

AP - 121

**INVESTIGATION
REPORT**

JULY 2020

From: [Chavez, Carl J. EMNRD](#)
To: [Heidi Jones](#)
Cc: [Gregory J. McCartney P. E. \(gjmccartney@marathonpetroleum.com\)](#); [Moore, John](#); [Polak, Tiffany. EMNRD](#)
Subject: Marathon Petroleum Company (AP-121) Abatement Plan Stage 1 Continuation Meeting of 10/8/2020
Date: Tuesday, October 13, 2020 10:19:00 AM

Ms. Jones, et al.,

Re: AP-121 (Formerly Conoco AP-117/GW-054) Marathon Petroleum Company- Wingate Gas Plant McKinley Co. (Secs. 9 – 10 & 15 – 17 15N-7W)

The New Mexico Oil Conservation Division (OCD) is in receipt of your above subject related e-mail messages from 10/8 (communication call to discuss remedial investigation (RI) report of 7/30/2020 in the OCD Administrative Record) and 10/9 (follow-up communication call to clarify subjects discussed during the 10/8 communication call). Subsequent to the 10/8 communication call, OCD requested a work schedule for completion of the RI report work. TriHydro indicates it wishes to proceed to complete some more on-property investigation work by November of 2020 with plans for further work in 2021 subject to land access agreements.

OCD and Marathon Petroleum Company (MPC) discussed proceeding with remedial investigation report proposed work before implementing immediate actions to prevent groundwater contamination from migrating off-property. MPC indicated based on the benzene concentration hydrogeologic gradient, there does not appear to be a large groundwater plume problem.

OCD and TriHydro (consultant for MPC) further discussed on 10/9 land access and the ability of MPC to collect representative dissolved oxygen and oxidation/reduction potential data at groundwater investigation locations from continued work specified in the RI report. TriHydro later confirmed that representative groundwater samples could be analyzed for DO and ORP using the HydroPunch™ field drill method. MPC indicated the exact property line location was needed and land access agreements from the Burlington Northern Santa Fe Railroad (BNSF) and across the highway are needed to continue the off-property work specified in the RI report. OCD indicated it does not want the RI report work to be delayed by the BNSF agreement if it becomes an issue or obstacle for continued environmental investigation work.

OCD hereby **approves** work proposed in the RI report of 7/30/2020 in the OCD Administrative Record based on the meeting and MPC's confidence that the situation does not warrant immediate environmental remediation..

Please contact me if you have questions or need to "chime in" on this message to provider further clarification of upcoming work by MPC.

Thank you.

Disclaimer: Please be advised that OCD approval of the investigation report does not relieve Marathon Petroleum Company of responsibility should their operations fail to adequately investigate and remediate environmental contamination that pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve Marathon Petroleum Company of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Mr. Carl J. Chavez, CHMM (#13099)
New Mexico Oil Conservation Division (Albuquerque Office)
Energy Minerals and Natural Resources Department

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“Why not prevent pollution, minimize waste to reduce operating costs, reuse or recycle, and move forward with the rest of the Nation?” (To see how, go to: <http://www.emnrd.state.nm.us/OCD> and see “Publications”)

From: Heidi Jones <hjones@trihydro.com>
Sent: Friday, October 9, 2020 1:34 PM
To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
Subject: [EXT] DO and ORP

Carl,

I was able to get ahold of the contractor and they said they could do DO and ORP downhole with the hydropunch.

Thanks,
Heidi

Heidi Jones, CES
Rocky Mountain South Team Leader

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From: Heidi Jones <hjones@trihydro.com>
Sent: Thursday, October 8, 2020 6:26 PM
To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
Cc: Gregory J. McCartney P. E. (gjmccartney@marathonpetroleum.com)
<gjmccartney@marathonpetroleum.com>; Moore, John <jmoore5@marathonpetroleum.com>
Subject: [EXT] Abatement Plan Stage 1 Continuation

Good Evening Carl,

Thanks for your time today. As discussed during our conference call the following modifications are being proposed for the Abatement Plan Stage 1 Continuation:

1. DO and ORP will be collected in the field during sample collection. Given the sampling

apparatus theses will need to be collected at the surface.

2. Recommendations for monitoring well installations will be part of the conclusions and recommendations for the Abatement Plan Stage 1 Continuation Summary Report.

In addition, Marathon will begin work on getting access agreements as soon as we receive approval from OCD on the Stage 1 Continuation work plan contained in the Benzene Investigation Report (dated 7-17-2020, attached for reference). Marathon would like to propose to implement this work in two stages so that we can get started on this work prior to obtaining all the access agreements. MPC would install the proposed boreholes BH-11 through 29 as they are on MPC property and MPC would work on obtaining access agreements with property owners at the same time. The remaining boreholes would be installed once access agreements are obtained. If phasing this Abatement Plan Stage 1 Continuation is acceptable, depending on driller availability, the first phase could be completed in early November. Please let us know if this addresses your concerns and we are able to proceed with scheduling the first phase of this work.

Thank You,
Heidi

Heidi Jones, CES
Rocky Mountain South Team Leader

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From: [Heidi Jones](#)
To: [Chavez, Carl J. EMNRD](#)
Cc: glmccartney@marathonpetroleum.com; [Moore, John](#)
Subject: [EXT] Wingate Report
Date: Friday, July 17, 2020 1:14:44 PM
Attachments: [202007_BenzeneInvestigation_RPT.pdf](#)

Good Afternoon Carl,

Attached is the Benzene Investigation Report for the Wingate Facility for the work that was completed earlier this year. Please let us know if you have any questions.

Thanks,
Heidi

Heidi Jones, CES
Rocky Mountain South Team Leader

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MARATHON PETROLEUM CORPORATION

MARATHON WINGATE FACILITY

BENZENE INVESTIGATION REPORT

JULY 17, 2020



Approval to Proceed

I certify under penalty of law that this document and all attachments were prepared under my direction or 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.

A handwritten signature in black ink, appearing to read 'Gregory J. McCartney', written over a horizontal line.

Name: Gregory J. McCartney

7-17-20

Date

Title: Senior HSE Professional



Executive Summary

The Marathon Petroleum Company, Gallup Refining Division is submitting this investigation report for the Marathon Wingate Facility (Wingate Facility) located in Gallup, New Mexico as shown on Figure 1. Currently, and for the last six years, the Wingate Facility receives butane by railcar. The butane is then offloaded and transferred via pipeline to the Marathon Gallup Refinery in Gallup, New Mexico. No other petroleum is processed at this facility. Historically, the Wingate Facility received its feedstock from four natural gas facilities via pipeline, with processing consisting of fractionation of the mixed liquefied petroleum gas stream into usable products, such as propane, normal butane, isobutane, natural gas liquid (light gasoline), and mixed butane.

The investigation was conducted to assess the extent of benzene in monitoring well MWM-2 and determine remediation options for the consistent benzene exceedances. The investigation followed the procedures outlined in the letter, “Response to Approval with Conditions WMW-2 Benzene Exceedance Geoprobe Investigation Work Plan” (OCD 2019), written in response to comments from the New Mexico Oil Conservation Division (OCD). OCD required this investigation due to concerns that there may be free-product in the groundwater and a dissolved phase plume migrating off-property.

Field work performed at the facility consisted of:

- Drilling nine borehole locations
- Collecting nine soil samples above the saturated zone
- Installing nine temporary monitoring wells
- Collection of nine groundwater samples
- Removal of temporary wells and abandonment and the plugging of boreholes

The soils in the upper 10 to 21 feet below ground surface (ft bgs) of the boreholes were comprised of a red/brown plastic clay and gray plastic clays with varying sand content. A well sorted sand was observed below the clays. Groundwater was typically first encountered at the interface between the clays and sand. A hydrocarbon odor was noted in most of the boreholes.

Soil samples were analyzed for volatile organic compounds (VOCs). Groundwater samples were analyzed for VOCs, semi-volatile organic compounds, chloride, sulfate, nitrate, alkalinity, total metals, pH, and total dissolved solids. The soil results were compared with New Mexico Environmental Department (NMED) Residential and Industrial Soil Screening Levels (June 2019), and the groundwater results were compared to United States



Environmental Protection Agency (USEPA) Maximum Contaminant Levels (MCL) for tap water, Hazardous Quotient (HQ) 1.0. Samples were compared to the New Mexico Water Quality Control Commission (WQCC) standards for groundwater listed in the New Mexico Administrative Code 20.6.2.3103 if USEPA MCL standards were not established or when WQCC standards were lower than the USEPA MCLs. Groundwater samples from the nine sample locations exceeded the USEPA MCL for benzene. There were three USEPA MCL exceedances of total xylenes and one of toluene. Total lead concentrations in six of the sample locations exceeded the USEPA MCL. Based on the historical operations of the facility it is not likely that lead compounds were added to the products at this facility. Other constituents exceeding the MCLs included total arsenic, total barium, total chromium, and total selenium. Elevated arsenic concentrations may be attributable to naturally occurring arsenic in the groundwater or related to reducing conditions associated with petroleum releases. The other metals may be attributable to naturally occurring elements in the groundwater. The NMED Residential Soil Screening Levels for VOCs were not exceeded in any of the nine soil samples.



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- A. Boring Logs
- B. Analytical Reports
- C. Data Validation Forms



Introduction

The New Mexico Oil Conservation Department (OCD) requested an investigation into the benzene exceedances found in MWM-2 at the Marathon Wingate Facility (Wingate Facility) located in Gallup, New Mexico (Figure 1) in correspondence dated October 17, 2019. MWM-2 was installed in 1991 and has had consistent benzene exceedances since that time. The Marathon Petroleum Company (MPC) conducted the following investigation in accordance with the workplan (Workplan) outlined in the letter, “Response to Approval with Conditions WMW-2 Benzene Exceedance Geoprobe Investigation Work Plan” (OCD 2019). The objectives of this investigation were to:

- Assess the railroad loadout rack as a potential benzene source.
- Determine the extent of benzene in soil and groundwater surrounding WMW-2.
- Assess potential for free-product in groundwater and dissolved phase plume to migrate off-property.
- Develop remediation options.

