                                       | MKT-18-21           |
| 9-17-21                                                         | 10:00 | water                                                                       | MKT-04-21           |
| 9-17-21                                                         | 10:35 | water                                                                       | MKT-01-21           |
| 9-17-21                                                         | 11:00 | water                                                                       | MKT-02-21           |
| 9-17-21                                                         | 11:55 | water                                                                       | OW-68               |
| 9-17-21                                                         | 12:15 | water                                                                       | OW-67               |
| 9-17-21                                                         | 12:45 | water                                                                       | OW-66               |
| 9-17-21                                                         | -     | water                                                                       | DUP-09-17-21        |
| 9-17-21                                                         | 12:45 | water                                                                       | FB-09-17-21         |
| 9-17-21                                                         |       | water                                                                       | TB-                 |
| Date:                                                           | Time: | Relinquished by:                                                            | Relinquished by:    |
| 9/17                                                            | 13:30 |                                                                             |                     |
| Date:                                                           | Time: | Received by:                                                                | Received by:        |
|                                                                 |       | Via: <u>cove</u>                                                            | Via: <u>cove</u>    |
|                                                                 |       | Date: 9/18/21                                                               | Date: 9/18/21       |
|                                                                 |       | Time: 1013                                                                  | Time: 1013          |

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.





### Tier II Data Validation Report Summary

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Client: Marathon Oil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Laboratory: Hall Environmental |
| Project Name: Western Refining SW, Monitoring Well Installation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Sample Matrix: Aqueous         |
| Project Number: 697-092-001 Task: 0002                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Sample Start Date: 09/17/2021  |
| Date Validated: 10/19/2021                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Sample End Date: 09/17/2021    |
| Parameters Included: <ul style="list-style-type: none"> <li>▪ Volatile Organic Compounds (VOC) by Test Methods for Evaluating Solid Waste (SW-846) Method 8260B</li> <li>▪ Semivolatile Organic Compounds (SVOC) by SW-846 Method 8270C and Method 8270C with Selected Ion Monitoring (SIM)</li> <li>▪ Total Petroleum Hydrocarbons (TPH) Gasoline Range Organics (GRO) by SW-846 Method 8015D</li> <li>▪ TPH Diesel Range Organics (DRO) and Motor Oil Range Organics (MRO) by SW-846 Method 8015D MOD</li> <li>▪ Total and Dissolved Metals by Environmental Protection Agency (EPA) Method 200.7 and Method 200.8</li> <li>▪ Total and Dissolved Mercury by EPA Method 245.1</li> <li>▪ Alkalinity by Standard Methods for the Examination of Water and Wastewater (SM) Method 2320B</li> <li>▪ Anions by Environmental Protection Agency (EPA) Method 300.0</li> </ul> |                                |
| Laboratory Project ID: 2109A01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                |
| Data Validator: Charles Ballek, Senior Chemist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                |
| Reviewer: Mike Phillips, Senior 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.

- Trip blanks
- Field blanks
- Equipment 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 |
|------------------|--------------------------|
| EB-09-17-21      | 2109A01-001              |
| MKTF-17R         | 2109A01-002              |
| MKTF-18R         | 2109A01-003              |
| MKTF-04R         | 2109A01-004              |
| MKTF-01R         | 2109A01-005              |
| MKTF-02R         | 2109A01-006              |
| OW-68            | 2109A01-007              |
| OW-67            | 2109A01-008              |
| OW-66            | 2109A01-009              |
| DUP-09-17-21     | 2109A01-010              |
| FB-09-17-21      | 2109A01-011              |
| Trip Blank       | 2109A01-012              |



## 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)
- ⊗ Field, Equipment, and Trip Blanks (Items 18 and 19)
- ⊗ Field Duplicates (Items 20 and 21)
- Laboratory Duplicates (Item 22)
- ⊗ Data Relationships (Item 23)

### 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 with additional reference to the USEPA CLP National Functional Guidelines for Organic Data Review, document number EPA 540/R-99/008, October 1999.
- 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-542-R-20-006, November 2020 with additional reference to the USEPA CLP National Functional Guidelines for Inorganic Data Review, document number EPA 540-R-04-004, October 2004.
- Review of field duplicates was conducted according to the USEPA Region 1 - 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, February 2021.







## 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.

| <u>Qualifier</u> | <u>Definition</u>                                  |
|------------------|----------------------------------------------------|
| J                | Estimated concentration                            |
| JB               | Estimated concentration due to blank contamination |
| 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 1,650 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 identify analytical non-conformances related to this data set.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |     |
| 2. Were the data free of data qualification flags and/or notes used by the laboratory?<br>If no, define.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | No  |
| Comments: The laboratory used the following data qualification flags with this data set.<br>J – Analyte detected below quantitation limits<br>D – Sample Diluted Due to Matrix<br>S – % Recovery outside of range due to dilution or matrix<br>* – Value exceeds Maximum Contaminant Level                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |
| 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 or required since the samples were delivered to the laboratory by courier, 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 data set were reviewed and appeared to be acceptable. The following dilutions were applied to the project samples.<br><u>Method 8260B</u> : Dilution factors of 5 to 200 times were applied to select samples for the analysis of VOCs.<br><u>Method 8270C</u> : Samples MKTF-17R, MKTF-18R, MKTF-04R, MKTF-01R, OW-66, and DUP-09-17-21 were diluted by factors of 10 times for the analysis of select SVOC target analytes.<br><u>Method 8270C-SIM</u> : Dilution factors of 10 times were applied to samples MKTF-17R, MKTF-18R, MKTF-04R, MKTF-01R, OW-66, and DUP-09-17-21 for the analysis of anthracene and/or dibenz(a,h)anthracene.<br><u>Method 8015</u> : Samples MKTF-17R, MKTF-18R, MKTF-04R, MKTF-01R, MKTF-02R, and OW-66 were diluted by factors of 5 or 10 times for the analysis of select GRO, DRO, and/or MRO.<br><u>Method 300.0</u> : Dilution factors of 5 to 500 times were applied to the submitted samples except sample EB-09-17-21 for the analysis of anions.<br><u>Method 200.7</u> : Samples were diluted by factors of 5 to 50 times for the analysis of total and dissolved metals.<br><u>Method 200.8</u> : Dilution factors of 5 to 10 times were applied to the submitted samples for the analysis of total and dissolved metals. |     |
| 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?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | No  |
| Comments: Samples were received at Hall Environmental on ice, in good condition, and with the cooler temperatures both within and outside the recommended temperature range of 4°C ± 2°C between 1.6°C and 4.9°C as noted on the <i>Sample Log-in Check List</i> . The cooler temperatures below 2.0°C were judged as acceptable since the laboratory did not report the sample containers as broken or frozen.<br><br>The laboratory noted that additional nitric acid was added to the containers designated for metals analyses for some samples to achieve the required pH less than 2. Validation action was not required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |     |



| VALIDATION CRITERIA CHECKLIST                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 7. Were samples extracted/digested and analyzed within method-specified or technical holding times?                                                                                                                                                                                                                                                                                                                                                                                                                                         | Yes |
| Comments: The samples were digested/extracted 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) and milligrams per liter (mg/L), which were acceptable for the sample matrix 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 total 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 exception.<br><b>Pyrene was detected in the method blank for Method 8270 batch 62703 at a concentration of 0.18 µg/L. Pyrene was detected in associated sample OW-68 at a concentration less than the applicable reporting limit, and the result was assigned a U qualifier.</b> Pyrene was not detected in the remaining associated samples, and qualification of those results was not required based on the method blank detection. |     |



## VALIDATION CRITERIA CHECKLIST

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 for all analyses and/or batches. The matrix spike sample source for each analytical batch in this sample set has been indicated below.

| <u>Method</u> | <u>Analytes</u>  | <u>Batch</u> | <u>MS Sample Source</u> |
|---------------|------------------|--------------|-------------------------|
| 8260B         | VOCs             | R81501       | Not Prepared            |
| 8260B         | VOCs             | R81542       | Not Prepared            |
| 8260B         | Benzene          | R81622       | Not Prepared            |
| 8270C         | SVOCs            | 62689        | Not Prepared            |
| 8270C         | SVOCs            | 62703        | Not Prepared            |
| 8270C-SIM     | SVOCs            | 62703        | Not Prepared            |
| 8015D         | GRO              | R81501       | Not Prepared            |
| 8015 MOD      | DRO              | 62729        | Not Prepared            |
| 200.7         | Total Metals     | 62792        | EB-09-17-21             |
| 200.7         | Dissolved Metals | B81434       | EB-09-17-21             |
| 200.8         | Total Metals     | 62792        | MKTF-17R                |
| 200.8         | Dissolved Metals | C81686       | Not Prepared            |
| 245.1         | Mercury          | 62854        | MKTF-18R                |
| <u>Method</u> | <u>Analytes</u>  | <u>Batch</u> | <u>MS Sample Source</u> |
| 300.0         | Anions           | R81380       | EB-09-17-21             |
| 300.0         | Chloride         | R81507       | Not Prepared            |
| 2320B         | Alkalinity       | R81457       | Not Prepared            |
| 2320B         | Alkalinity       | R81582       | Not Prepared            |

Not Prepared – Matrix spikes were not prepared 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? Yes

Comments: The percent recoveries and RPDs for the MS/MSDs prepared from project samples were within laboratory and data validation QC limits.

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 laboratory QC limits.



**VALIDATION CRITERIA CHECKLIST**

17. Were surrogate recoveries within laboratory QC limits?

No

Comments: Surrogate recoveries in the analyses of the submitted samples were within laboratory QC limits, with the following exceptions.

| <u>Method</u> | <u>Sample</u> | <u>Surrogate</u>     | <u>Surrogate Recovery</u> | <u>QC Limits</u> |
|---------------|---------------|----------------------|---------------------------|------------------|
| 8270C         | MKTF-17R      | 2-Fluorophenol       | 0%                        | 15-87%           |
| 8270C-SIM     | OW-68         | 2,4,6-Tribromophenol | 98.5%                     | 23.4-71.6%       |
| 8270C-SIM     | OW-67         | 2,4,6-Tribromophenol | 84.5%                     | 23.4-71.6%       |
| 8270C         | OW-66         | 2-Fluorophenol       | 0%                        | 15-87%           |

Since Method 8270C and Method 8270C-SIM surrogate associations were not available from the laboratory, qualification was assigned to all of 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 samples MKTF-17R, OW-68, OW-67, and OW-66, and qualification of sample data was not required.

The SVOC and DRO/MRO results were not qualified based on surrogate non-conformances in the Method 8270C-SIM and Method 8015D MOD analyses since the applied dilution of 10 times or greater resulted in surrogate concentrations below routinely calibrated levels, and those results were deemed unreliable and possibly inaccurate.

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 total number of samples. One trip blank sample, Trip Blank, one field blank sample, FB-09-17-21, and one equipment blank sample, EB-09-17-21, were collected as part of this sample set.