MPC will be conducting this investigation in two phases. The first phase investigated the extent of the migration of benzene in groundwater and if free-product was present on the facility. This investigation included installing temporary groundwater wells in the locations shown in Figure 2. Groundwater and soil samples were collected from the temporary wells for laboratory analysis as described in the Workplan. The proposed investigation for Phase II has been developed based on the results of Phase I and is described in the recommendations section of this report. MPC is submitting this Phase I investigation report summarizing the soil and groundwater sampling activities and results from the Wingate Facility.

Sampling activities were conducted at the facility from February 24 through February 28, 2020 and included advancing soil borings to a depth ranging from 15 to 30 feet below ground surface (ft bgs) using a track-mounted hollow-stem auger drilling rig. Soil samples were collected at depths approximately two feet above the depth where groundwater was first encountered in the borehole. Following completion of the borehole, a temporary monitoring well comprised of 2-inch diameter polyvinyl chloride (PVC), 0.010-inch slotted screen, 2-inch PVC riser, and sand pack were installed. The temporary wells were given approximately 24 hours to stabilize prior to collecting the groundwater samples. Prior to groundwater sampling, fluid levels were measured at each temporary monitoring location. Groundwater samples were collected using a peristaltic pump and disposable tubing. Between each sample, the tubing was discarded, and the pump was decontaminated using Simple Green™ and rinsed with distilled water. Samples were packed in a cooler with ice



and submitted to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico. Soil samples were analyzed for volatile organic compounds (VOCs) and the groundwater samples were analyzed for VOCs, semi-volatile organic compounds (SVOCs), chloride, sulfate, nitrate, alkalinity, total metals, pH, and total dissolved solids (TDS).

Background

The Wingate Facility is located in McKinley County, NM, approximately one mile east of the city of Gallup, NM, at 68 El Paso Circle Gallup, NM 87301 (Figure 1). The Facility was built between 1952 and 1958 and operated as a fractionator facility until October 2014, when its processing units were shut down. Historically, the Wingate Facility fractionated a mixed liquefied petroleum gas stream into usable products. Its feed stock was received via pipelines from four natural gas facilities. The products of the facility at that time were propane, normal butane, isobutane, natural gas liquid (light gasoline) and mixed butane. Currently the facility operates only to ship, store, and receive butane products. Product is received by railcar and stored at the facility until transferred to the Marathon Gallup Refinery via pipeline approximately 15 miles to the east.

Groundwater flow at the facility is primarily west as seen in Figure 2.

Historic Sampling and Results

MWM-2 was installed near the rail loading rack in 1991 (Figure 3). It was first sampled in July 1991 with a benzene concentration of 16 milligrams per liter (mg/L) and has had readings as high as 37 mg/L in 1993. MWM-2 has exceeded the United State Environmental Protection Agency's (USEPA) maximum contaminant level (MCL) for benzene (0.005 mg/L) every year since 2003, ranging from 5.3 mg/L to 29 mg/L. Benzene has been recorded above 20 mg/L for the last 5 consecutive years (2015 – 2019), with the most recent reading of 24 mg/L in July 2019. There is no history of benzene in the other groundwater monitoring wells at the facility (DiSorbo, 2019).

Planned Sampling Activities

Soil and groundwater samples were collected to address OCD concerns regarding the persistent benzene exceedance in MWM-2 and to determine the extent of benzene contamination in the area within the facility.



The Workplan was approved by the New Mexico OCD in November 2019 (OCD 2019) and consisted of the following major elements:

- Soil sampling using hollow-stem auger drilling and a continuous sampler at locations shown on Figure 3.
- Installation of 11 temporary wells for groundwater sample extraction using a peristaltic pump.
- Analysis of soil samples for VOCs using EPA Method 8260B.
- Analysis of groundwater samples (unfiltered) for VOCs (Method 8260), SVOCs (Method 8270), chloride, sulfate, nitrates (EPA Method 300.0A), alkalinity (EPA Method 310.1), total metals (EPA Method 6010B and EPA Method 7470), pH (EPA Method 150.1), and TDS (EPA Method 160.1).
- Collection of a duplicate soil and groundwater sample for quality assurance and quality control (QA/QC).
- Comparison of soil analytical results against New Mexico Environmental Department (NMED) Soil Screening Levels.
- Comparison of groundwater samples against USEPA MCLs for Tap Water Hazard Quotient (HQ) 1.0 or the Water Quality Control Commission (WQCC) New Mexico Administrative Code (NMAC) 20.6.2.3103.

Deviations from Approved Plan

Deviations from the Workplan approved by OCD (OCD 2019) were that two borehole locations, BH-10 and BH-11, were not drilled because they could not be safely accessed. These borehole locations were at the bottom of a soil slope in a drainage channel, next to a chain-link boundary fence. Due to the soil saturation, the soils would not safely support the weight of the drill rig for installation of the boreholes. Moving the boreholes south of the fence was not an option during this initial phase because outside property access was not secured at the time the field work was performed.

Summary of Sampling Activities

Prior to installing the boreholes, the work area was surveyed using ground penetrating radar to locate potential subsurface lines and obstructions. A hand auger was used to clear the boreholes to a depth of five ft bgs prior to advancing the borehole using the drill rig.

Hollow stem augers were used to advance the boreholes below the water table. A five-foot continuous sample barrel was used to collect soil sample cores. The collected soil cores were logged by the project geologist and



the soil color, type, and any observed staining or odors were recorded on the soil boring logs presented in Appendix A. The depth where groundwater was first observed was also recorded on the soil boring logs.

Boreholes were advanced below the groundwater table to a depth of no more than 30 ft bgs and temporary wells were installed. Temporary wells consisted of a 5-foot section of 2-inch PVC screen and 2-inch PVC riser pipe. A sand filter pack was placed to two feet above the top of the screened interval. The temporary wells were given approximately 24 hours to stabilize before groundwater samples were collected and the temporary well installation was completed.

A blind duplicate soil sample and a blind duplicate groundwater sample were collected as QA/QC samples from BH-6. Additionally, VOC trip blanks and one methanol blank sample were included with the analysis. A summary of the QA/QC samples is provided below.

Laboratory Analytical Results

A summary of all laboratory data is presented in Tables 1 and 2 by borehole location and benzene sample results by location are shown on Figure 4. Complete analytical laboratory reports are included in Appendix B. The concentrations of analytes that are in exceedance of the applicable standard are summarized in the sections below.

Soil sample analytical data were compared to the NMED residential soil screening levels for VOCs. The analytical results for soil samples at each borehole were below the NMED residential screening levels for VOCs in soil.

Groundwater analytical data were compared to applicable USEPA MCLs for Tap Water, HQ 1.0 for VOCs, SVOCs, metals, and general analytes. Samples were compared to the WQCC standards for groundwater listed in the New Mexico Administrative Code 20.6.2.3103 if EPA MCL standards were not established or when WQCC standards were lower than the EPA MCLs. The detected results are summarized below:

- Benzene exceeded the MCL at all sample locations.
- Toluene exceeded the MCL at sample location BH3.
- Total xylenes exceeded the MCL at sample locations BH-1, BH-2, and BH-3.
- Total arsenic exceeded the MCL at sample locations BH-1, BH-3, BH-5, BH-6, and BH-7.
- Total barium, total chromium, and total selenium exceeded the MCLs at sample locations BH-5 and BH-7.



- Total lead exceeded the MCL at sample locations BH-1, BH-3, BH-5, BH-6, BH-7, and BH-9.

QA/QC Samples and Analysis

One methanol blank sample was provided by the laboratory as a soil sample trip blank. Two 40-milliliter vials were provided by the lab as trip blanks for groundwater samples. These samples were sent in the coolers by the laboratory and were not altered between sampling and analysis. Benzene was detected in two of the groundwater sample trip blanks, however, the associated samples with detections of benzene were greater than 10 times the blank detection, this would not require validation based on the results.

Tier I data validation was performed on the data package provided by the laboratory. The Tier I data validation included a review of the completeness of the data packages, chains-of-custody, sample condition receipts, sample preservations, holding times, the case narrative, and the quality control summary. Several notations were provided in the quality control summary provided by the laboratory, but the laboratory determined that the precision, accuracy, validity, and usability of the data were not compromised, and that corrective actions were not necessary. Following a review of the Tier I data validation parameters, it was determined that the data set was generally complete.

Conclusions

The first phase of this investigation was conducted to determine the extent of benzene groundwater impacts or the presence of free-product at the facility and the potential for impacts to migrate off the facility.

The elevated levels of benzene found in groundwater throughout the investigation area and the persistence of benzene exceedance in MWM-2 suggest a release in the area of the railcar loading rack prior to the installation of MWM-2 in 1991. The highest soil benzene concentration was observed in BH-3 which may be indicative of a release in the area although the concentration was not elevated above screening levels. The absence of benzene exceedance in any of the soil samples collected in the area suggest that contamination from this source is primarily restricted to the groundwater. The groundwater contour in the investigation area flows west and southwest (Figure 2) leading to the potential that benzene is traveling southwest beyond the property fence line.

Lead is a naturally occurring metal and is often observed in groundwater. Lead was detected in seven of nine groundwater samples and exceeded the USEPA MCL in six of the sample locations. Lead detections and



exceedances do not appear to be related to elevated benzene concentration observed in WMW-2. It should be noted, the concentration observed in the recent sampling event were only slightly elevated above the MCL. There has been no indication of lead exceedances in MWM-2 since 2008, when the dissolved lead concentration was 0.0288 mg/L (DiSorbo, 2019).