## 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 reported as not detected in the trip blank, field blank, and equipment blank samples, with the following exceptions.

| Blank Sample ID | Method  | Analyte                     | Concentration | Units |
|-----------------|---------|-----------------------------|---------------|-------|
| FB-09-17-21     | SW8260B | 1,2,4-Trimethylbenzene      | 0.16          | µg/L  |
| FB-09-17-21     | SW8260B | 1-Methylnaphthalene         | 0.94          | µg/L  |
| FB-09-17-21     | SW8260B | 2-Butanone                  | 2.2           | µg/L  |
| FB-09-17-21     | SW8260B | 2-Methylnaphthalene         | 1.0           | µg/L  |
| FB-09-17-21     | SW8260B | Acetone                     | 7.3           | µg/L  |
| FB-09-17-21     | SW8260B | Benzene                     | 0.42          | µg/L  |
| FB-09-17-21     | SW8260B | Naphthalene                 | 0.63          | µg/L  |
| EB-09-17-21     | SW8260B | Acetone                     | 3.8           | µg/L  |
| EB-09-17-21     | SW8015  | Diesel Range Organics (DRO) | 0.019         | mg/L  |
| EB-09-17-21     | E300.0  | Chloride                    | 0.29          | mg/L  |
| EB-09-17-21     | E300.0  | Nitrogen, Nitrate (As N)    | 0.31          | mg/L  |
| EB-09-17-21     | E300.0  | Sulfate                     | 1.7           | mg/L  |
| EB-09-17-21     | E200.7  | Zinc, Dissolved             | 0.0071        | mg/L  |
| EB-09-17-21     | E200.8  | Lead                        | 0.00052       | mg/L  |

Detections of the identified analytes in the associated samples that were less than the blank results or less than the applicable reporting limits were assigned U qualifiers. Detections of the identified analytes in the associated samples that were greater than the reporting limits but less than 10 times the 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 10 times the blank concentration did not require qualification.

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-09-17-21 was collected as a field duplicate of sample MKTF-18R.

21. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)? No

Comment: As indicated in the Field Duplicate Summary Table at the end of this report, field duplicate RPD values were within data validation QC limits of 0-30% for water samples, with the following exceptions.

The RPD values for several analytes exceeded the data validation limit of 30%. The reported results for these analytes were assigned J qualifiers for the parent and field duplicate samples, MKTF-18R and DUP-09-17-21, due to evidence of poor precision.

The RPD values for several analytes greatly exceeded the data validation limit of 30% with RPD values greater than 100%. The reported results for these analytes were assigned J qualifiers for samples MKTF-18R and DUP-09-17-21, and J/UJ qualifiers for the results in the associated samples due to evidence of extremely poor precision (RPD > 100%).

RPD values could not be calculated for several analytes for the field duplicate pair MKTF-18R and DUP-09-17-21 since the analyte was detected in the one sample and was undetected in the other. Since the detection was greater than two times the reporting limit, the results for these analytes were assigned J and UJ qualifiers due to evidence of poor precision.



## VALIDATION CRITERIA CHECKLIST

22. For laboratory duplicates prepared from project samples, were RPDs within laboratory QC limits? N/A

Comments: Laboratory duplicates were not prepared for the analytical batches in this data set.

23. Were the following data relationships realistic and acceptable?

- Target analytes were reported by more than one method (e.g., 8260/8270, EPH/8270), and the results were in agreement? No

Comments: Anthracene was analyzed by both Method 8270C and Method 8270-SIM for sample MKTF-17R. Anthracene was detected in the sample by Method 8270C-SIM at a concentration less than the reporting limit for Method 8270C and qualification of data was not required. Dibenz(a,h)anthracene was analyzed by both Method 8270C and Method 8270-SIM for several samples. Dibenz(a,h)anthracene was not detected by both methods and qualification of results was not required.

Analytical results for 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 for the submitted samples. The results for these analytes were reported as not detected by both methods, with the following exceptions.

| Sample              | Analyte                    | Method 8260B<br>(µg/L) | Method 8270C<br>(µg/L) | Reporting<br>Limits<br>(8260/8270) | RPD          |
|---------------------|----------------------------|------------------------|------------------------|------------------------------------|--------------|
| DUP-09-17-21        | 1,2-Dichlorobenzene        | 0.57                   | ND                     | 1.0 / 5.0                          | ----         |
| <b>DUP-09-17-21</b> | <b>1-Methylnaphthalene</b> | <b>43</b>              | <b>27</b>              | <b>4.0 / 1.0</b>                   | <b>45.7%</b> |
| MKTF-01R            | 1-Methylnaphthalene        | 28                     | 11                     | 20 / 1.0                           | 87.2% ◀      |
| MKTF-04R            | 1-Methylnaphthalene        | 48                     | 9.0                    | 20 / 1.0                           | 137% ◀       |
| MKTF-17R            | 1-Methylnaphthalene        | 27                     | 15                     | 20 / 1.0                           | 57.1% ◀      |
| <b>MKTF-18R</b>     | <b>1-Methylnaphthalene</b> | <b>200</b>             | <b>110</b>             | <b>20 / 1.0</b>                    | <b>58.1%</b> |
| OW-66               | 1-Methylnaphthalene        | 35                     | 33                     | 40 / 1.1                           | 5.9% ◀       |
| <b>DUP-09-17-21</b> | <b>2-Methylnaphthalene</b> | <b>54</b>              | <b>19</b>              | <b>4.0 / 1.0</b>                   | <b>95.9%</b> |
| MKTF-01R            | 2-Methylnaphthalene        | 25                     | 8.2                    | 20 / 1.0                           | 101% ◀       |
| MKTF-04R            | 2-Methylnaphthalene        | 59                     | 6.2                    | 20 / 1.0                           | 162% ◀       |
| MKTF-17R            | 2-Methylnaphthalene        | 34                     | 16                     | 20 / 1.0                           | 72.0% ◀      |
| <b>MKTF-18R</b>     | <b>2-Methylnaphthalene</b> | <b>300</b>             | <b>130</b>             | <b>20 / 1.0</b>                    | <b>79.1%</b> |
| OW-66               | 2-Methylnaphthalene        | 61                     | 51                     | 40 / 1.1                           | 17.9% ◀      |
| <b>DUP-09-17-21</b> | <b>Naphthalene</b>         | <b>77</b>              | <b>42</b>              | <b>2.0 / 1.0</b>                   | <b>58.8%</b> |
| <b>MKTF-01R</b>     | <b>Naphthalene</b>         | <b>52</b>              | <b>21</b>              | <b>10 / 1.0</b>                    | <b>84.9%</b> |
| <b>MKTF-04R</b>     | <b>Naphthalene</b>         | <b>81</b>              | <b>15</b>              | <b>10 / 1.0</b>                    | <b>138%</b>  |
| <b>MKTF-17R</b>     | <b>Naphthalene</b>         | <b>72</b>              | <b>38</b>              | <b>10 / 1.0</b>                    | <b>61.8%</b> |
| <b>MKTF-18R</b>     | <b>Naphthalene</b>         | <b>170</b>             | <b>87</b>              | <b>10 / 1.0</b>                    | <b>64.6%</b> |
| OW-66               | Naphthalene                | 130                    | 110                    | 20 / 1.0                           | 16.7%        |

◀ – one or both results were within 5 times the applicable reporting limit.

----- – RPD could not be calculated.

The bold results in the table above were greater than 5 times the applicable reporting limits and the relative percent differences between the Method 8260B and Method 8270C results were greater than the acceptable limit for aqueous samples of 30%. These results were assigned J qualifiers due to the discrepancies between the concentrations.





**VALIDATION CRITERIA CHECKLIST**

The differences between the remaining results reported by both Method 8260B and Method 8270C were evaluated to be within the measurement uncertainty of the analytical methods at concentrations near or below the reporting limits. Qualification of results was not required.

- Both total and dissolved metals analyses were performed, and the total metals results were greater than or equal to the dissolved metals results? No

Comments: The reported concentrations for total metals in the submitted samples were greater than the dissolved results, or the differences were within the measurement uncertainty for the methods, with the following exception.

The reported dissolved zinc result of 0.034 mg/L for sample MKTF-02R was greater than the total zinc concentration of 0.019 mg/L. These results were within 5 times the applicable reporting limits and qualification of results was not required.

## FIELD DUPLICATE SUMMARY

| Client Sample ID: MKTF-18R<br>Field Duplicate Sample ID: DUP-09-17-21 |                           |                   |                  |                                   |
|-----------------------------------------------------------------------|---------------------------|-------------------|------------------|-----------------------------------|
| Method                                                                | Analyte                   | Laboratory Result | Duplicate Result | Relative Percent Difference (RPD) |
| SW8260B                                                               | 1,1-Dichloroethane        | ND (5.0 µg/L)     | 32 µg/L          | DL                                |
| SW8260B                                                               | 1,1-Dichloroethene        | ND (5.0 µg/L)     | 44 µg/L          | DL                                |
| SW8260B                                                               | 1,2,4-Trimethylbenzene    | 30 µg/L           | 780 µg/L         | 185.2%                            |
| SW8260B                                                               | 1,2-Dichlorobenzene       | ND (5.0 µg/L)     | 0.57 µg/L        | DL                                |
| SW8260B                                                               | 1,2-Dichloroethane        | 1.5 µg/L          | 1.5 µg/L         | 0.0% +/-RL                        |
| SW8260B                                                               | 1,2-Dichloropropane       | ND (5.0 µg/L)     | 0.54 µg/L        | DL                                |
| SW8260B                                                               | 1,3,5-Trimethylbenzene    | 8.8 µg/L          | 30 µg/L          | 109.3%                            |
| SW8260B                                                               | 1-Methylnaphthalene       | 200 µg/L          | 43 µg/L          | 129.2%                            |
| SW8260B                                                               | 2-Butanone                | 13 µg/L           | 8.0 µg/L         | 47.6% +/-RL                       |
| SW8260B                                                               | 2-Methylnaphthalene       | 300 µg/L          | 54 µg/L          | 139.0%                            |
| SW8260B                                                               | Acetone                   | 20 µg/L           | 19 µg/L          | 5.1% +/-RL                        |
| SW8260B                                                               | Benzene                   | 3,700 µg/L        | 1,200 µg/L       | 102.0%                            |
| SW8260B                                                               | Bromodichloromethane      | ND (5.0 µg/L)     | 0.49 µg/L        | DL                                |
| SW8260B                                                               | Chloromethane             | ND (15 µg/L)      | 1.3 µg/L         | DL                                |
| SW8260B                                                               | cis-1,2-Dichloroethene    | 7.7 µg/L          | 17 µg/L          | 75.3%                             |
| SW8260B                                                               | Dibromochloromethane      | ND (5.0 µg/L)     | 0.49 µg/L        | DL                                |
| SW8260B                                                               | Ethylbenzene              | 39 µg/L           | 1,100 µg/L       | 186.3%                            |
| SW8260B                                                               | Isopropylbenzene          | 4.3 µg/L          | 12 µg/L          | 94.5%                             |
| SW8260B                                                               | MTBE                      | 200 µg/L          | 7,800 µg/L       | 190.0%                            |
| SW8260B                                                               | Naphthalene               | 170 µg/L          | 77 µg/L          | 75.3%                             |
| SW8260B                                                               | n-Butylbenzene            | 3.1 µg/L          | 4.0 µg/L         | 25.4% +/-RL                       |
| SW8260B                                                               | n-Propylbenzene           | 6.6 µg/L          | 28 µg/L          | 123.7%                            |
| SW8260B                                                               | p-Isopropyltoluene        | 2.6 µg/L          | 2.5 µg/L         | 3.9%                              |
| SW8260B                                                               | sec-Butylbenzene          | 1.9 µg/L          | 1.9 µg/L         | 0.0% +/-RL                        |
| SW8260B                                                               | Styrene                   | ND (5.0 µg/L)     | 0.21 µg/L        | DL                                |
| SW8260B                                                               | Toluene                   | 1,800 µg/L        | 13 µg/L          | 197.1%                            |
| SW8260B                                                               | trans-1,2-Dichloroethene  | ND (5.0 µg/L)     | 0.32 µg/L        | DL                                |
| SW8260B                                                               | trans-1,3-Dichloropropene | ND (5.0 µg/L)     | 0.90 µg/L        | DL                                |
| SW8260B                                                               | Vinyl Chloride            | ND (5.0 µg/L)     | 0.41 µg/L        | DL                                |
| SW8260B                                                               | Xylenes, Total            | 370 µg/L          | 260 µg/L         | 34.9%                             |
| SW8270C                                                               | 1-Methylnaphthalene       | 110 µg/L          | 27 µg/L          | 121.2%                            |
| SW8270C                                                               | 2,4-Dimethylphenol        | 13 µg/L           | 3.9 µg/L         | 107.7%                            |
| SW8270C                                                               | 2-Methylnaphthalene       | 130 µg/L          | 19 µg/L          | 149.0%                            |
| SW8270C                                                               | 2-Methylphenol            | 130 µg/L          | ND (5.0 µg/L)    | DL                                |
| SW8270C                                                               | 3,4-Methylphenol          | 35 µg/L           | ND (5.0 µg/L)    | DL                                |
| SW8270C                                                               | Acenaphthene              | 5.4 µg/L          | 3.0 µg/L         | 57.1%                             |
| SW8270C                                                               | Fluorene                  | 8.4 µg/L          | 3.4 µg/L         | 84.7%                             |
| SW8270C                                                               | Naphthalene               | 87 µg/L           | 42 µg/L          | 69.8%                             |