Arsenic is a naturally occurring metal. In addition, it is often observed in groundwater under reducing conditions associated with petroleum releases. Arsenic exceeded the MCL in several locations (BH-1, BH-3, BH-5, BH-6, and BH-7). It should be noted that the concentrations observed in the recent sampling event were only slightly elevated above the MCL.

Other metals detected (barium, chromium, and selenium) are likely naturally occurring. They exceeded the MCL at only two locations and were within an order of magnitude of the MCL.

For the following reasons MPC proposes to exclude metals analysis from Phase II:

- Exceedances of the MCL do not have a clear correlation with benzene exceedances.
- Most MCL exceedances are within an order of magnitude of the MCL for metals.
- Metals are often naturally occurring in groundwater.

Additional findings from Phase I of the investigation are bulleted below:

- The railroad loadout rack cannot be eliminated as the suspected source of the benzene release in the area surrounding MWM-2.
- Benzene concentrations exceeded the USEPA MCL at all groundwater sample locations.
- Benzene levels in groundwater at sample locations BH-4, BH-5, and BH-9, near the southern fence line, suggest the potential for benzene to be migrating beyond the facility fence line to the southwest. Most notably, BH-9 measured 2.7 mg/L benzene.
- There were no benzene exceedances found in the soil samples collected from the investigation area.
- Total lead concentrations at groundwater sample locations BH-1, BH-3, BH-5, BH-6, BH-7, and BH-9 exceed the USEPA MCL.

Phase I investigation results indicate the potential for migration of dissolved phase benzene to the west and south of MWM-2 and potentially beyond the property boundary. There was no free-product observed during



the investigation. Additional data will be required to delineate the extent of benzene, toluene, and xylene (BTX) impacts to the groundwater in these directions.

RECOMMENDATIONS

MPC recommends that Hydropunch™ sampling with direct push methods be used to determine the extent and possible source of the benzene impacts to the groundwater. Figure 5 shows the additional investigation locations suggested for Phase II. Hydropunch™ technology uses point-in-time sampling methods with sealed-screen samplers mounted on a Geoprobe™ drill rig to collect groundwater from a desired depth. “To collect the sample, the sealed-screen sampler is advanced to the target sampling depth and the protective outer rod is retracted, exposing the screen to groundwater. Groundwater flows through the screen under the hydraulic head conditions that exist at that depth and into the drive rods or sample chamber. O-ring seals placed between the drive tip and the tool body help ensure that the sampler is watertight as it is driven to the target sampling interval” (USEPA, 2005). Advantages of using Hydropunch™ to collect groundwater samples include:

- One-time sampling event
- Samples are collected at discrete intervals
- Minimizes cross contamination between sample locations
- Eliminates soil wastes and minimizes environmental impact

As stated above, soil contamination is not widespread across the area. Therefore, it is proposed that only groundwater be sampled for analysis in Phase II. Phase I results confirm that benzene is the main constituent of concern that is elevated above the MCL across the investigation area. There are also exceedances of xylene and toluene near MWM-2. Therefore, MPC proposes that only BTX be analyzed in Phase II. The proposed Phase II investigation plan includes:

- 31 groundwater samples will be collected using hydropunch technology
- No permanent wells will be installed
- Boreholes will be backfilled with bentonite
- Groundwater samples will be analyzed for BTX by Hall Environmental Analysis Laboratory



Marathon Wingate Facility – Benzene Investigation Report

Following NMED approval of Phase II of the investigation, MPC will inform NMED of the schedule for the additional field work and the completion of the Phase II report, as long as access agreements with adjacent property owners can be secured.

References

DiSorbo. 2019. Annual Groundwater Monitoring Report. Marathon Petroleum Company LP, Wingate Plant, Gallup, New Mexico. September.

New Mexico Environmental Department (NMED). 2018. New Mexico Administrative Code for Ground and Surface Water Protection NMAC 20.6.2, December.

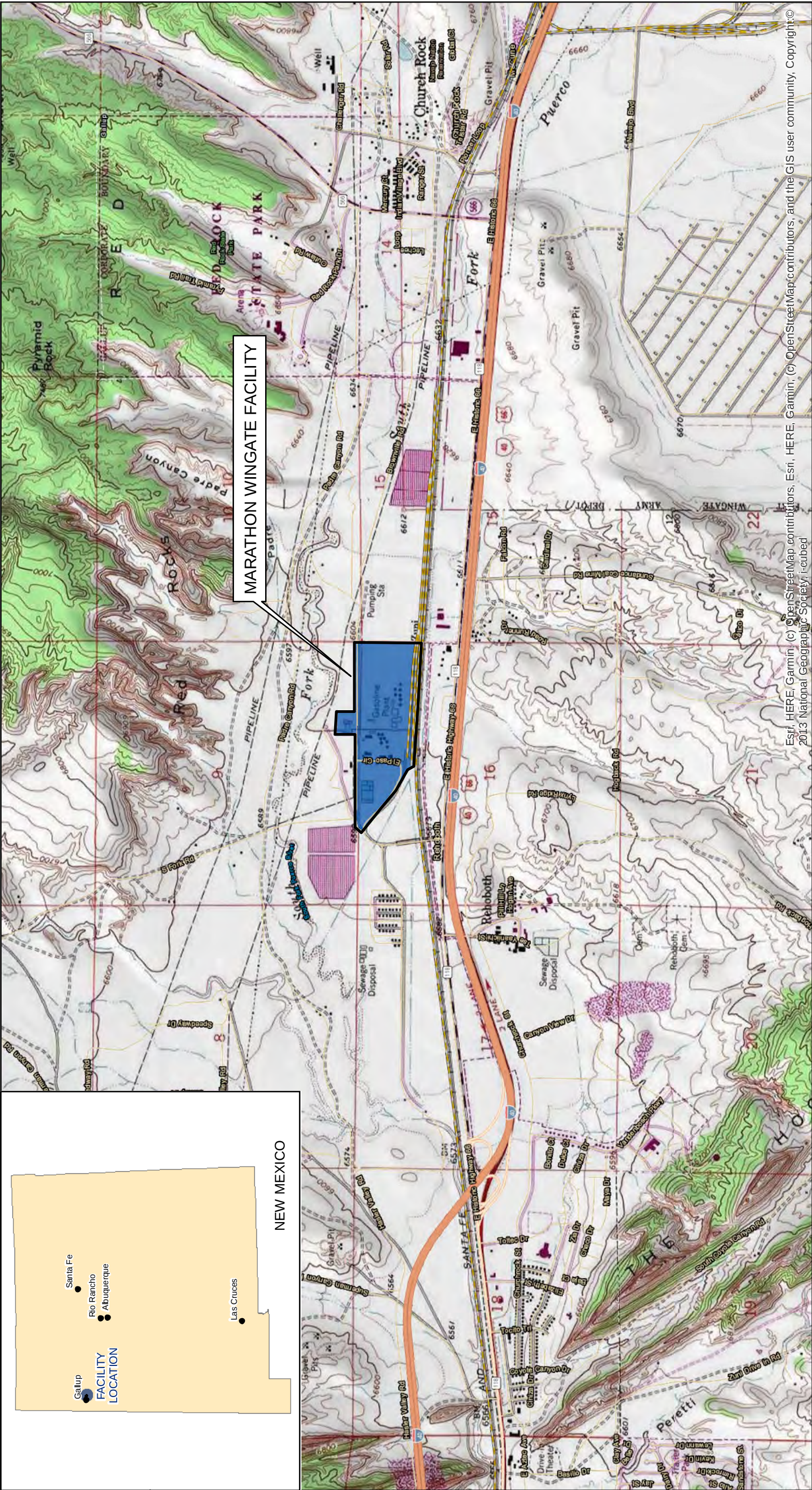
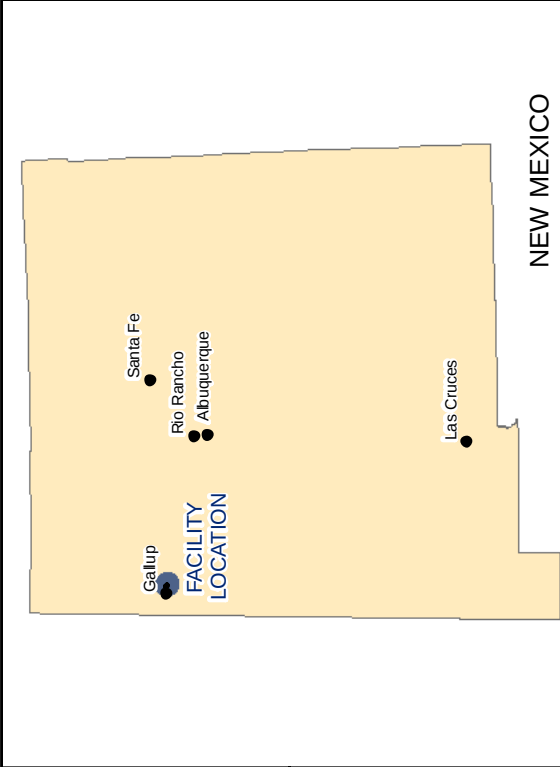
New Mexico Environmental Department (NMED). 2019. Industrial and Residential Soil Screening Levels (SSLs), June.

New Mexico Oil Conservation Division (OCD). 2019. Response to Approval with Conditions WMW-2 Benzene Exceedance Geoprobe Investigation Work Plan, Western Refining Southwest Inc., Wingate Facility, November.

United States Environmental Protection Agency (USEPA). 2005. Groundwater Sampling and Monitoring with Direct Push Technologies, August.

United States Environmental Protection Agency (USEPA). 2018. Maximum Contaminant Levels (MCLs) for Residential Tap Water, HQ 1.0. May.

Figures



EXPLANATION

 FACILITY LOCATION

FIGURE 1

 1252 Commerce Drive Laramie, WY 82070 www.tribhydro.com (P) 307/745.7474 (F) 307/745.7729		FACILITY LOCATION	
MARATHON PETROLEUM COMPANY MARATHON WINGATE FACILITY GALLUP, NEW MEXICO			
Drawn By: KEJ	Checked By: PH	Scale: 1" = 2,000'	Date: 6/12/20
		File: 1_FacilityLoc_Fig1.mxd	



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

EXPLANATION

- BOREHOLE LOCATION
- BOREHOLE LOCATION (NOT INSTALLED)
- GROUNDWATER MONITORING WELL
- FENCE LINE
- APPROXIMATE PROPERTY BOUNDARY

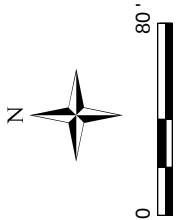


FIGURE 3

 1252 Commerce Drive Laramie, WY 82070 www.tribhydro.com (P) 307/745,7474 (F) 307/745,7729		BOREHOLE LOCATIONS	
		MARATHON PETROLEUM COMPANY MARATHON WINGATE FACILITY GALLUP, NEW MEXICO	
Drawn By: KEJ	Checked By: PH	Scale: 1" = 80'	Date: 6/23/20
File: 3_BoreholeLoc_Fig3.mxd			

\\IT\IT\MARATHON\GIS\PROJECTS\WINGATE\BENZENE INVESTIGATION\20204_BENZENECONC_FIG4.MXD



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

EXPLANATION

- GROUNDWATER MONITORING WELL
- BOREHOLE LOCATION
- FENCE LINE
- APPROXIMATE PROPERTY BOUNDARY
- BENZENE CONCENTRATION IN SOIL MILLIGRAMS/KILLOGRAM
- BENZENE CONCENTRATION IN GROUNDWATER MICROGRAMS/LITER

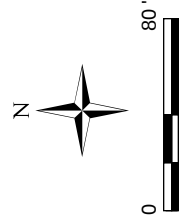


FIGURE 4

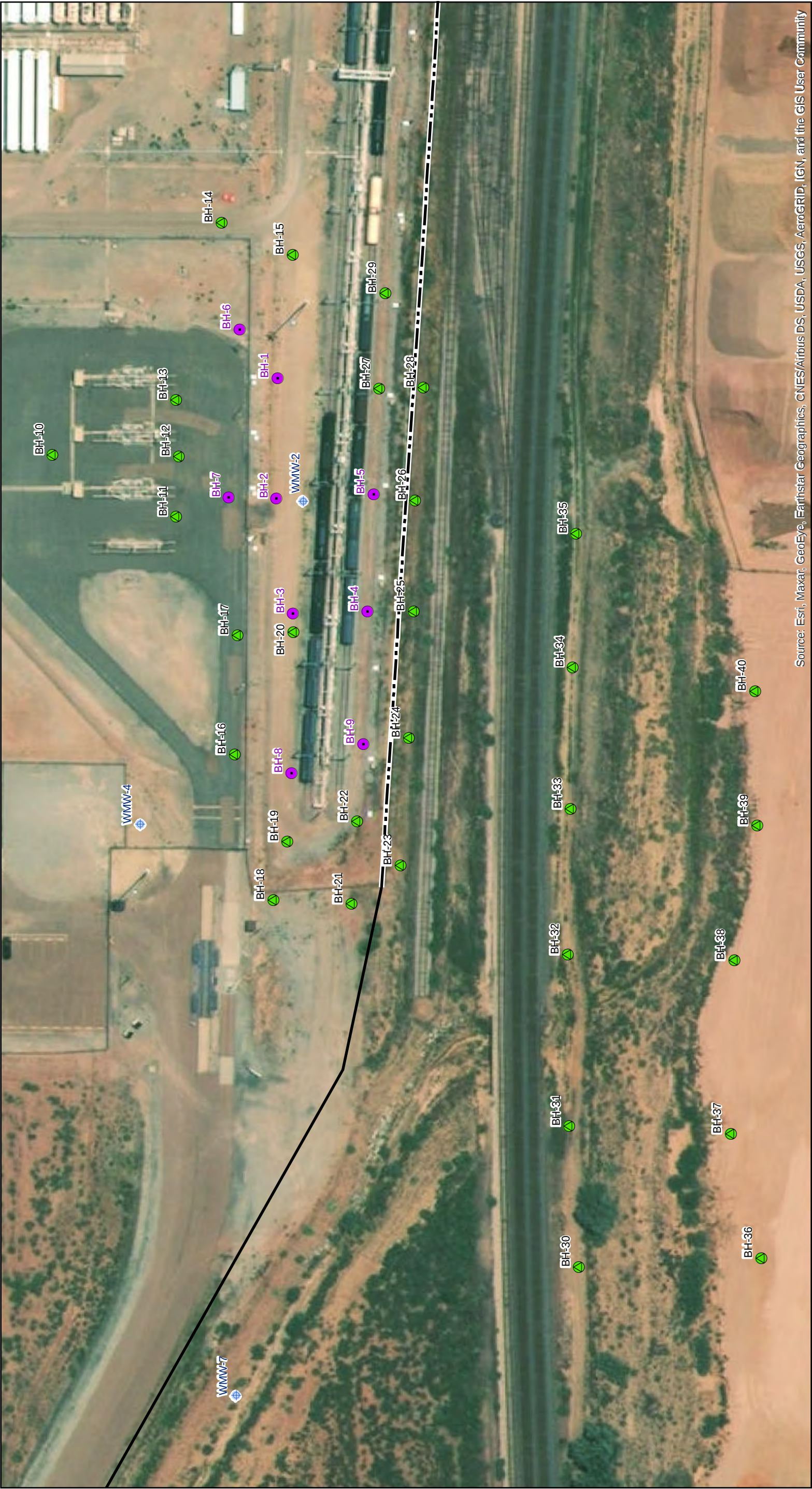
BENZENE CONCENTRATIONS

MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY
GALLUP, NEW MEXICO



1252 Commerce Drive
Laramie, WY 82070
www.tribhydro.com
(P) 307/745,7474 (F) 307/745,7729

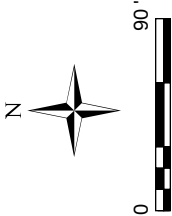
Drawn By: KEJ Checked By: PH Date: 6/23/20 Scale: 1" = 80' File: 4_BenzeneConc_Fig4.mxd



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

EXPLANATION

- GROUNDWATER MONITORING WELL
- BOREHOLE LOCATION
- PROPOSED BOREHOLE LOCATION
- FENCE LINE
- APPROXIMATE PROPERTY BOUNDARY



 1252 Commerce Drive Laramie, WY 82070 www.tribhydro.com (P) 307/745,7474 (F) 307/745,7729		FIGURE 5	
PROPOSED BOREHOLE LOCATIONS		Date: 6/19/20	
MARATHON PETROLEUM COMPANY MARATHON WINGATE FACILITY GALLUP, NEW MEXICO		Scale: 1" = 90'	
Drawn By: KEJ	Checked By: PH	File: 5_ProposedBorehole.loc_Fig5.mxd	