| Client Sample ID: MKTF-18R<br>Field Duplicate Sample ID: DUP-09-17-21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                  |                              |                            |                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------------------|----------------------------|-----------------------------------|
| Method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Analyte                          | Laboratory Result            | Duplicate Result           | Relative Percent Difference (RPD) |
| SW8270C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Phenanthrene                     | 6.2 µg/L                     | 1.2 µg/L                   | 135.1%                            |
| SW8270C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Phenol                           | 120 µg/L                     | 8.2 µg/L                   | 174.4%                            |
| SW8015                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | TPH GRO                          | 13 mg/L                      | 5.0 mg/L                   | 88.9%                             |
| SW8015                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | TPH DRO                          | 4.6 mg/L                     | 2.6 mg/L                   | 55.6%                             |
| SW8015                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | TPH ORO                          | ND (0.80 mg/L)               | 0.090 mg/L                 | DL                                |
| SM2320B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Alkalinity                       | 619.7 mg/L CaCO <sub>3</sub> | 623 mg/L CaCO <sub>3</sub> | 0.5%                              |
| SM2320B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Bicarbonate as CaCO <sub>3</sub> | 619.7 mg/L CaCO <sub>3</sub> | 623 mg/L CaCO <sub>3</sub> | 0.5%                              |
| E300.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Chloride                         | 290 mg/L                     | 220 mg/L                   | 27.5%                             |
| E300.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Fluoride, Total                  | 0.68 mg/L                    | 0.65 mg/L                  | 4.5% +/-RL                        |
| <b>E300.0</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Sulfate</b>                   | <b>10 mg/L</b>               | <b>62 mg/L</b>             | <b>144.4%</b>                     |
| E 200.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Barium, Dissolved                | 1.6 mg/L                     | 1.2 mg/L                   | 28.6%                             |
| E 200.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Barium, Total                    | 1.8 mg/L                     | 2.0 mg/L                   | 10.5%                             |
| E 200.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Beryllium, Total                 | ND (0.0020 mg/L)             | 0.0019 mg/L                | DL                                |
| E 200.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Calcium, Total                   | 110 mg/L                     | 140 mg/L                   | 24.0%                             |
| <b>E 200.7</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Chromium, Total</b>           | <b>ND (0.006 mg/L)</b>       | <b>0.020 mg/L</b>          | <b>DL</b>                         |
| E 200.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Cobalt, Dissolved                | 0.0088 mg/L                  | 0.0053 mg/L                | 49.6% +/-RL                       |
| E 200.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Cobalt, Total                    | 0.012 mg/L                   | 0.015 mg/L                 | 22.2%                             |
| <b>E 200.7</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Iron, Dissolved</b>           | <b>1.5 mg/L</b>              | <b>0.51 mg/L</b>           | <b>98.5%</b>                      |
| <b>E 200.7</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Iron, Total</b>               | <b>3.3 mg/L</b>              | <b>17 mg/L</b>             | <b>135.0%</b>                     |
| E 200.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Magnesium, Total                 | 32 mg/L                      | 36 mg/L                    | 11.8%                             |
| <b>E 200.7</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Manganese, Dissolved</b>      | <b>1.7 mg/L</b>              | <b>2.4 mg/L</b>            | <b>34.1%</b>                      |
| <b>E 200.7</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Manganese, Total</b>          | <b>1.8 mg/L</b>              | <b>2.9 mg/L</b>            | <b>46.8%</b>                      |
| E 200.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Nickel, Dissolved                | 0.0048 mg/L                  | 0.0068 mg/L                | 34.5% +/-RL                       |
| <b>E 200.7</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Nickel, Total</b>             | <b>0.0086 mg/L</b>           | <b>0.026 mg/L</b>          | <b>100.6%</b>                     |
| <b>E 200.7</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Potassium, Total</b>          | <b>2.9 mg/L</b>              | <b>5.1 mg/L</b>            | <b>55.0%</b>                      |
| E 200.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Sodium, Total                    | 300 mg/L                     | 320 mg/L                   | 6.5%                              |
| E 200.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Vanadium, Total                  | 0.0031 mg/L                  | 0.033 mg/L                 | 165.7% +/-RL                      |
| E 200.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Zinc, Dissolved                  | 0.0093 mg/L                  | 0.011 mg/L                 | 16.7% +/-RL                       |
| <b>E 200.7</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Zinc, Total</b>               | <b>ND (0.010 mg/L)</b>       | <b>0.036 mg/L</b>          | <b>DL</b>                         |
| E200.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Arsenic, Dissolved               | 0.0071 mg/L                  | 0.0026 mg/L                | 92.8% +/-RL                       |
| E200.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Arsenic, Total                   | 0.0075 mg/L                  | 0.0063 mg/L                | 17.4% +/-RL                       |
| <b>E200.8</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Lead, Total</b>               | <b>0.0019 mg/L</b>           | <b>0.046 mg/L</b>          | <b>184.1%</b>                     |
| E200.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Selenium, Total                  | ND (0.0050 mg/L)             | 0.0063 mg/L                | DL                                |
| <p>Field duplicate RPD control limits are not to exceed 30% for water as established by USEPA Region 1 - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020.</p> <p>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 two times the reporting limit. Non-detected results are indicated above with the applicable reporting limit as ND (RL).</p> <p><b>RPD values could not be calculated for several analytes since the analyte was detected in the one sample and was undetected in the other. Since the reported detection was greater than two times the applicable reporting limit, the</b></p> |                                  |                              |                            |                                   |



| Client Sample ID: MKTF-18R<br>Field Duplicate Sample ID: DUP-09-17-21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |         |                   |                  |                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------------|------------------|-----------------------------------|
| Method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Analyte | Laboratory Result | Duplicate Result | Relative Percent Difference (RPD) |
| <p>results for these analytes in samples MKTF-18R and DUP-09-17-21 were assigned J and UJ qualifiers, as appropriate, due to evidence of poor precision.</p> <p>+/-RL – Indicates that the detections in both of the samples were within two times the reporting limit. Qualification of data was not required.</p> <p>The RPD values for several analytes exceeded the data validation limit of 30%. The reported results for these analytes were assigned J qualifiers for the parent and field duplicate samples, MKTF-18R and DUP-09-17-21, due to evidence of poor precision.</p> <p>The RPD values for several analytes greatly exceeded the data validation limit of 30% with RPD values greater than 100%. The reported results for these analytes were assigned J qualifiers for samples MKTF-18R and DUP-09-17-21, and J/UJ qualifiers for the results in the associated samples due to evidence of extremely poor precision (RPD &gt; 100%).</p> |         |                   |                  |                                   |



## DATA QUALIFICATION SUMMARY

| Abbreviation | Reason                                                                                 |
|--------------|----------------------------------------------------------------------------------------|
| MBD          | Method blank detection                                                                 |
| FBD          | Field blank detection                                                                  |
| EBD          | Equipment blank detection                                                              |
| ERPD-FD      | High field duplicate RPD.                                                              |
| DATA-COMP    | Analytical results for analyte by different methods did not meet comparability limits. |
| 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-Dichloroethane     | SW8260B | MKTF-17R        | 2109A01-002a  | 3.3    | 5     | µg/L  | J                  | MDLRL               |
| 1,1-Dichloroethane     | SW8260B | MKTF-18R        | 2109A01-003a  | ND     | 5     | µg/L  | UJ                 | ERPD-FD             |
| 1,1-Dichloroethane     | SW8260B | MKTF-01R        | 2109A01-005a  | 3      | 5     | µg/L  | J                  | MDLRL               |
| 1,1-Dichloroethane     | SW8260B | DUP-09-17-21    | 2109A01-010a  | 32     | 1     | µg/L  | J                  | ERPD-FD             |
| 1,1-Dichloroethene     | SW8260B | MKTF-18R        | 2109A01-003a  | ND     | 5     | µg/L  | UJ                 | ERPD-FD             |
| 1,1-Dichloroethene     | SW8260B | DUP-09-17-21    | 2109A01-010a  | 44     | 1     | µg/L  | J                  | ERPD-FD             |
| 1,2,3-Trichlorobenzene | SW8260B | OW-68           | 2109A01-007a  | 0.37   | 1     | µg/L  | J                  | MDLRL               |
| 1,2,4-Trimethylbenzene | SW8260B | EB-09-17-21     | 2109A01-001a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD             |
| 1,2,4-Trimethylbenzene | SW8260B | MKTF-17R        | 2109A01-002a  | 430    | 5     | µg/L  | J                  | ERPD-FD             |
| 1,2,4-Trimethylbenzene | SW8260B | MKTF-18R        | 2109A01-003a  | 30     | 5     | µg/L  | J                  | ERPD-FD             |
| 1,2,4-Trimethylbenzene | SW8260B | MKTF-04R        | 2109A01-004a  | 160    | 5     | µg/L  | J                  | ERPD-FD             |
| 1,2,4-Trimethylbenzene | SW8260B | MKTF-01R        | 2109A01-005a  | 310    | 5     | µg/L  | J                  | ERPD-FD             |
| 1,2,4-Trimethylbenzene | SW8260B | MKTF-02R        | 2109A01-006a  | ND     | 5     | µg/L  | UJ                 | ERPD-FD             |
| 1,2,4-Trimethylbenzene | SW8260B | OW-68           | 2109A01-007a  | 0.58   | 1     | µg/L  | U                  | ERPD-FD, FBD, MDLRL |
| 1,2,4-Trimethylbenzene | SW8260B | OW-67           | 2109A01-008a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD             |
| 1,2,4-Trimethylbenzene | SW8260B | OW-66           | 2109A01-009a  | 1300   | 200   | µg/L  | J                  | ERPD-FD             |
| 1,2,4-Trimethylbenzene | SW8260B | DUP-09-17-21    | 2109A01-010a  | 780    | 50    | µg/L  | J                  | ERPD-FD             |
| 1,2,4-Trimethylbenzene | SW8260B | FB-09-17-21     | 2109A01-011a  | 0.16   | 1     | µg/L  | J                  | ERPD-FD, MDLRL      |



| Analyte                | Method  | Field Sample ID | Lab Sample ID | Result | Limit | Units | Reviewer Qualifier | DV Flag Reasons    |
|------------------------|---------|-----------------|---------------|--------|-------|-------|--------------------|--------------------|
| 1,2,4-Trimethylbenzene | SW8260B | Trip Blank      | 2109A01-012a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD            |
| 1,2-Dichlorobenzene    | SW8260B | DUP-09-17-21    | 2109A01-010a  | 0.57   | 1     | µg/L  | J                  | MDLRL              |
| 1,2-Dichloroethane     | SW8260B | MKTF-18R        | 2109A01-003a  | 1.5    | 5     | µg/L  | J                  | MDLRL              |
| 1,2-Dichloroethane     | SW8260B | MKTF-04R        | 2109A01-004a  | 2.3    | 5     | µg/L  | J                  | MDLRL              |
| 1,2-Dichloroethane     | SW8260B | MKTF-01R        | 2109A01-005a  | 2.4    | 5     | µg/L  | J                  | MDLRL              |
| 1,2-Dichloroethane     | SW8260B | OW-68           | 2109A01-007a  | 0.3    | 1     | µg/L  | J                  | MDLRL              |
| 1,2-Dichloroethane     | SW8260B | OW-66           | 2109A01-009a  | 4.4    | 10    | µg/L  | J                  | MDLRL              |
| 1,2-Dichloropropane    | SW8260B | MKTF-04R        | 2109A01-004a  | 1.3    | 5     | µg/L  | J                  | MDLRL              |
| 1,2-Dichloropropane    | SW8260B | DUP-09-17-21    | 2109A01-010a  | 0.54   | 1     | µg/L  | J                  | MDLRL              |
| 1,3,5-Trimethylbenzene | SW8260B | EB-09-17-21     | 2109A01-001a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD            |
| 1,3,5-Trimethylbenzene | SW8260B | MKTF-17R        | 2109A01-002a  | 120    | 5     | µg/L  | J                  | ERPD-FD            |
| 1,3,5-Trimethylbenzene | SW8260B | MKTF-18R        | 2109A01-003a  | 8.8    | 5     | µg/L  | J                  | ERPD-FD            |
| 1,3,5-Trimethylbenzene | SW8260B | MKTF-04R        | 2109A01-004a  | 29     | 5     | µg/L  | J                  | ERPD-FD            |
| 1,3,5-Trimethylbenzene | SW8260B | MKTF-01R        | 2109A01-005a  | 28     | 5     | µg/L  | J                  | ERPD-FD            |
| 1,3,5-Trimethylbenzene | SW8260B | MKTF-02R        | 2109A01-006a  | ND     | 5     | µg/L  | UJ                 | ERPD-FD            |
| 1,3,5-Trimethylbenzene | SW8260B | OW-68           | 2109A01-007a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD            |
| 1,3,5-Trimethylbenzene | SW8260B | OW-67           | 2109A01-008a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD            |
| 1,3,5-Trimethylbenzene | SW8260B | OW-66           | 2109A01-009a  | 350    | 10    | µg/L  | J                  | ERPD-FD            |
| 1,3,5-Trimethylbenzene | SW8260B | DUP-09-17-21    | 2109A01-010a  | 30     | 1     | µg/L  | J                  | ERPD-FD            |
| 1,3,5-Trimethylbenzene | SW8260B | FB-09-17-21     | 2109A01-011a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD            |
| 1,3,5-Trimethylbenzene | SW8260B | Trip Blank      | 2109A01-012a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD            |
| 1-Methylnaphthalene    | SW8260B | EB-09-17-21     | 2109A01-001a  | ND     | 4     | µg/L  | UJ                 | ERPD-FD            |
| 1-Methylnaphthalene    | SW8270C | EB-09-17-21     | 2109a01-001d  | ND     | 0.1   | µg/L  | UJ                 | ERPD-FD            |
| 1-Methylnaphthalene    | SW8260B | MKTF-17R        | 2109A01-002a  | 27     | 20    | µg/L  | J                  | ERPD-FD            |
| 1-Methylnaphthalene    | SW8270C | MKTF-17R        | 2109a01-002d  | 15     | 1     | µg/L  | J                  | ERPD-FD            |
| 1-Methylnaphthalene    | SW8260B | MKTF-18R        | 2109A01-003a  | 200    | 20    | µg/L  | J                  | DATA-COMP, ERPD-FD |
| 1-Methylnaphthalene    | SW8270C | MKTF-18R        | 2109a01-003d  | 110    | 1     | µg/L  | J                  | DATA-COMP, ERPD-FD |
| 1-Methylnaphthalene    | SW8260B | MKTF-04R        | 2109A01-004a  | 48     | 20    | µg/L  | J                  | ERPD-FD            |



| Analyte             | Method  | Field Sample ID | Lab Sample ID | Result | Limit | Units | Reviewer Qualifier | DV Flag Reasons     |
|---------------------|---------|-----------------|---------------|--------|-------|-------|--------------------|---------------------|
| 1-Methylnaphthalene | SW8270C | MKTF-04R        | 2109a01-004d  | 9      | 1     | µg/L  | J                  | ERPD-FD             |
| 1-Methylnaphthalene | SW8260B | MKTF-01R        | 2109A01-005a  | 28     | 20    | µg/L  | J                  | ERPD-FD             |
| 1-Methylnaphthalene | SW8270C | MKTF-01R        | 2109a01-005d  | 11     | 1     | µg/L  | J                  | ERPD-FD             |
| 1-Methylnaphthalene | SW8260B | MKTF-02R        | 2109A01-006a  | ND     | 20    | µg/L  | UJ                 | ERPD-FD             |
| 1-Methylnaphthalene | SW8270C | MKTF-02R        | 2109a01-006d  | ND     | 0.1   | µg/L  | UJ                 | ERPD-FD             |
| 1-Methylnaphthalene | SW8260B | OW-68           | 2109A01-007a  | ND     | 4     | µg/L  | UJ                 | ERPD-FD             |
| 1-Methylnaphthalene | SW8270C | OW-68           | 2109a01-007d  | ND     | 0.1   | µg/L  | UJ                 | ERPD-FD             |
| 1-Methylnaphthalene | SW8260B | OW-67           | 2109A01-008a  | ND     | 4     | µg/L  | UJ                 | ERPD-FD             |
| 1-Methylnaphthalene | SW8270C | OW-67           | 2109a01-008d  | ND     | 0.1   | µg/L  | UJ                 | ERPD-FD             |
| 1-Methylnaphthalene | SW8260B | OW-66           | 2109A01-009a  | 35     | 40    | µg/L  | U                  | ERPD-FD, FBD, MDLRL |
| 1-Methylnaphthalene | SW8270C | OW-66           | 2109a01-009d  | 33     | 1     | µg/L  | J                  | ERPD-FD             |
| 1-Methylnaphthalene | SW8260B | DUP-09-17-21    | 2109A01-010a  | 43     | 4     | µg/L  | J                  | DATA-COMP, ERPD-FD  |
| 1-Methylnaphthalene | SW8270C | DUP-09-17-21    | 2109a01-010d  | 27     | 1     | µg/L  | J                  | DATA-COMP, ERPD-FD  |
| 1-Methylnaphthalene | SW8260B | FB-09-17-21     | 2109A01-011a  | 0.94   | 4     | µg/L  | J                  | ERPD-FD, MDLRL      |
| 1-Methylnaphthalene | SW8260B | Trip Blank      | 2109A01-012a  | ND     | 4     | µg/L  | UJ                 | ERPD-FD             |
| 2,4-Dimethylphenol  | SW8270C | EB-09-17-21     | 2109a01-001d  | ND     | 5     | µg/L  | UJ                 | ERPD-FD             |
| 2,4-Dimethylphenol  | SW8270C | MKTF-17R        | 2109a01-002d  | 13     | 5     | µg/L  | J                  | ERPD-FD             |
| 2,4-Dimethylphenol  | SW8270C | MKTF-18R        | 2109a01-003d  | 13     | 5     | µg/L  | J                  | ERPD-FD             |
| 2,4-Dimethylphenol  | SW8270C | MKTF-04R        | 2109a01-004d  | 3.9    | 5     | µg/L  | J                  | ERPD-FD, MDLRL      |
| 2,4-Dimethylphenol  | SW8270C | MKTF-01R        | 2109a01-005d  | 19     | 5     | µg/L  | J                  | ERPD-FD             |
| 2,4-Dimethylphenol  | SW8270C | MKTF-02R        | 2109a01-006d  | ND     | 5     | µg/L  | UJ                 | ERPD-FD             |
| 2,4-Dimethylphenol  | SW8270C | OW-68           | 2109a01-007d  | ND     | 5     | µg/L  | UJ                 | ERPD-FD             |
| 2,4-Dimethylphenol  | SW8270C | OW-67           | 2109a01-008d  | ND     | 5     | µg/L  | UJ                 | ERPD-FD             |
| 2,4-Dimethylphenol  | SW8270C | OW-66           | 2109a01-009d  | 5.4    | 5     | µg/L  | J                  | ERPD-FD             |
| 2,4-Dimethylphenol  | SW8270C | DUP-09-17-21    | 2109a01-010d  | 3.9    | 5     | µg/L  | J                  | ERPD-FD, MDLRL      |
| 2-Butanone          | SW8260B | MKTF-17R        | 2109A01-002a  | 11     | 50    | µg/L  | U                  | FBD, MDLRL          |
| 2-Butanone          | SW8260B | MKTF-18R        | 2109A01-003a  | 13     | 50    | µg/L  | U                  | FBD, MDLRL          |
| 2-Butanone          | SW8260B | MKTF-04R        | 2109A01-004a  | 17     | 50    | µg/L  | U                  | FBD, MDLRL          |





| Analyte             | Method  | Field Sample ID | Lab Sample ID | Result | Limit | Units | Reviewer Qualifier | DV Flag Reasons    |
|---------------------|---------|-----------------|---------------|--------|-------|-------|--------------------|--------------------|
| 2-Butanone          | SW8260B | MKTF-01R        | 2109A01-005a  | 22     | 50    | µg/L  | U                  | FBD, MDLRL         |
| 2-Butanone          | SW8260B | OW-68           | 2109A01-007a  | 2      | 10    | µg/L  | U                  | FBD, MDLRL         |
| 2-Butanone          | SW8260B | OW-66           | 2109A01-009a  | 32     | 100   | µg/L  | U                  | FBD, MDLRL         |
| 2-Butanone          | SW8260B | DUP-09-17-21    | 2109A01-010a  | 8      | 10    | µg/L  | U                  | FBD, MDLRL         |
| 2-Butanone          | SW8260B | FB-09-17-21     | 2109A01-011a  | 2.2    | 10    | µg/L  | J                  | MDLRL              |
| 2-Methylnaphthalene | SW8260B | EB-09-17-21     | 2109A01-001a  | ND     | 4     | µg/L  | UJ                 | ERPD-FD            |
| 2-Methylnaphthalene | SW8270C | EB-09-17-21     | 2109a01-001d  | ND     | 0.1   | µg/L  | UJ                 | ERPD-FD            |
| 2-Methylnaphthalene | SW8260B | MKTF-17R        | 2109A01-002a  | 34     | 20    | µg/L  | J                  | ERPD-FD            |
| 2-Methylnaphthalene | SW8270C | MKTF-17R        | 2109a01-002d  | 16     | 1     | µg/L  | J                  | ERPD-FD            |
| 2-Methylnaphthalene | SW8260B | MKTF-18R        | 2109A01-003a  | 300    | 20    | µg/L  | J                  | DATA-COMP, ERPD-FD |
| 2-Methylnaphthalene | SW8270C | MKTF-18R        | 2109a01-003d  | 130    | 1     | µg/L  | J                  | DATA-COMP, ERPD-FD |
| 2-Methylnaphthalene | SW8260B | MKTF-04R        | 2109A01-004a  | 59     | 20    | µg/L  | J                  | ERPD-FD            |
| 2-Methylnaphthalene | SW8270C | MKTF-04R        | 2109a01-004d  | 6.2    | 1     | µg/L  | J                  | ERPD-FD            |
| 2-Methylnaphthalene | SW8260B | MKTF-01R        | 2109A01-005a  | 25     | 20    | µg/L  | J                  | ERPD-FD            |
| 2-Methylnaphthalene | SW8270C | MKTF-01R        | 2109a01-005d  | 8.2    | 1     | µg/L  | J                  | ERPD-FD            |
| 2-Methylnaphthalene | SW8260B | MKTF-02R        | 2109A01-006a  | ND     | 20    | µg/L  | UJ                 | ERPD-FD            |
| 2-Methylnaphthalene | SW8270C | MKTF-02R        | 2109a01-006d  | ND     | 0.1   | µg/L  | UJ                 | ERPD-FD            |
| 2-Methylnaphthalene | SW8260B | OW-68           | 2109A01-007a  | ND     | 4     | µg/L  | UJ                 | ERPD-FD            |
| 2-Methylnaphthalene | SW8270C | OW-68           | 2109a01-007d  | ND     | 0.1   | µg/L  | UJ                 | ERPD-FD            |
| 2-Methylnaphthalene | SW8260B | OW-67           | 2109A01-008a  | ND     | 4     | µg/L  | UJ                 | ERPD-FD            |
| 2-Methylnaphthalene | SW8270C | OW-67           | 2109a01-008d  | ND     | 0.1   | µg/L  | UJ                 | ERPD-FD            |
| 2-Methylnaphthalene | SW8260B | OW-66           | 2109A01-009a  | 61     | 40    | µg/L  | J                  | ERPD-FD            |
| 2-Methylnaphthalene | SW8270C | OW-66           | 2109a01-009d  | 51     | 1     | µg/L  | J                  | ERPD-FD            |
| 2-Methylnaphthalene | SW8260B | DUP-09-17-21    | 2109A01-010a  | 54     | 4     | µg/L  | J                  | DATA-COMP, ERPD-FD |
| 2-Methylnaphthalene | SW8270C | DUP-09-17-21    | 2109a01-010d  | 19     | 1     | µg/L  | J                  | DATA-COMP, ERPD-FD |
| 2-Methylnaphthalene | SW8260B | FB-09-17-21     | 2109A01-011a  | 1      | 4     | µg/L  | J                  | ERPD-FD, MDLRL     |
| 2-Methylnaphthalene | SW8260B | Trip Blank      | 2109A01-012a  | ND     | 4     | µg/L  | UJ                 | ERPD-FD            |
| 2-Methylphenol      | SW8270C | MKTF-18R        | 2109a01-003d  | 130    | 5     | µg/L  | J                  | ERPD-FD            |