Tables

TABLE 1. SOIL ANALYTICAL DATA
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (mg/kg)	Value RL (mg/kg)	Lab Qualifier	¹ Screening Level (mg/kg)	Screening Level Exceedance
BH-1 (23 ft)	2/24/2020	1,1,1,2-Tetrachloroethane	ND	0.025		28.1	NO
BH-1 (23 ft)	2/24/2020	1,1,1-Trichloroethane	ND	0.025		14,400	NO
BH-1 (23 ft)	2/24/2020	1,1,2,2-Tetrachloroethane	ND	0.025		7.98	NO
BH-1 (23 ft)	2/24/2020	1,1,2-Trichloroethane	ND	0.025		18.8	NO
BH-1 (23 ft)	2/24/2020	1,1-Dichloroethane	ND	0.025		78.6	NO
BH-1 (23 ft)	2/24/2020	1,1-Dichloroethene	ND	0.025		440	NO
BH-1 (23 ft)	2/24/2020	1,1-Dichloropropene	ND	0.051		–	NA
BH-1 (23 ft)	2/24/2020	1,2,3-Trichlorobenzene	ND	0.051		–	NA
BH-1 (23 ft)	2/24/2020	1,2,3-Trichloropropane	ND	0.051		0.051	NO
BH-1 (23 ft)	2/24/2020	1,2,4-Trichlorobenzene	ND	0.025		240	NO
BH-1 (23 ft)	2/24/2020	1,2,4-Trimethylbenzene	ND	0.025		–	NA
BH-1 (23 ft)	2/24/2020	1,2-Dibromo-3-Chloropropane	ND	0.051		0.0858	NO
BH-1 (23 ft)	2/24/2020	1,2-Dibromoethane	ND	0.025		0.672	NO
BH-1 (23 ft)	2/24/2020	1,2-Dichlorobenzene	ND	0.025		2,150	NO
BH-1 (23 ft)	2/24/2020	1,2-Dichloroethane	ND	0.025		8.32	NO
BH-1 (23 ft)	2/24/2020	1,2-Dichloropropane	ND	0.025		17.8	NO
BH-1 (23 ft)	2/24/2020	1,3,5-Trimethylbenzene	ND	0.025		–	NA
BH-1 (23 ft)	2/24/2020	1,3-Dichlorobenzene	ND	0.025		–	NA
BH-1 (23 ft)	2/24/2020	1,3-Dichloropropane	ND	0.025		–	NA
BH-1 (23 ft)	2/24/2020	1,4-Dichlorobenzene	ND	0.025		1,290	NO
BH-1 (23 ft)	2/24/2020	1-Methylnaphthalene	ND	0.1		172	NO
BH-1 (23 ft)	2/24/2020	2,2-Dichloropropane	ND	0.051		–	NA
BH-1 (23 ft)	2/24/2020	2-Butanone	ND	0.25		37,400	NO
BH-1 (23 ft)	2/24/2020	2-Chlorotoluene	ND	0.025		1,560	NO
BH-1 (23 ft)	2/24/2020	2-Hexanone	ND	0.25		–	NA
BH-1 (23 ft)	2/24/2020	2-Methylnaphthalene	ND	0.1		232	NO
BH-1 (23 ft)	2/24/2020	4-Chlorotoluene	ND	0.025		–	NA
BH-1 (23 ft)	2/24/2020	4-Methyl-2-Pentanone	ND	0.25		5,810	NO
BH-1 (23 ft)	2/24/2020	Acetone	ND	0.38		66,300	NO
BH-1 (23 ft)	2/24/2020	Benzene	1.3	0.013		17.8	NO
BH-1 (23 ft)	2/24/2020	Bromobenzene	ND	0.025		–	NA
BH-1 (23 ft)	2/24/2020	Bromodichloromethane	ND	0.025		6.19	NO
BH-1 (23 ft)	2/24/2020	Bromoform	ND	0.025		674	NO
BH-1 (23 ft)	2/24/2020	Bromomethane	ND	0.076		17.7	NO
BH-1 (23 ft)	2/24/2020	Carbon Disulfide	ND	0.25		1,550	NO
BH-1 (23 ft)	2/24/2020	Carbon tetrachloride	ND	0.025		10.7	NO
BH-1 (23 ft)	2/24/2020	Chlorobenzene	ND	0.025		378	NO
BH-1 (23 ft)	2/24/2020	Chloroethane	ND	0.051		19,000	NO
BH-1 (23 ft)	2/24/2020	Chloroform	ND	0.025		5.9	NO
BH-1 (23 ft)	2/24/2020	Chloromethane	ND	0.076		41.1	NO
BH-1 (23 ft)	2/24/2020	cis-1,2-Dichloroethene	ND	0.025		156	NO
BH-1 (23 ft)	2/24/2020	cis-1,3-Dichloropropene	ND	0.025		–	NA
BH-1 (23 ft)	2/24/2020	Dibromochloromethane	ND	0.025		13.9	NO
BH-1 (23 ft)	2/24/2020	Dibromomethane	ND	0.025		57.9	NO
BH-1 (23 ft)	2/24/2020	Dichlorodifluoromethane	ND	0.025		182	NO
BH-1 (23 ft)	2/24/2020	Ethylbenzene	ND	0.025		75.1	NO
BH-1 (23 ft)	2/24/2020	Hexachlorobutadiene	ND	0.051		68.3	NO
BH-1 (23 ft)	2/24/2020	Isopropylbenzene	ND	0.025		2,360	NO
BH-1 (23 ft)	2/24/2020	Methylene Chloride	ND	0.076		766	NO
BH-1 (23 ft)	2/24/2020	MTBE	ND	0.025		–	NA
BH-1 (23 ft)	2/24/2020	Naphthalene	ND	0.051		49.7	NO
BH-1 (23 ft)	2/24/2020	n-Butylbenzene	ND	0.076		–	NA
BH-1 (23 ft)	2/24/2020	n-Propylbenzene	ND	0.025		–	NA
BH-1 (23 ft)	2/24/2020	p-Isopropyltoluene	ND	0.025		–	NA
BH-1 (23 ft)	2/24/2020	sec-Butylbenzene	ND	0.025		–	NA
BH-1 (23 ft)	2/24/2020	Styrene	ND	0.025		7,260	NO
BH-1 (23 ft)	2/24/2020	tert-Butylbenzene	ND	0.025		–	NA
BH-1 (23 ft)	2/24/2020	Tetrachloroethene	ND	0.025		337	NO
BH-1 (23 ft)	2/24/2020	Toluene	ND	0.025		5,230	NO
BH-1 (23 ft)	2/24/2020	trans-1,2-Dichloroethene	ND	0.025		295	NO
BH-1 (23 ft)	2/24/2020	trans-1,3-Dichloropropene	ND	0.025		–	NA
BH-1 (23 ft)	2/24/2020	Trichloroethene	ND	0.025		15.5	NO
BH-1 (23 ft)	2/24/2020	Trichlorofluoromethane	ND	0.025		1,230	NO
BH-1 (23 ft)	2/24/2020	Vinyl Chloride	ND	0.025		0.742	NO
BH-1 (23 ft)	2/24/2020	Xylenes, Total	0.089	0.051		871	NO
BH-2 (13 ft)	2/25/2020	1,1,1,2-Tetrachloroethane	ND	0.028		28.1	NO
BH-2 (13 ft)	2/25/2020	1,1,1-Trichloroethane	ND	0.028		14,400	NO
BH-2 (13 ft)	2/25/2020	1,1,2,2-Tetrachloroethane	ND	0.028		7.98	NO
BH-2 (13 ft)	2/25/2020	1,1,2-Trichloroethane	ND	0.028		18.8	NO
BH-2 (13 ft)	2/25/2020	1,1-Dichloroethane	ND	0.028		78.6	NO
BH-2 (13 ft)	2/25/2020	1,1-Dichloroethene	ND	0.028		440	NO
BH-2 (13 ft)	2/25/2020	1,1-Dichloropropene	ND	0.055		–	NA
BH-2 (13 ft)	2/25/2020	1,2,3-Trichlorobenzene	ND	0.055		–	NA
BH-2 (13 ft)	2/25/2020	1,2,3-Trichloropropane	ND	0.055		0.051	NO
BH-2 (13 ft)	2/25/2020	1,2,4-Trichlorobenzene	ND	0.028		240	NO
BH-2 (13 ft)	2/25/2020	1,2,4-Trimethylbenzene	ND	0.028		–	NA
BH-2 (13 ft)	2/25/2020	1,2-Dibromo-3-Chloropropane	ND	0.055		0.0858	NO
BH-2 (13 ft)	2/25/2020	1,2-Dibromoethane	ND	0.028		0.672	NO
BH-2 (13 ft)	2/25/2020	1,2-Dichlorobenzene	ND	0.028		2,150	NO
BH-2 (13 ft)	2/25/2020	1,2-Dichloroethane	ND	0.028		8.32	NO
BH-2 (13 ft)	2/25/2020	1,2-Dichloropropane	ND	0.028		17.8	NO
BH-2 (13 ft)	2/25/2020	1,3,5-Trimethylbenzene	ND	0.028		–	NA
BH-2 (13 ft)	2/25/2020	1,3-Dichlorobenzene	ND	0.028		–	NA
BH-2 (13 ft)	2/25/2020	1,3-Dichloropropane	ND	0.028		–	NA
BH-2 (13 ft)	2/25/2020	1,4-Dichlorobenzene	ND	0.028		1,290	NO
BH-2 (13 ft)	2/25/2020	1-Methylnaphthalene	ND	0.11		172	NO