| Analyte            | Method  | Field Sample ID | Lab Sample ID | Result | Limit | Units | Reviewer Qualifier | DV Flag Reasons |
|--------------------|---------|-----------------|---------------|--------|-------|-------|--------------------|-----------------|
| 2-Methylphenol     | SW8270C | MKTF-01R        | 2109a01-005d  | 2.1    | 5     | µg/L  | J                  | MDLRL           |
| 2-Methylphenol     | SW8270C | DUP-09-17-21    | 2109a01-010d  | ND     | 5     | µg/L  | UJ                 | ERPD-FD         |
| 3,4-Methylphenol   | SW8270C | MKTF-18R        | 2109a01-003d  | 35     | 5     | µg/L  | J                  | ERPD-FD         |
| 3,4-Methylphenol   | SW8270C | DUP-09-17-21    | 2109a01-010d  | ND     | 5     | µg/L  | UJ                 | ERPD-FD         |
| Acenaphthene       | SW8270C | MKTF-18R        | 2109a01-003d  | 5.4    | 1     | µg/L  | J                  | ERPD-FD         |
| Acenaphthene       | SW8270C | DUP-09-17-21    | 2109a01-010d  | 3      | 1     | µg/L  | J                  | ERPD-FD         |
| Acetone            | SW8260B | EB-09-17-21     | 2109A01-001a  | 3.8    | 10    | µg/L  | U                  | FBD, MDLRL      |
| Acetone            | SW8260B | MKTF-17R        | 2109A01-002a  | 16     | 50    | µg/L  | U                  | FBD, MDLRL      |
| Acetone            | SW8260B | MKTF-18R        | 2109A01-003a  | 20     | 50    | µg/L  | U                  | FBD, MDLRL      |
| Acetone            | SW8260B | MKTF-04R        | 2109A01-004a  | 26     | 50    | µg/L  | U                  | FBD, MDLRL      |
| Acetone            | SW8260B | MKTF-01R        | 2109A01-005a  | 47     | 50    | µg/L  | U                  | FBD, MDLRL      |
| Acetone            | SW8260B | OW-68           | 2109A01-007a  | 5.2    | 10    | µg/L  | U                  | FBD, MDLRL      |
| Acetone            | SW8260B | OW-67           | 2109A01-008a  | 4.7    | 10    | µg/L  | U                  | FBD, MDLRL      |
| Acetone            | SW8260B | OW-66           | 2109A01-009a  | 32     | 100   | µg/L  | U                  | FBD, MDLRL      |
| Acetone            | SW8260B | DUP-09-17-21    | 2109A01-010a  | 19     | 10    | µg/L  | JB                 | FBD             |
| Acetone            | SW8260B | FB-09-17-21     | 2109A01-011a  | 7.3    | 10    | µg/L  | J                  | MDLRL           |
| Arsenic, Dissolved | E200.8  | MKTF-17R        | 2109A01-002G  | 0.0046 | 0.01  | mg/L  | J                  | MDLRL           |
| Arsenic, Dissolved | E200.8  | MKTF-18R        | 2109A01-003G  | 0.0071 | 0.01  | mg/L  | J                  | MDLRL           |
| Arsenic, Dissolved | E200.8  | MKTF-04R        | 2109A01-004G  | 0.0036 | 0.01  | mg/L  | J                  | MDLRL           |
| Arsenic, Dissolved | E200.8  | MKTF-01R        | 2109A01-005G  | 0.0066 | 0.01  | mg/L  | J                  | MDLRL           |
| Arsenic, Dissolved | E200.8  | OW-68           | 2109A01-007G  | 0.0055 | 0.01  | mg/L  | J                  | MDLRL           |
| Arsenic, Dissolved | E200.8  | OW-67           | 2109A01-008G  | 0.0023 | 0.01  | mg/L  | J                  | MDLRL           |
| Arsenic, Dissolved | E200.8  | OW-66           | 2109A01-009G  | 0.0037 | 0.01  | mg/L  | J                  | MDLRL           |
| Arsenic, Dissolved | E200.8  | DUP-09-17-21    | 2109A01-010G  | 0.0026 | 0.01  | mg/L  | J                  | MDLRL           |
| Arsenic, Total     | E200.8  | MKTF-02R        | 2109A01-006F  | 0.001  | 0.005 | mg/L  | J                  | MDLRL           |
| Arsenic, Total     | E200.8  | OW-67           | 2109A01-008F  | 0.0025 | 0.005 | mg/L  | J                  | MDLRL           |
| Arsenic, Total     | E200.8  | OW-66           | 2109A01-009F  | 0.0048 | 0.005 | mg/L  | J                  | MDLRL           |
| Benzene            | SW8260B | EB-09-17-21     | 2109A01-001a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD         |



| Analyte                | Method  | Field Sample ID | Lab Sample ID | Result | Limit | Units | Reviewer Qualifier | DV Flag Reasons     |
|------------------------|---------|-----------------|---------------|--------|-------|-------|--------------------|---------------------|
| Benzene                | SW8260B | MKTF-17R        | 2109A01-002a  | 1600   | 100   | µg/L  | J                  | ERPD-FD             |
| Benzene                | SW8260B | MKTF-18R        | 2109A01-003a  | 3700   | 100   | µg/L  | J                  | ERPD-FD             |
| Benzene                | SW8260B | MKTF-04R        | 2109A01-004a  | 1100   | 100   | µg/L  | J                  | ERPD-FD             |
| Benzene                | SW8260B | MKTF-01R        | 2109A01-005a  | 7100   | 100   | µg/L  | J                  | ERPD-FD             |
| Benzene                | SW8260B | MKTF-02R        | 2109A01-006a  | 29     | 5     | µg/L  | J                  | ERPD-FD             |
| Benzene                | SW8260B | OW-68           | 2109A01-007a  | 0.78   | 1     | µg/L  | U                  | ERPD-FD, FBD, MDLRL |
| Benzene                | SW8260B | OW-67           | 2109A01-008a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD             |
| Benzene                | SW8260B | OW-66           | 2109A01-009a  | 12000  | 200   | µg/L  | J                  | ERPD-FD             |
| Benzene                | SW8260B | DUP-09-17-21    | 2109a01-010a  | 1200   | 100   | µg/L  | J                  | ERPD-FD             |
| Benzene                | SW8260B | FB-09-17-21     | 2109A01-011a  | 0.42   | 1     | µg/L  | J                  | ERPD-FD, MDLRL      |
| Benzene                | SW8260B | Trip Blank      | 2109A01-012a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD             |
| Beryllium, Total       | E 200.7 | DUP-09-17-21    | 2109A01-010F  | 0.0019 | 0.002 | mg/L  | J                  | MDLRL               |
| Bromodichloromethane   | SW8260B | OW-66           | 2109A01-009a  | 2.1    | 10    | µg/L  | J                  | MDLRL               |
| Bromodichloromethane   | SW8260B | DUP-09-17-21    | 2109A01-010a  | 0.49   | 1     | µg/L  | J                  | MDLRL               |
| Carbazole              | SW8270C | OW-66           | 2109a01-009d  | 3.7    | 5     | µg/L  | J                  | MDLRL               |
| Chloride               | E300    | EB-09-17-21     | 2109A01-001E  | 0.29   | 0.5   | mg/L  | J                  | MDLRL               |
| Chloroethane           | SW8260B | MKTF-02R        | 2109A01-006a  | 4.5    | 10    | µg/L  | J                  | MDLRL               |
| Chloroform             | SW8260B | MKTF-04R        | 2109A01-004a  | 1.2    | 5     | µg/L  | J                  | MDLRL               |
| Chloroform             | SW8260B | MKTF-02R        | 2109A01-006a  | 1.3    | 5     | µg/L  | J                  | MDLRL               |
| Chloromethane          | SW8260B | MKTF-04R        | 2109A01-004a  | 2.6    | 15    | µg/L  | J                  | MDLRL               |
| Chloromethane          | SW8260B | MKTF-02R        | 2109A01-006a  | 3.2    | 15    | µg/L  | J                  | MDLRL               |
| Chloromethane          | SW8260B | OW-68           | 2109A01-007a  | 2.3    | 3     | µg/L  | J                  | MDLRL               |
| Chloromethane          | SW8260B | OW-66           | 2109A01-009a  | 28     | 30    | µg/L  | J                  | MDLRL               |
| Chloromethane          | SW8260B | DUP-09-17-21    | 2109A01-010a  | 1.3    | 3     | µg/L  | J                  | MDLRL               |
| Chromium, Total        | E 200.7 | MKTF-18R        | 2109A01-003F  | ND     | 0.006 | mg/L  | UJ                 | ERPD-FD             |
| Chromium, Total        | E 200.7 | OW-66           | 2109A01-009F  | 0.0027 | 0.006 | mg/L  | J                  | MDLRL               |
| Chromium, Total        | E 200.7 | DUP-09-17-21    | 2109A01-010F  | 0.02   | 0.006 | mg/L  | J                  | ERPD-FD             |
| cis-1,2-Dichloroethene | SW8260B | MKTF-18R        | 2109A01-003a  | 7.7    | 5     | µg/L  | J                  | ERPD-FD             |



| Analyte                | Method  | Field Sample ID | Lab Sample ID | Result | Limit | Units | Reviewer Qualifier | DV Flag Reasons |
|------------------------|---------|-----------------|---------------|--------|-------|-------|--------------------|-----------------|
| cis-1,2-Dichloroethene | SW8260B | MKTF-02R        | 2109A01-006a  | 3.1    | 5     | µg/L  | J                  | MDLRL           |
| cis-1,2-Dichloroethene | SW8260B | DUP-09-17-21    | 2109A01-010a  | 17     | 1     | µg/L  | J                  | ERPD-FD         |
| Cobalt, Dissolved      | E 200.7 | MKTF-17R        | 2109A01-002G  | 0.0028 | 0.006 | mg/L  | J                  | MDLRL           |
| Cobalt, Dissolved      | E 200.7 | MKTF-04R        | 2109A01-004G  | 0.0043 | 0.006 | mg/L  | J                  | MDLRL           |
| Cobalt, Dissolved      | E 200.7 | MKTF-02R        | 2109A01-006G  | 0.005  | 0.006 | mg/L  | J                  | MDLRL           |
| Cobalt, Dissolved      | E 200.7 | DUP-09-17-21    | 2109A01-010G  | 0.0053 | 0.006 | mg/L  | J                  | MDLRL           |
| Cobalt, Total          | E 200.7 | MKTF-17R        | 2109A01-002F  | 0.0045 | 0.006 | mg/L  | J                  | MDLRL           |
| Cobalt, Total          | E 200.7 | MKTF-02R        | 2109A01-006F  | 0.0053 | 0.006 | mg/L  | J                  | MDLRL           |
| Cobalt, Total          | E 200.7 | OW-67           | 2109A01-008F  | 0.029  | 0.03  | mg/L  | J                  | MDLRL           |
| Dibromochloromethane   | SW8260B | OW-66           | 2109A01-009a  | 6.2    | 10    | µg/L  | J                  | MDLRL           |
| Dibromochloromethane   | SW8260B | DUP-09-17-21    | 2109A01-010a  | 0.49   | 1     | µg/L  | J                  | MDLRL           |
| Ethylbenzene           | SW8260B | EB-09-17-21     | 2109A01-001a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD         |
| Ethylbenzene           | SW8260B | MKTF-17R        | 2109A01-002a  | 280    | 5     | µg/L  | J                  | ERPD-FD         |
| Ethylbenzene           | SW8260B | MKTF-18R        | 2109A01-003a  | 39     | 5     | µg/L  | J                  | ERPD-FD         |
| Ethylbenzene           | SW8260B | MKTF-04R        | 2109A01-004a  | 200    | 5     | µg/L  | J                  | ERPD-FD         |
| Ethylbenzene           | SW8260B | MKTF-01R        | 2109A01-005a  | 370    | 5     | µg/L  | J                  | ERPD-FD         |
| Ethylbenzene           | SW8260B | MKTF-02R        | 2109A01-006a  | ND     | 5     | µg/L  | UJ                 | ERPD-FD         |
| Ethylbenzene           | SW8260B | OW-68           | 2109A01-007a  | 0.85   | 1     | µg/L  | J                  | ERPD-FD, MDLRL  |
| Ethylbenzene           | SW8260B | OW-67           | 2109A01-008a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD         |
| Ethylbenzene           | SW8260B | OW-66           | 2109A01-009a  | 720    | 10    | µg/L  | J                  | ERPD-FD         |
| Ethylbenzene           | SW8260B | DUP-09-17-21    | 2109A01-010a  | 1100   | 50    | µg/L  | J                  | ERPD-FD         |
| Ethylbenzene           | SW8260B | FB-09-17-21     | 2109A01-011a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD         |
| Ethylbenzene           | SW8260B | Trip Blank      | 2109A01-012a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD         |
| Fluorene               | SW8270C | MKTF-18R        | 2109a01-003d  | 8.4    | 1     | µg/L  | J                  | ERPD-FD         |
| Fluorene               | SW8270C | DUP-09-17-21    | 2109a01-010d  | 3.4    | 1     | µg/L  | J                  | ERPD-FD         |
| Fluoride, Total        | E300    | MKTF-01R        | 2109A01-005E  | 0.43   | 0.5   | mg/L  | J                  | MDLRL           |
| Iron, Dissolved        | E 200.7 | MKTF-18R        | 2109A01-003G  | 1.5    | 0.1   | mg/L  | J                  | ERPD-FD         |
| Iron, Dissolved        | E 200.7 | OW-67           | 2109A01-008G  | 0.015  | 0.02  | mg/L  | J                  | MDLRL           |



| Analyte              | Method  | Field Sample ID | Lab Sample ID | Result  | Limit  | Units | Reviewer Qualifier | DV Flag Reasons     |
|----------------------|---------|-----------------|---------------|---------|--------|-------|--------------------|---------------------|
| Iron, Dissolved      | E 200.7 | DUP-09-17-21    | 2109A01-010G  | 0.51    | 0.02   | mg/L  | J                  | ERPD-FD             |
| Iron, Total          | E 200.7 | EB-09-17-21     | 2109A01-001F  | ND      | 0.05   | mg/L  | UJ                 | ERPD-FD             |
| Iron, Total          | E 200.7 | MKTF-17R        | 2109A01-002F  | 1.4     | 0.5    | mg/L  | J                  | ERPD-FD             |
| Iron, Total          | E 200.7 | MKTF-18R        | 2109A01-003F  | 3.3     | 0.5    | mg/L  | J                  | ERPD-FD             |
| Iron, Total          | E 200.7 | MKTF-04R        | 2109A01-004F  | 9.3     | 0.5    | mg/L  | J                  | ERPD-FD             |
| Iron, Total          | E 200.7 | MKTF-01R        | 2109A01-005F  | 5.7     | 0.5    | mg/L  | J                  | ERPD-FD             |
| Iron, Total          | E 200.7 | MKTF-02R        | 2109A01-006F  | 0.047   | 0.05   | mg/L  | J                  | ERPD-FD, MDLRL      |
| Iron, Total          | E 200.7 | OW-68           | 2109A01-007F  | 2.9     | 0.5    | mg/L  | J                  | ERPD-FD             |
| Iron, Total          | E 200.7 | OW-67           | 2109A01-008F  | 0.23    | 0.05   | mg/L  | J                  | ERPD-FD             |
| Iron, Total          | E 200.7 | OW-66           | 2109A01-009F  | 6.9     | 0.5    | mg/L  | J                  | ERPD-FD             |
| Iron, Total          | E 200.7 | DUP-09-17-21    | 2109A01-010F  | 17      | 1      | mg/L  | J                  | ERPD-FD             |
| Isopropylbenzene     | SW8260B | MKTF-18R        | 2109A01-003a  | 4.3     | 5      | µg/L  | J                  | ERPD-FD, MDLRL      |
| Isopropylbenzene     | SW8260B | DUP-09-17-21    | 2109A01-010a  | 12      | 1      | µg/L  | J                  | ERPD-FD             |
| Lead, Dissolved      | E200.8  | OW-68           | 2109A01-007G  | 0.0012  | 0.005  | mg/L  | J                  | MDLRL               |
| Lead, Total          | E200.8  | EB-09-17-21     | 2109A01-001F  | 0.00052 | 0.0025 | mg/L  | J                  | ERPD-FD, MDLRL      |
| Lead, Total          | E200.8  | MKTF-17R        | 2109A01-002F  | 0.00039 | 0.0025 | mg/L  | U                  | EBD, ERPD-FD, MDLRL |
| Lead, Total          | E200.8  | MKTF-18R        | 2109A01-003F  | 0.0019  | 0.0025 | mg/L  | U                  | EBD, ERPD-FD, MDLRL |
| Lead, Total          | E200.8  | MKTF-04R        | 2109A01-004F  | 0.0075  | 0.0025 | mg/L  | J                  | ERPD-FD             |
| Lead, Total          | E200.8  | MKTF-01R        | 2109A01-005F  | 0.0095  | 0.0025 | mg/L  | J                  | ERPD-FD             |
| Lead, Total          | E200.8  | MKTF-02R        | 2109A01-006F  | ND      | 0.0025 | mg/L  | UJ                 | ERPD-FD             |
| Lead, Total          | E200.8  | OW-68           | 2109A01-007F  | 0.002   | 0.0025 | mg/L  | U                  | EBD, ERPD-FD, MDLRL |
| Lead, Total          | E200.8  | OW-67           | 2109A01-008F  | ND      | 0.0025 | mg/L  | UJ                 | ERPD-FD             |
| Lead, Total          | E200.8  | OW-66           | 2109A01-009F  | 0.009   | 0.0025 | mg/L  | J                  | ERPD-FD             |
| Lead, Total          | E200.8  | DUP-09-17-21    | 2109A01-010F  | 0.046   | 0.0025 | mg/L  | J                  | ERPD-FD             |
| Manganese, Dissolved | E 200.7 | MKTF-18R        | 2109A01-003G  | 1.7     | 0.01   | mg/L  | J                  | ERPD-FD             |
| Manganese, Dissolved | E 200.7 | DUP-09-17-21    | 2109A01-010G  | 2.4     | 0.01   | mg/L  | J                  | ERPD-FD             |
| Manganese, Total     | E 200.7 | MKTF-18R        | 2109A01-003F  | 1.8     | 0.02   | mg/L  | J                  | ERPD-FD             |
| Manganese, Total     | E 200.7 | DUP-09-17-21    | 2109A01-010F  | 2.9     | 0.02   | mg/L  | J                  | ERPD-FD             |



| Analyte        | Method  | Field Sample ID | Lab Sample ID | Result | Limit | Units | Reviewer Qualifier | DV Flag Reasons    |
|----------------|---------|-----------------|---------------|--------|-------|-------|--------------------|--------------------|
| MTBE           | SW8260B | EB-09-17-21     | 2109A01-001a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD            |
| MTBE           | SW8260B | MKTF-17R        | 2109A01-002a  | 3900   | 100   | µg/L  | J                  | ERPD-FD            |
| MTBE           | SW8260B | MKTF-18R        | 2109A01-003a  | 200    | 5     | µg/L  | J                  | ERPD-FD            |
| MTBE           | SW8260B | MKTF-04R        | 2109A01-004a  | 1600   | 100   | µg/L  | J                  | ERPD-FD            |
| MTBE           | SW8260B | MKTF-01R        | 2109A01-005a  | 86     | 5     | µg/L  | J                  | ERPD-FD            |
| MTBE           | SW8260B | MKTF-02R        | 2109A01-006a  | 45     | 5     | µg/L  | J                  | ERPD-FD            |
| MTBE           | SW8260B | OW-68           | 2109A01-007a  | 1.3    | 1     | µg/L  | J                  | ERPD-FD            |
| MTBE           | SW8260B | OW-67           | 2109A01-008a  | 34     | 1     | µg/L  | J                  | ERPD-FD            |
| MTBE           | SW8260B | OW-66           | 2109A01-009a  | 680    | 10    | µg/L  | J                  | ERPD-FD            |
| MTBE           | SW8260B | DUP-09-17-21    | 2109A01-010a  | 7800   | 50    | µg/L  | J                  | ERPD-FD            |
| MTBE           | SW8260B | FB-09-17-21     | 2109A01-011a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD            |
| MTBE           | SW8260B | Trip Blank      | 2109A01-012a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD            |
| Naphthalene    | SW8260B | MKTF-17R        | 2109A01-002a  | 72     | 10    | µg/L  | J                  | DATA-COMP          |
| Naphthalene    | SW8270C | MKTF-17R        | 2109a01-002d  | 38     | 1     | µg/L  | J                  | DATA-COMP          |
| Naphthalene    | SW8260B | MKTF-18R        | 2109A01-003a  | 170    | 10    | µg/L  | J                  | DATA-COMP, ERPD-FD |
| Naphthalene    | SW8270C | MKTF-18R        | 2109a01-003d  | 87     | 1     | µg/L  | J                  | DATA-COMP, ERPD-FD |
| Naphthalene    | SW8260B | MKTF-04R        | 2109A01-004a  | 81     | 10    | µg/L  | J                  | DATA-COMP          |
| Naphthalene    | SW8270C | MKTF-04R        | 2109a01-004d  | 15     | 1     | µg/L  | J                  | DATA-COMP          |
| Naphthalene    | SW8260B | MKTF-01R        | 2109A01-005a  | 52     | 10    | µg/L  | J                  | DATA-COMP          |
| Naphthalene    | SW8270C | MKTF-01R        | 2109a01-005d  | 21     | 1     | µg/L  | J                  | DATA-COMP          |
| Naphthalene    | SW8260B | DUP-09-17-21    | 2109A01-010a  | 77     | 2     | µg/L  | J                  | DATA-COMP, ERPD-FD |
| Naphthalene    | SW8270C | DUP-09-17-21    | 2109a01-010d  | 42     | 1     | µg/L  | J                  | DATA-COMP, ERPD-FD |
| Naphthalene    | SW8260B | FB-09-17-21     | 2109A01-011a  | 0.63   | 2     | µg/L  | J                  | MDLRL              |
| n-Butylbenzene | SW8260B | MKTF-17R        | 2109A01-002a  | 4.9    | 15    | µg/L  | J                  | MDLRL              |
| n-Butylbenzene | SW8260B | MKTF-18R        | 2109A01-003a  | 3.1    | 15    | µg/L  | J                  | MDLRL              |
| n-Butylbenzene | SW8260B | MKTF-04R        | 2109A01-004a  | 3.6    | 15    | µg/L  | J                  | MDLRL              |
| n-Butylbenzene | SW8260B | MKTF-01R        | 2109A01-005a  | 6.9    | 15    | µg/L  | J                  | MDLRL              |
| n-Butylbenzene | SW8260B | OW-66           | 2109A01-009a  | 20     | 30    | µg/L  | J                  | MDLRL              |