TABLE 1. SOIL ANALYTICAL DATA
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (mg/kg)	Value RL (mg/kg)	Lab Qualifier	¹ Screening Level (mg/kg)	Screening Level Exceedance
BH-2 (13 ft)	2/25/2020	2,2-Dichloropropane	ND	0.055		–	NA
BH-2 (13 ft)	2/25/2020	2-Butanone	ND	0.28		37,400	NO
BH-2 (13 ft)	2/25/2020	2-Chlorotoluene	ND	0.028		1,560	NO
BH-2 (13 ft)	2/25/2020	2-Hexanone	ND	0.28		–	NA
BH-2 (13 ft)	2/25/2020	2-Methylnaphthalene	ND	0.11		232	NO
BH-2 (13 ft)	2/25/2020	4-Chlorotoluene	ND	0.028		–	NA
BH-2 (13 ft)	2/25/2020	4-Methyl-2-Pentanone	ND	0.28		5,810	NO
BH-2 (13 ft)	2/25/2020	Acetone	ND	0.41		66,300	NO
BH-2 (13 ft)	2/25/2020	Benzene	0.027	0.014		17.8	NO
BH-2 (13 ft)	2/25/2020	Bromobenzene	ND	0.028		–	NA
BH-2 (13 ft)	2/25/2020	Bromodichloromethane	ND	0.028		6.19	NO
BH-2 (13 ft)	2/25/2020	Bromoform	ND	0.028		674	NO
BH-2 (13 ft)	2/25/2020	Bromomethane	ND	0.083		17.7	NO
BH-2 (13 ft)	2/25/2020	Carbon Disulfide	ND	0.28		1,550	NO
BH-2 (13 ft)	2/25/2020	Carbon tetrachloride	ND	0.028		10.7	NO
BH-2 (13 ft)	2/25/2020	Chlorobenzene	ND	0.028		378	NO
BH-2 (13 ft)	2/25/2020	Chloroethane	ND	0.055		19,000	NO
BH-2 (13 ft)	2/25/2020	Chloroform	ND	0.028		5.9	NO
BH-2 (13 ft)	2/25/2020	Chloromethane	ND	0.083		41.1	NO
BH-2 (13 ft)	2/25/2020	cis-1,2-Dichloroethene	ND	0.028		156	NO
BH-2 (13 ft)	2/25/2020	cis-1,3-Dichloropropene	ND	0.028		–	NA
BH-2 (13 ft)	2/25/2020	Dibromochloromethane	ND	0.028		13.9	NO
BH-2 (13 ft)	2/25/2020	Dibromomethane	ND	0.028		57.9	NO
BH-2 (13 ft)	2/25/2020	Dichlorodifluoromethane	ND	0.028		182	NO
BH-2 (13 ft)	2/25/2020	Ethylbenzene	ND	0.028		75.1	NO
BH-2 (13 ft)	2/25/2020	Hexachlorobutadiene	ND	0.055		68.3	NO
BH-2 (13 ft)	2/25/2020	Isopropylbenzene	ND	0.028		2,360	NO
BH-2 (13 ft)	2/25/2020	Methylene Chloride	ND	0.083		766	NO
BH-2 (13 ft)	2/25/2020	MTBE	ND	0.028		–	NA
BH-2 (13 ft)	2/25/2020	Naphthalene	ND	0.055		49.7	NO
BH-2 (13 ft)	2/25/2020	n-Butylbenzene	ND	0.083		–	NA
BH-2 (13 ft)	2/25/2020	n-Propylbenzene	ND	0.028		–	NA
BH-2 (13 ft)	2/25/2020	p-Isopropyltoluene	ND	0.028		–	NA
BH-2 (13 ft)	2/25/2020	sec-Butylbenzene	ND	0.028		–	NA
BH-2 (13 ft)	2/25/2020	Styrene	ND	0.028		7,260	NO
BH-2 (13 ft)	2/25/2020	tert-Butylbenzene	ND	0.028		–	NA
BH-2 (13 ft)	2/25/2020	Tetrachloroethene	ND	0.028		337	NO
BH-2 (13 ft)	2/25/2020	Toluene	ND	0.028		5,230	NO
BH-2 (13 ft)	2/25/2020	trans-1,2-Dichloroethene	ND	0.028		295	NO
BH-2 (13 ft)	2/25/2020	trans-1,3-Dichloropropene	ND	0.028		–	NA
BH-2 (13 ft)	2/25/2020	Trichloroethene	ND	0.028		15.5	NO
BH-2 (13 ft)	2/25/2020	Trichlorofluoromethane	ND	0.028		1,230	NO
BH-2 (13 ft)	2/25/2020	Vinyl Chloride	ND	0.028		0.742	NO
BH-2 (13 ft)	2/25/2020	Xylenes, Total	ND	0.055		871	NO
BH-3 (15 ft)	2/25/2020	1,1,1,2-Tetrachloroethane	ND	0.15		28.1	NO
BH-3 (15 ft)	2/25/2020	1,1,1-Trichloroethane	ND	0.15		14,400	NO
BH-3 (15 ft)	2/25/2020	1,1,2,2-Tetrachloroethane	ND	0.15		7.98	NO
BH-3 (15 ft)	2/25/2020	1,1,2-Trichloroethane	ND	0.15		18.8	NO
BH-3 (15 ft)	2/25/2020	1,1-Dichloroethane	ND	0.15		78.6	NO
BH-3 (15 ft)	2/25/2020	1,1-Dichloroethene	ND	0.15		440	NO
BH-3 (15 ft)	2/25/2020	1,1-Dichloropropene	ND	0.29		–	NA
BH-3 (15 ft)	2/25/2020	1,2,3-Trichlorobenzene	ND	0.29		–	NA
BH-3 (15 ft)	2/25/2020	1,2,3-Trichloropropane	ND	0.29		0.051	NO
BH-3 (15 ft)	2/25/2020	1,2,4-Trichlorobenzene	ND	0.15		240	NO
BH-3 (15 ft)	2/25/2020	1,2,4-Trimethylbenzene	1	0.15		–	NA
BH-3 (15 ft)	2/25/2020	1,2-Dibromo-3-Chloropropane	ND	0.29		0.0858	NO
BH-3 (15 ft)	2/25/2020	1,2-Dibromoethane	ND	0.15		0.672	NO
BH-3 (15 ft)	2/25/2020	1,2-Dichlorobenzene	ND	0.15		2,150	NO
BH-3 (15 ft)	2/25/2020	1,2-Dichloroethane	ND	0.15		8.32	NO
BH-3 (15 ft)	2/25/2020	1,2-Dichloropropane	ND	0.15		17.8	NO
BH-3 (15 ft)	2/25/2020	1,3,5-Trimethylbenzene	0.53	0.15		–	NA
BH-3 (15 ft)	2/25/2020	1,3-Dichlorobenzene	ND	0.15		–	NA
BH-3 (15 ft)	2/25/2020	1,3-Dichloropropane	ND	0.15		–	NA
BH-3 (15 ft)	2/25/2020	1,4-Dichlorobenzene	ND	0.15		1,290	NO
BH-3 (15 ft)	2/25/2020	1-Methylnaphthalene	ND	0.58		172	NO
BH-3 (15 ft)	2/25/2020	2,2-Dichloropropane	ND	0.29		–	NA
BH-3 (15 ft)	2/25/2020	2-Butanone	ND	1.5		37,400	NO
BH-3 (15 ft)	2/25/2020	2-Chlorotoluene	ND	0.15		1,560	NO
BH-3 (15 ft)	2/25/2020	2-Hexanone	ND	1.5		–	NA
BH-3 (15 ft)	2/25/2020	2-Methylnaphthalene	ND	0.58		232	NO
BH-3 (15 ft)	2/25/2020	4-Chlorotoluene	ND	0.15		–	NA
BH-3 (15 ft)	2/25/2020	4-Methyl-2-Pentanone	ND	1.5		5,810	NO
BH-3 (15 ft)	2/25/2020	Acetone	ND	2.2		66,300	NO
BH-3 (15 ft)	2/25/2020	Benzene	9.5	0.073		17.8	NO
BH-3 (15 ft)	2/25/2020	Bromobenzene	ND	0.15		–	NA
BH-3 (15 ft)	2/25/2020	Bromodichloromethane	ND	0.15		6.19	NO
BH-3 (15 ft)	2/25/2020	Bromoform	ND	0.15		674	NO
BH-3 (15 ft)	2/25/2020	Bromomethane	ND	0.44		17.7	NO
BH-3 (15 ft)	2/25/2020	Carbon Disulfide	ND	1.5		1,550	NO
BH-3 (15 ft)	2/25/2020	Carbon tetrachloride	ND	0.15		10.7	NO
BH-3 (15 ft)	2/25/2020	Chlorobenzene	ND	0.15		378	NO
BH-3 (15 ft)	2/25/2020	Chloroethane	ND	0.29		19,000	NO
BH-3 (15 ft)	2/25/2020	Chloroform	ND	0.15		5.9	NO
BH-3 (15 ft)	2/25/2020	Chloromethane	ND	0.44		41.1	NO
BH-3 (15 ft)	2/25/2020	cis-1,2-Dichloroethene	ND	0.15		156	NO
BH-3 (15 ft)	2/25/2020	cis-1,3-Dichloropropene	ND	0.15		–	NA