| Analyte           | Method  | Field Sample ID | Lab Sample ID | Result | Limit | Units | Reviewer Qualifier | DV Flag Reasons |
|-------------------|---------|-----------------|---------------|--------|-------|-------|--------------------|-----------------|
| Nickel, Dissolved | E 200.7 | MKTF-18R        | 2109A01-003G  | 0.0048 | 0.01  | mg/L  | J                  | MDLRL           |
| Nickel, Dissolved | E 200.7 | MKTF-04R        | 2109A01-004G  | 0.0066 | 0.01  | mg/L  | J                  | MDLRL           |
| Nickel, Dissolved | E 200.7 | DUP-09-17-21    | 2109A01-010G  | 0.0068 | 0.01  | mg/L  | J                  | MDLRL           |
| Nickel, Total     | E 200.7 | EB-09-17-21     | 2109A01-001F  | ND     | 0.01  | mg/L  | UJ                 | ERPD-FD         |
| Nickel, Total     | E 200.7 | MKTF-17R        | 2109A01-002F  | 0.0062 | 0.01  | mg/L  | J                  | ERPD-FD, MDLRL  |
| Nickel, Total     | E 200.7 | MKTF-18R        | 2109A01-003F  | 0.0086 | 0.01  | mg/L  | J                  | ERPD-FD, MDLRL  |
| Nickel, Total     | E 200.7 | MKTF-04R        | 2109A01-004F  | 0.016  | 0.01  | mg/L  | J                  | ERPD-FD         |
| Nickel, Total     | E 200.7 | MKTF-01R        | 2109A01-005F  | 0.035  | 0.01  | mg/L  | J                  | ERPD-FD         |
| Nickel, Total     | E 200.7 | MKTF-02R        | 2109A01-006F  | 0.0063 | 0.01  | mg/L  | J                  | ERPD-FD, MDLRL  |
| Nickel, Total     | E 200.7 | OW-68           | 2109A01-007F  | 0.17   | 0.05  | mg/L  | J                  | ERPD-FD         |
| Nickel, Total     | E 200.7 | OW-67           | 2109A01-008F  | 0.11   | 0.05  | mg/L  | J                  | ERPD-FD         |
| Nickel, Total     | E 200.7 | OW-66           | 2109A01-009F  | 0.38   | 0.01  | mg/L  | J                  | ERPD-FD         |
| Nickel, Total     | E 200.7 | DUP-09-17-21    | 2109A01-010F  | 0.026  | 0.01  | mg/L  | J                  | ERPD-FD         |
| Nitrogen, Nitrate | E300    | MKTF-17R        | 2109A01-002E  | 0.39   | 0.5   | mg/L  | U                  | EBD, MDLRL      |
| Nitrogen, Nitrate | E300    | MKTF-02R        | 2109A01-006E  | 0.2    | 0.5   | mg/L  | U                  | EBD, MDLRL      |
| Nitrogen, Nitrate | E300    | OW-68           | 2109A01-007E  | 0.33   | 0.5   | mg/L  | U                  | EBD, MDLRL      |
| Nitrogen, Nitrate | E300    | OW-67           | 2109A01-008E  | 0.17   | 0.5   | mg/L  | U                  | EBD, MDLRL      |
| Nitrogen, Nitrite | E300    | OW-68           | 2109A01-007E  | 0.14   | 0.5   | mg/L  | J                  | MDLRL           |
| n-Propylbenzene   | SW8260B | EB-09-17-21     | 2109A01-001a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD         |
| n-Propylbenzene   | SW8260B | MKTF-17R        | 2109A01-002a  | 28     | 5     | µg/L  | J                  | ERPD-FD         |
| n-Propylbenzene   | SW8260B | MKTF-18R        | 2109A01-003a  | 6.6    | 5     | µg/L  | J                  | ERPD-FD         |
| n-Propylbenzene   | SW8260B | MKTF-04R        | 2109A01-004a  | 28     | 5     | µg/L  | J                  | ERPD-FD         |
| n-Propylbenzene   | SW8260B | MKTF-01R        | 2109A01-005a  | 52     | 5     | µg/L  | J                  | ERPD-FD         |
| n-Propylbenzene   | SW8260B | MKTF-02R        | 2109A01-006a  | ND     | 5     | µg/L  | UJ                 | ERPD-FD         |
| n-Propylbenzene   | SW8260B | OW-68           | 2109A01-007a  | 0.3    | 1     | µg/L  | J                  | ERPD-FD, MDLRL  |
| n-Propylbenzene   | SW8260B | OW-67           | 2109A01-008a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD         |
| n-Propylbenzene   | SW8260B | OW-66           | 2109A01-009a  | 140    | 10    | µg/L  | J                  | ERPD-FD         |
| n-Propylbenzene   | SW8260B | DUP-09-17-21    | 2109A01-010a  | 28     | 1     | µg/L  | J                  | ERPD-FD         |





| Analyte            | Method  | Field Sample ID | Lab Sample ID | Result | Limit | Units | Reviewer Qualifier | DV Flag Reasons |
|--------------------|---------|-----------------|---------------|--------|-------|-------|--------------------|-----------------|
| n-Propylbenzene    | SW8260B | FB-09-17-21     | 2109A01-011a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD         |
| n-Propylbenzene    | SW8260B | Trip Blank      | 2109A01-012a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD         |
| Phenanthrene       | SW8270C | EB-09-17-21     | 2109a01-001d  | ND     | 0.1   | µg/L  | UJ                 | ERPD-FD         |
| Phenanthrene       | SW8270C | MKTF-17R        | 2109a01-002d  | 0.8    | 1     | µg/L  | J                  | ERPD-FD, MDLRL  |
| Phenanthrene       | SW8270C | MKTF-18R        | 2109a01-003d  | 6.2    | 1     | µg/L  | J                  | ERPD-FD         |
| Phenanthrene       | SW8270C | MKTF-04R        | 2109a01-004d  | ND     | 1     | µg/L  | UJ                 | ERPD-FD         |
| Phenanthrene       | SW8270C | MKTF-01R        | 2109a01-005d  | ND     | 1     | µg/L  | UJ                 | ERPD-FD         |
| Phenanthrene       | SW8270C | MKTF-02R        | 2109a01-006d  | ND     | 0.1   | µg/L  | UJ                 | ERPD-FD         |
| Phenanthrene       | SW8270C | OW-68           | 2109a01-007d  | ND     | 0.1   | µg/L  | UJ                 | ERPD-FD         |
| Phenanthrene       | SW8270C | OW-67           | 2109a01-008d  | ND     | 0.1   | µg/L  | UJ                 | ERPD-FD         |
| Phenanthrene       | SW8270C | OW-66           | 2109a01-009d  | 2.6    | 1     | µg/L  | J                  | ERPD-FD         |
| Phenanthrene       | SW8270C | DUP-09-17-21    | 2109a01-010d  | 1.2    | 1     | µg/L  | J                  | ERPD-FD         |
| Phenol             | SW8270C | EB-09-17-21     | 2109a01-001d  | ND     | 5     | µg/L  | UJ                 | ERPD-FD         |
| Phenol             | SW8270C | MKTF-17R        | 2109a01-002d  | 150    | 5     | µg/L  | J                  | ERPD-FD         |
| Phenol             | SW8270C | MKTF-18R        | 2109a01-003d  | 120    | 5     | µg/L  | J                  | ERPD-FD         |
| Phenol             | SW8270C | MKTF-04R        | 2109a01-004d  | 8.3    | 5     | µg/L  | J                  | ERPD-FD         |
| Phenol             | SW8270C | MKTF-01R        | 2109a01-005d  | 92     | 5     | µg/L  | J                  | ERPD-FD         |
| Phenol             | SW8270C | MKTF-02R        | 2109a01-006d  | 0.76   | 5     | µg/L  | J                  | ERPD-FD, MDLRL  |
| Phenol             | SW8270C | OW-68           | 2109a01-007d  | ND     | 5     | µg/L  | UJ                 | ERPD-FD         |
| Phenol             | SW8270C | OW-67           | 2109a01-008d  | ND     | 5     | µg/L  | UJ                 | ERPD-FD         |
| Phenol             | SW8270C | OW-66           | 2109a01-009d  | 18     | 5     | µg/L  | J                  | ERPD-FD         |
| Phenol             | SW8270C | DUP-09-17-21    | 2109a01-010d  | 8.2    | 5     | µg/L  | J                  | ERPD-FD         |
| p-Isopropyltoluene | SW8260B | MKTF-17R        | 2109A01-002a  | 3.4    | 5     | µg/L  | J                  | MDLRL           |
| p-Isopropyltoluene | SW8260B | MKTF-18R        | 2109A01-003a  | 2.6    | 5     | µg/L  | J                  | MDLRL           |
| p-Isopropyltoluene | SW8260B | MKTF-04R        | 2109A01-004a  | 2.2    | 5     | µg/L  | J                  | MDLRL           |
| p-Isopropyltoluene | SW8260B | MKTF-01R        | 2109A01-005a  | 2.4    | 5     | µg/L  | J                  | MDLRL           |
| p-Isopropyltoluene | SW8260B | OW-66           | 2109A01-009a  | 4.4    | 10    | µg/L  | J                  | MDLRL           |
| Potassium, Total   | E 200.7 | MKTF-17R        | 2109A01-002F  | 0.88   | 1     | mg/L  | J                  | MDLRL           |