TABLE 1. SOIL ANALYTICAL DATA
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (mg/kg)	Value RL (mg/kg)	Lab Qualifier	¹ Screening Level (mg/kg)	Screening Level Exceedance
BH-3 (15 ft)	2/25/2020	Dibromochloromethane	ND	0.15		13.9	NO
BH-3 (15 ft)	2/25/2020	Dibromomethane	ND	0.15		57.9	NO
BH-3 (15 ft)	2/25/2020	Dichlorodifluoromethane	ND	0.15		182	NO
BH-3 (15 ft)	2/25/2020	Ethylbenzene	0.7	0.15		75.1	NO
BH-3 (15 ft)	2/25/2020	Hexachlorobutadiene	ND	0.29		68.3	NO
BH-3 (15 ft)	2/25/2020	Isopropylbenzene	0.17	0.15		2,360	NO
BH-3 (15 ft)	2/25/2020	Methylene Chloride	ND	0.44		766	NO
BH-3 (15 ft)	2/25/2020	MTBE	ND	0.15		–	NA
BH-3 (15 ft)	2/25/2020	Naphthalene	ND	0.29		49.7	NO
BH-3 (15 ft)	2/25/2020	n-Butylbenzene	ND	0.44		–	NA
BH-3 (15 ft)	2/25/2020	n-Propylbenzene	0.17	0.15		–	NA
BH-3 (15 ft)	2/25/2020	p-Isopropyltoluene	ND	0.15		–	NA
BH-3 (15 ft)	2/25/2020	sec-Butylbenzene	ND	0.15		–	NA
BH-3 (15 ft)	2/25/2020	Styrene	ND	0.15		7,260	NO
BH-3 (15 ft)	2/25/2020	tert-Butylbenzene	ND	0.15		–	NA
BH-3 (15 ft)	2/25/2020	Tetrachloroethene	ND	0.15		337	NO
BH-3 (15 ft)	2/25/2020	Toluene	2.1	0.15		5,230	NO
BH-3 (15 ft)	2/25/2020	trans-1,2-Dichloroethene	ND	0.15		295	NO
BH-3 (15 ft)	2/25/2020	trans-1,3-Dichloropropene	ND	0.15		–	NA
BH-3 (15 ft)	2/25/2020	Trichloroethene	ND	0.15		15.5	NO
BH-3 (15 ft)	2/25/2020	Trichlorofluoromethane	ND	0.15		1,230	NO
BH-3 (15 ft)	2/25/2020	Vinyl Chloride	ND	0.15		0.742	NO
BH-3 (15 ft)	2/25/2020	Xylenes, Total	7.8	0.29		871	NO
BH-4 (19 ft)	2/26/2020	1,1,1,2-Tetrachloroethane	ND	0.026		28.1	NO
BH-4 (19 ft)	2/26/2020	1,1,1-Trichloroethane	ND	0.026		14,400	NO
BH-4 (19 ft)	2/26/2020	1,1,2,2-Tetrachloroethane	ND	0.026		7.98	NO
BH-4 (19 ft)	2/26/2020	1,1,2-Trichloroethane	ND	0.026		18.8	NO
BH-4 (19 ft)	2/26/2020	1,1-Dichloroethane	ND	0.026		78.6	NO
BH-4 (19 ft)	2/26/2020	1,1-Dichloroethene	ND	0.026		440	NO
BH-4 (19 ft)	2/26/2020	1,1-Dichloropropene	ND	0.052		–	NA
BH-4 (19 ft)	2/26/2020	1,2,3-Trichlorobenzene	ND	0.052		–	NA
BH-4 (19 ft)	2/26/2020	1,2,3-Trichloropropane	ND	0.052		0.051	NO
BH-4 (19 ft)	2/26/2020	1,2,4-Trichlorobenzene	ND	0.026		240	NO
BH-4 (19 ft)	2/26/2020	1,2,4-Trimethylbenzene	ND	0.026		–	NA
BH-4 (19 ft)	2/26/2020	1,2-Dibromo-3-Chloropropane	ND	0.052		0.0858	NO
BH-4 (19 ft)	2/26/2020	1,2-Dibromoethane	ND	0.026		0.672	NO
BH-4 (19 ft)	2/26/2020	1,2-Dichlorobenzene	ND	0.026		2,150	NO
BH-4 (19 ft)	2/26/2020	1,2-Dichloroethane	ND	0.026		8.32	NO
BH-4 (19 ft)	2/26/2020	1,2-Dichloropropane	ND	0.026		17.8	NO
BH-4 (19 ft)	2/26/2020	1,3,5-Trimethylbenzene	ND	0.026		–	NA
BH-4 (19 ft)	2/26/2020	1,3-Dichlorobenzene	ND	0.026		–	NA
BH-4 (19 ft)	2/26/2020	1,3-Dichloropropane	ND	0.026		–	NA
BH-4 (19 ft)	2/26/2020	1,4-Dichlorobenzene	ND	0.026		1,290	NO
BH-4 (19 ft)	2/26/2020	1-Methylnaphthalene	ND	0.1		172	NO
BH-4 (19 ft)	2/26/2020	2,2-Dichloropropane	ND	0.052		–	NA
BH-4 (19 ft)	2/26/2020	2-Butanone	ND	0.26		37,400	NO
BH-4 (19 ft)	2/26/2020	2-Chlorotoluene	ND	0.026		1,560	NO
BH-4 (19 ft)	2/26/2020	2-Hexanone	ND	0.26		–	NA
BH-4 (19 ft)	2/26/2020	2-Methylnaphthalene	ND	0.1		232	NO
BH-4 (19 ft)	2/26/2020	4-Chlorotoluene	ND	0.026		–	NA
BH-4 (19 ft)	2/26/2020	4-Methyl-2-Pentanone	ND	0.26		5,810	NO
BH-4 (19 ft)	2/26/2020	Acetone	ND	0.39		66,300	NO
BH-4 (19 ft)	2/26/2020	Benzene	ND	0.013		17.8	NO
BH-4 (19 ft)	2/26/2020	Bromobenzene	ND	0.026		–	NA
BH-4 (19 ft)	2/26/2020	Bromodichloromethane	ND	0.026		6.19	NO
BH-4 (19 ft)	2/26/2020	Bromoform	ND	0.026		674	NO
BH-4 (19 ft)	2/26/2020	Bromomethane	ND	0.078		17.7	NO
BH-4 (19 ft)	2/26/2020	Carbon Disulfide	ND	0.26		1,550	NO
BH-4 (19 ft)	2/26/2020	Carbon tetrachloride	ND	0.026		10.7	NO
BH-4 (19 ft)	2/26/2020	Chlorobenzene	ND	0.026		378	NO
BH-4 (19 ft)	2/26/2020	Chloroethane	ND	0.052		19,000	NO
BH-4 (19 ft)	2/26/2020	Chloroform	ND	0.026		5.9	NO
BH-4 (19 ft)	2/26/2020	Chloromethane	ND	0.078		41.1	NO
BH-4 (19 ft)	2/26/2020	cis-1,2-Dichloroethene	ND	0.026		156	NO
BH-4 (19 ft)	2/26/2020	cis-1,3-Dichloropropene	ND	0.026		–	NA
BH-4 (19 ft)	2/26/2020	Dibromochloromethane	ND	0.026		13.9	NO
BH-4 (19 ft)	2/26/2020	Dibromomethane	ND	0.026		57.9	NO
BH-4 (19 ft)	2/26/2020	Dichlorodifluoromethane	ND	0.026		182	NO
BH-4 (19 ft)	2/26/2020	Ethylbenzene	ND	0.026		75.1	NO
BH-4 (19 ft)	2/26/2020	Hexachlorobutadiene	ND	0.052		68.3	NO
BH-4 (19 ft)	2/26/2020	Isopropylbenzene	ND	0.026		2,360	NO
BH-4 (19 ft)	2/26/2020	Methylene Chloride	ND	0.078		766	NO
BH-4 (19 ft)	2/26/2020	MTBE	ND	0.026		–	NA
BH-4 (19 ft)	2/26/2020	Naphthalene	ND	0.052		49.7	NO
BH-4 (19 ft)	2/26/2020	n-Butylbenzene	ND	0.078		–	NA
BH-4 (19 ft)	2/26/2020	n-Propylbenzene	ND	0.026		–	NA
BH-4 (19 ft)	2/26/2020	p-Isopropyltoluene	ND	0.026		–	NA
BH-4 (19 ft)	2/26/2020	sec-Butylbenzene	ND	0.026		–	NA
BH-4 (19 ft)	2/26/2020	Styrene	ND	0.026		7,260	NO
BH-4 (19 ft)	2/26/2020	tert-Butylbenzene	ND	0.026		–	NA
BH-4 (19 ft)	2/26/2020	Tetrachloroethene	ND	0.026		337	NO
BH-4 (19 ft)	2/26/2020	Toluene	ND	0.026		5,230	NO
BH-4 (19 ft)	2/26/2020	trans-1,2-Dichloroethene	ND	0.026		295	NO
BH-4 (19 ft)	2/26/2020	trans-1,3-Dichloropropene	ND	0.026		–	NA
BH-4 (19 ft)	2/26/2020	Trichloroethene	ND	0.026		15.5	NO
BH-4 (19 ft)	2/26/2020	Trichlorofluoromethane	ND	0.026		1,230	NO