| Analyte             | Method  | Field Sample ID | Lab Sample ID | Result | Limit | Units | Reviewer Qualifier | DV Flag Reasons     |
|---------------------|---------|-----------------|---------------|--------|-------|-------|--------------------|---------------------|
| Potassium, Total    | E 200.7 | MKTF-18R        | 2109A01-003F  | 2.9    | 1     | mg/L  | J                  | ERPD-FD             |
| Potassium, Total    | E 200.7 | OW-66           | 2109A01-009F  | 0.97   | 1     | mg/L  | J                  | MDLRL               |
| Potassium, Total    | E 200.7 | DUP-09-17-21    | 2109A01-010F  | 5.1    | 1     | mg/L  | J                  | ERPD-FD             |
| Pyrene              | SW8270C | OW-68           | 2109a01-007d  | 0.18   | 0.2   | µg/L  | U                  | MBD, MDLRL          |
| sec-Butylbenzene    | SW8260B | MKTF-17R        | 2109A01-002a  | 2.8    | 5     | µg/L  | J                  | MDLRL               |
| sec-Butylbenzene    | SW8260B | MKTF-18R        | 2109A01-003a  | 1.9    | 5     | µg/L  | J                  | MDLRL               |
| sec-Butylbenzene    | SW8260B | MKTF-04R        | 2109A01-004a  | 1.8    | 5     | µg/L  | J                  | MDLRL               |
| sec-Butylbenzene    | SW8260B | MKTF-01R        | 2109A01-005a  | 3.2    | 5     | µg/L  | J                  | MDLRL               |
| sec-Butylbenzene    | SW8260B | OW-66           | 2109A01-009a  | 5.6    | 10    | µg/L  | J                  | MDLRL               |
| Selenium, Dissolved | E200.8  | OW-68           | 2109A01-007G  | 0.0058 | 0.01  | mg/L  | J                  | MDLRL               |
| Selenium, Total     | E200.8  | MKTF-04R        | 2109A01-004F  | 0.0028 | 0.005 | mg/L  | J                  | MDLRL               |
| Selenium, Total     | E200.8  | OW-67           | 2109A01-008F  | 0.0028 | 0.005 | mg/L  | J                  | MDLRL               |
| Silver, Dissolved   | E 200.7 | OW-68           | 2109A01-007G  | 0.0029 | 0.005 | mg/L  | J                  | MDLRL               |
| Silver, Dissolved   | E 200.7 | OW-67           | 2109A01-008G  | 0.0039 | 0.005 | mg/L  | J                  | MDLRL               |
| Silver, Total       | E 200.7 | MKTF-02R        | 2109A01-006F  | 0.0014 | 0.005 | mg/L  | J                  | MDLRL               |
| Styrene             | SW8260B | OW-66           | 2109A01-009a  | 1.4    | 10    | µg/L  | J                  | MDLRL               |
| Styrene             | SW8260B | DUP-09-17-21    | 2109A01-010a  | 0.21   | 1     | µg/L  | J                  | MDLRL               |
| Sulfate             | E300    | EB-09-17-21     | 2109A01-001E  | 1.7    | 0.5   | mg/L  | J                  | ERPD-FD             |
| Sulfate             | E300    | MKTF-17R        | 2109A01-002E  | 10     | 2.5   | mg/L  | JB                 | EBD, ERPD-FD        |
| Sulfate             | E300    | MKTF-18R        | 2109A01-003E  | 10     | 2.5   | mg/L  | JB                 | EBD, ERPD-FD        |
| Sulfate             | E300    | MKTF-04R        | 2109A01-004E  | 63     | 2.5   | mg/L  | J                  | ERPD-FD             |
| Sulfate             | E300    | MKTF-01R        | 2109A01-005E  | 13     | 2.5   | mg/L  | JB                 | EBD, ERPD-FD        |
| Sulfate             | E300    | MKTF-02R        | 2109A01-006E  | 710    | 10    | mg/L  | J                  | ERPD-FD             |
| Sulfate             | E300    | OW-68           | 2109A01-007E  | 800    | 10    | mg/L  | J                  | ERPD-FD             |
| Sulfate             | E300    | OW-67           | 2109A01-008E  | 760    | 10    | mg/L  | J                  | ERPD-FD             |
| Sulfate             | E300    | OW-66           | 2109A01-009E  | 1.4    | 2.5   | mg/L  | U                  | EBD, ERPD-FD, MDLRL |
| Sulfate             | E300    | DUP-09-17-21    | 2109A01-010E  | 62     | 2.5   | mg/L  | J                  | ERPD-FD             |
| Toluene             | SW8260B | EB-09-17-21     | 2109A01-001a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD             |



| Analyte                   | Method  | Field Sample ID | Lab Sample ID | Result | Limit | Units | Reviewer Qualifier | DV Flag Reasons |
|---------------------------|---------|-----------------|---------------|--------|-------|-------|--------------------|-----------------|
| Toluene                   | SW8260B | MKTF-17R        | 2109A01-002a  | 5400   | 100   | µg/L  | J                  | ERPD-FD         |
| Toluene                   | SW8260B | MKTF-18R        | 2109A01-003a  | 1800   | 100   | µg/L  | J                  | ERPD-FD         |
| Toluene                   | SW8260B | MKTF-04R        | 2109A01-004a  | 13     | 5     | µg/L  | J                  | ERPD-FD         |
| Toluene                   | SW8260B | MKTF-01R        | 2109A01-005a  | 170    | 5     | µg/L  | J                  | ERPD-FD         |
| Toluene                   | SW8260B | MKTF-02R        | 2109A01-006a  | ND     | 5     | µg/L  | UJ                 | ERPD-FD         |
| Toluene                   | SW8260B | OW-68           | 2109A01-007a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD         |
| Toluene                   | SW8260B | OW-67           | 2109A01-008a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD         |
| Toluene                   | SW8260B | OW-66           | 2109A01-009a  | 9200   | 200   | µg/L  | J                  | ERPD-FD         |
| Toluene                   | SW8260B | DUP-09-17-21    | 2109A01-010a  | 13     | 1     | µg/L  | J                  | ERPD-FD         |
| Toluene                   | SW8260B | FB-09-17-21     | 2109A01-011a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD         |
| Toluene                   | SW8260B | Trip Blank      | 2109A01-012a  | ND     | 1     | µg/L  | UJ                 | ERPD-FD         |
| TPH DRO                   | SW8015  | EB-09-17-21     | 2109A01-001C  | 0.019  | 0.064 | mg/L  | J                  | MDLRL           |
| TPH DRO                   | SW8015  | MKTF-18R        | 2109A01-003C  | 4.6    | 0.64  | mg/L  | J                  | ERPD-FD         |
| TPH DRO                   | SW8015  | DUP-09-17-21    | 2109A01-010C  | 2.6    | 0.064 | mg/L  | J                  | ERPD-FD         |
| TPH GRO                   | SW8015  | MKTF-18R        | 2109A01-003a  | 13     | 0.25  | mg/L  | J                  | ERPD-FD         |
| TPH GRO                   | SW8015  | DUP-09-17-21    | 2109A01-010a  | 5      | 0.05  | mg/L  | J                  | ERPD-FD         |
| TPH ORO                   | SW8015  | OW-67           | 2109A01-008C  | 0.064  | 0.08  | mg/L  | J                  | MDLRL           |
| trans-1,2-Dichloroethene  | SW8260B | OW-66           | 2109A01-009a  | 2.7    | 10    | µg/L  | J                  | MDLRL           |
| trans-1,2-Dichloroethene  | SW8260B | DUP-09-17-21    | 2109A01-010a  | 0.32   | 1     | µg/L  | J                  | MDLRL           |
| trans-1,3-Dichloropropene | SW8260B | OW-66           | 2109A01-009a  | 6.5    | 10    | µg/L  | J                  | MDLRL           |
| trans-1,3-Dichloropropene | SW8260B | DUP-09-17-21    | 2109A01-010a  | 0.9    | 1     | µg/L  | J                  | MDLRL           |
| Trichloroethene           | SW8260B | MKTF-04R        | 2109A01-004a  | 2.1    | 5     | µg/L  | J                  | MDLRL           |
| Vanadium, Dissolved       | E 200.7 | MKTF-02R        | 2109A01-006G  | 0.0022 | 0.05  | mg/L  | J                  | MDLRL           |
| Vanadium, Dissolved       | E 200.7 | OW-68           | 2109A01-007G  | 0.0023 | 0.05  | mg/L  | J                  | MDLRL           |
| Vanadium, Dissolved       | E 200.7 | OW-66           | 2109A01-009G  | 0.0023 | 0.05  | mg/L  | J                  | MDLRL           |
| Vanadium, Total           | E 200.7 | MKTF-18R        | 2109A01-003F  | 0.0031 | 0.05  | mg/L  | J                  | MDLRL           |
| Vanadium, Total           | E 200.7 | MKTF-04R        | 2109A01-004F  | 0.016  | 0.05  | mg/L  | J                  | MDLRL           |
| Vanadium, Total           | E 200.7 | OW-66           | 2109A01-009F  | 0.0083 | 0.05  | mg/L  | J                  | MDLRL           |



| Analyte         | Method  | Field Sample ID | Lab Sample ID | Result | Limit | Units | Reviewer Qualifier | DV Flag Reasons |
|-----------------|---------|-----------------|---------------|--------|-------|-------|--------------------|-----------------|
| Vanadium, Total | E 200.7 | DUP-09-17-21    | 2109A01-010F  | 0.033  | 0.05  | mg/L  | J                  | MDLRL           |
| Vinyl Chloride  | SW8260B | MKTF-02R        | 2109A01-006a  | 1.9    | 5     | µg/L  | J                  | MDLRL           |
| Vinyl Chloride  | SW8260B | DUP-09-17-21    | 2109A01-010a  | 0.41   | 1     | µg/L  | J                  | MDLRL           |
| Xylenes, Total  | SW8260B | MKTF-18R        | 2109A01-003a  | 370    | 7.5   | µg/L  | J                  | ERPD-FD         |
| Xylenes, Total  | SW8260B | OW-68           | 2109A01-007a  | 0.87   | 1.5   | µg/L  | J                  | MDLRL           |
| Xylenes, Total  | SW8260B | DUP-09-17-21    | 2109A01-010a  | 260    | 1.5   | µg/L  | J                  | ERPD-FD         |
| Zinc, Dissolved | E 200.7 | EB-09-17-21     | 2109A01-001G  | 0.0071 | 0.01  | mg/L  | J                  | MDLRL           |
| Zinc, Dissolved | E 200.7 | MKTF-17R        | 2109A01-002G  | 0.0096 | 0.01  | mg/L  | U                  | EBD, MDLRL      |
| Zinc, Dissolved | E 200.7 | MKTF-18R        | 2109A01-003G  | 0.0093 | 0.01  | mg/L  | U                  | EBD, MDLRL      |
| Zinc, Dissolved | E 200.7 | MKTF-04R        | 2109A01-004G  | 0.011  | 0.01  | mg/L  | JB                 | EBD             |
| Zinc, Dissolved | E 200.7 | MKTF-01R        | 2109A01-005G  | 0.011  | 0.01  | mg/L  | JB                 | EBD             |
| Zinc, Dissolved | E 200.7 | MKTF-02R        | 2109A01-006G  | 0.034  | 0.01  | mg/L  | JB                 | EBD             |
| Zinc, Dissolved | E 200.7 | OW-68           | 2109A01-007G  | 0.039  | 0.01  | mg/L  | JB                 | EBD             |
| Zinc, Dissolved | E 200.7 | OW-67           | 2109A01-008G  | 0.016  | 0.01  | mg/L  | JB                 | EBD             |
| Zinc, Dissolved | E 200.7 | DUP-09-17-21    | 2109A01-010G  | 0.011  | 0.01  | mg/L  | JB                 | EBD             |
| Zinc, Total     | E 200.7 | MKTF-18R        | 2109A01-003F  | ND     | 0.01  | mg/L  | UJ                 | ERPD-FD         |
| Zinc, Total     | E 200.7 | OW-66           | 2109A01-009F  | 0.0095 | 0.01  | mg/L  | J                  | MDLRL           |
| Zinc, Total     | E 200.7 | DUP-09-17-21    | 2109A01-010F  | 0.036  | 0.01  | mg/L  | J                  | ERPD-FD         |

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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 61385

CONDITIONS

|                                                                                           |                                                             |
|-------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| Operator:<br>Western Refining Southwest LLC<br>539 South Main Street<br>Findlay, OH 45840 | OGRID:<br>267595                                            |
|                                                                                           | Action Number:<br>61385                                     |
|                                                                                           | Action Type:<br>[UF-DP] Discharge Permit (DISCHARGE PERMIT) |

CONDITIONS

| Created By | Condition                                   | Condition Date |
|------------|---------------------------------------------|----------------|
| scwells    | Accepted for Record Retention Purposes-Only | 11/22/2022     |