TABLE 1. SOIL ANALYTICAL DATA
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (mg/kg)	Value RL (mg/kg)	Lab Qualifier	¹ Screening Level (mg/kg)	Screening Level Exceedance
BH-4 (19 ft)	2/26/2020	Vinyl Chloride	ND	0.026		0.742	NO
BH-4 (19 ft)	2/26/2020	Xylenes, Total	ND	0.052		871	NO
BH-5 (14 ft)	2/26/2020	1,1,1,2-Tetrachloroethane	ND	0.026		28.1	NO
BH-5 (14 ft)	2/26/2020	1,1,1-Trichloroethane	ND	0.026		14,400	NO
BH-5 (14 ft)	2/26/2020	1,1,2,2-Tetrachloroethane	ND	0.026		7.98	NO
BH-5 (14 ft)	2/26/2020	1,1,2-Trichloroethane	ND	0.026		18.8	NO
BH-5 (14 ft)	2/26/2020	1,1-Dichloroethane	ND	0.026		78.6	NO
BH-5 (14 ft)	2/26/2020	1,1-Dichloroethene	ND	0.026		440	NO
BH-5 (14 ft)	2/26/2020	1,1-Dichloropropene	ND	0.052		–	NA
BH-5 (14 ft)	2/26/2020	1,2,3-Trichlorobenzene	ND	0.052		–	NA
BH-5 (14 ft)	2/26/2020	1,2,3-Trichloropropane	ND	0.052		0.051	NO
BH-5 (14 ft)	2/26/2020	1,2,4-Trichlorobenzene	ND	0.026		240	NO
BH-5 (14 ft)	2/26/2020	1,2,4-Trimethylbenzene	ND	0.026		–	NA
BH-5 (14 ft)	2/26/2020	1,2-Dibromo-3-Chloropropane	ND	0.052		0.0858	NO
BH-5 (14 ft)	2/26/2020	1,2-Dibromoethane	ND	0.026		0.672	NO
BH-5 (14 ft)	2/26/2020	1,2-Dichlorobenzene	ND	0.026		2,150	NO
BH-5 (14 ft)	2/26/2020	1,2-Dichloroethane	ND	0.026		8.32	NO
BH-5 (14 ft)	2/26/2020	1,2-Dichloropropane	ND	0.026		17.8	NO
BH-5 (14 ft)	2/26/2020	1,3,5-Trimethylbenzene	ND	0.026		–	NA
BH-5 (14 ft)	2/26/2020	1,3-Dichlorobenzene	ND	0.026		–	NA
BH-5 (14 ft)	2/26/2020	1,3-Dichloropropane	ND	0.026		–	NA
BH-5 (14 ft)	2/26/2020	1,4-Dichlorobenzene	ND	0.026		1,290	NO
BH-5 (14 ft)	2/26/2020	1-Methylnaphthalene	ND	0.1		172	NO
BH-5 (14 ft)	2/26/2020	2,2-Dichloropropane	ND	0.052		–	NA
BH-5 (14 ft)	2/26/2020	2-Butanone	ND	0.26		37,400	NO
BH-5 (14 ft)	2/26/2020	2-Chlorotoluene	ND	0.026		1,560	NO
BH-5 (14 ft)	2/26/2020	2-Hexanone	ND	0.26		–	NA
BH-5 (14 ft)	2/26/2020	2-Methylnaphthalene	ND	0.1		232	NO
BH-5 (14 ft)	2/26/2020	4-Chlorotoluene	ND	0.026		–	NA
BH-5 (14 ft)	2/26/2020	4-Methyl-2-Pentanone	ND	0.26		5,810	NO
BH-5 (14 ft)	2/26/2020	Acetone	ND	0.39		66,300	NO
BH-5 (14 ft)	2/26/2020	Benzene	ND	0.013		17.8	NO
BH-5 (14 ft)	2/26/2020	Bromobenzene	ND	0.026		–	NA
BH-5 (14 ft)	2/26/2020	Bromodichloromethane	ND	0.026		6.19	NO
BH-5 (14 ft)	2/26/2020	Bromoform	ND	0.026		674	NO
BH-5 (14 ft)	2/26/2020	Bromomethane	ND	0.078		17.7	NO
BH-5 (14 ft)	2/26/2020	Carbon Disulfide	ND	0.26		1,550	NO
BH-5 (14 ft)	2/26/2020	Carbon tetrachloride	ND	0.026		10.7	NO
BH-5 (14 ft)	2/26/2020	Chlorobenzene	ND	0.026		378	NO
BH-5 (14 ft)	2/26/2020	Chloroethane	ND	0.052		19,000	NO
BH-5 (14 ft)	2/26/2020	Chloroform	ND	0.026		5.9	NO
BH-5 (14 ft)	2/26/2020	Chloromethane	ND	0.078		41.1	NO
BH-5 (14 ft)	2/26/2020	cis-1,2-Dichloroethene	ND	0.026		156	NO
BH-5 (14 ft)	2/26/2020	cis-1,3-Dichloropropene	ND	0.026		–	NA
BH-5 (14 ft)	2/26/2020	Dibromochloromethane	ND	0.026		13.9	NO
BH-5 (14 ft)	2/26/2020	Dibromomethane	ND	0.026		57.9	NO
BH-5 (14 ft)	2/26/2020	Dichlorodifluoromethane	ND	0.026		182	NO
BH-5 (14 ft)	2/26/2020	Ethylbenzene	ND	0.026		75.1	NO
BH-5 (14 ft)	2/26/2020	Hexachlorobutadiene	ND	0.052		68.3	NO
BH-5 (14 ft)	2/26/2020	Isopropylbenzene	ND	0.026		2,360	NO
BH-5 (14 ft)	2/26/2020	Methylene Chloride	ND	0.078		766	NO
BH-5 (14 ft)	2/26/2020	MTBE	ND	0.026		–	NA
BH-5 (14 ft)	2/26/2020	Naphthalene	ND	0.052		49.7	NO
BH-5 (14 ft)	2/26/2020	n-Butylbenzene	ND	0.078		–	NA
BH-5 (14 ft)	2/26/2020	n-Propylbenzene	ND	0.026		–	NA
BH-5 (14 ft)	2/26/2020	p-Isopropyltoluene	ND	0.026		–	NA
BH-5 (14 ft)	2/26/2020	sec-Butylbenzene	ND	0.026		–	NA
BH-5 (14 ft)	2/26/2020	Styrene	ND	0.026		7,260	NO
BH-5 (14 ft)	2/26/2020	tert-Butylbenzene	ND	0.026		–	NA
BH-5 (14 ft)	2/26/2020	Tetrachloroethene	ND	0.026		337	NO
BH-5 (14 ft)	2/26/2020	Toluene	ND	0.026		5,230	NO
BH-5 (14 ft)	2/26/2020	trans-1,2-Dichloroethene	ND	0.026		295	NO
BH-5 (14 ft)	2/26/2020	trans-1,3-Dichloropropene	ND	0.026		–	NA
BH-5 (14 ft)	2/26/2020	Trichloroethene	ND	0.026		15.5	NO
BH-5 (14 ft)	2/26/2020	Trichlorofluoromethane	ND	0.026		1,230	NO
BH-5 (14 ft)	2/26/2020	Vinyl Chloride	ND	0.026		0.742	NO
BH-5 (14 ft)	2/26/2020	Xylenes, Total	ND	0.052		871	NO
BH-6 (11 ft)	2/27/2020	1,1,1,2-Tetrachloroethane	ND	0.027		28.1	NO
BH-6 (11 ft)	2/27/2020	1,1,1-Trichloroethane	ND	0.027		14,400	NO
BH-6 (11 ft)	2/27/2020	1,1,2,2-Tetrachloroethane	ND	0.027		7.98	NO
BH-6 (11 ft)	2/27/2020	1,1,2-Trichloroethane	ND	0.027		18.8	NO
BH-6 (11 ft)	2/27/2020	1,1-Dichloroethane	ND	0.027		78.6	NO
BH-6 (11 ft)	2/27/2020	1,1-Dichloroethene	ND	0.027		440	NO
BH-6 (11 ft)	2/27/2020	1,1-Dichloropropene	ND	0.054		–	NA
BH-6 (11 ft)	2/27/2020	1,2,3-Trichlorobenzene	ND	0.054		–	NA
BH-6 (11 ft)	2/27/2020	1,2,3-Trichloropropane	ND	0.054		0.051	NO
BH-6 (11 ft)	2/27/2020	1,2,4-Trichlorobenzene	ND	0.027		240	NO
BH-6 (11 ft)	2/27/2020	1,2,4-Trimethylbenzene	ND	0.027		–	NA
BH-6 (11 ft)	2/27/2020	1,2-Dibromo-3-Chloropropane	ND	0.054		0.0858	NO
BH-6 (11 ft)	2/27/2020	1,2-Dibromoethane	ND	0.027		0.672	NO
BH-6 (11 ft)	2/27/2020	1,2-Dichlorobenzene	ND	0.027		2,150	NO
BH-6 (11 ft)	2/27/2020	1,2-Dichloroethane	ND	0.027		8.32	NO
BH-6 (11 ft)	2/27/2020	1,2-Dichloropropane	ND	0.027		17.8	NO
BH-6 (11 ft)	2/27/2020	1,3,5-Trimethylbenzene	ND	0.027		–	NA
BH-6 (11 ft)	2/27/2020	1,3-Dichlorobenzene	ND	0.027		–	NA
BH-6 (11 ft)	2/27/2020	1,3-Dichloropropane	ND	0.027		–	NA

TABLE 1. SOIL ANALYTICAL DATA
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (mg/kg)	Value RL (mg/kg)	Lab Qualifier	¹ Screening Level (mg/kg)	Screening Level Exceedance
BH-6 (11 ft)	2/27/2020	1,4-Dichlorobenzene	ND	0.027		1,290	NO
BH-6 (11 ft)	2/27/2020	1-Methylnaphthalene	ND	0.11		172	NO
BH-6 (11 ft)	2/27/2020	2,2-Dichloropropane	ND	0.054		–	NA
BH-6 (11 ft)	2/27/2020	2-Butanone	ND	0.27		37,400	NO
BH-6 (11 ft)	2/27/2020	2-Chlorotoluene	ND	0.027		1,560	NO
BH-6 (11 ft)	2/27/2020	2-Hexanone	ND	0.27		–	NA
BH-6 (11 ft)	2/27/2020	2-Methylnaphthalene	ND	0.11		232	NO
BH-6 (11 ft)	2/27/2020	4-Chlorotoluene	ND	0.027		–	NA
BH-6 (11 ft)	2/27/2020	4-Methyl-2-Pentanone	ND	0.27		5,810	NO
BH-6 (11 ft)	2/27/2020	Acetone	ND	0.41		66,300	NO
BH-6 (11 ft)	2/27/2020	Benzene	ND	0.014		17.8	NO
BH-6 (11 ft)	2/27/2020	Bromobenzene	ND	0.027		–	NA
BH-6 (11 ft)	2/27/2020	Bromodichloromethane	ND	0.027		6.19	NO
BH-6 (11 ft)	2/27/2020	Bromoform	ND	0.027		674	NO
BH-6 (11 ft)	2/27/2020	Bromomethane	ND	0.081		17.7	NO
BH-6 (11 ft)	2/27/2020	Carbon Disulfide	ND	0.27		1,550	NO
BH-6 (11 ft)	2/27/2020	Carbon tetrachloride	ND	0.027		10.7	NO
BH-6 (11 ft)	2/27/2020	Chlorobenzene	ND	0.027		378	NO
BH-6 (11 ft)	2/27/2020	Chloroethane	ND	0.054		19,000	NO
BH-6 (11 ft)	2/27/2020	Chloroform	ND	0.027		5.9	NO
BH-6 (11 ft)	2/27/2020	Chloromethane	ND	0.081		41.1	NO
BH-6 (11 ft)	2/27/2020	cis-1,2-Dichloroethene	ND	0.027		156	NO
BH-6 (11 ft)	2/27/2020	cis-1,3-Dichloropropene	ND	0.027		–	NA
BH-6 (11 ft)	2/27/2020	Dibromochloromethane	ND	0.027		13.9	NO
BH-6 (11 ft)	2/27/2020	Dibromomethane	ND	0.027		57.9	NO
BH-6 (11 ft)	2/27/2020	Dichlorodifluoromethane	ND	0.027		182	NO
BH-6 (11 ft)	2/27/2020	Ethylbenzene	ND	0.027		75.1	NO
BH-6 (11 ft)	2/27/2020	Hexachlorobutadiene	ND	0.054		68.3	NO
BH-6 (11 ft)	2/27/2020	Isopropylbenzene	ND	0.027		2,360	NO
BH-6 (11 ft)	2/27/2020	Methylene Chloride	ND	0.081		766	NO
BH-6 (11 ft)	2/27/2020	MTBE	ND	0.027		–	NA
BH-6 (11 ft)	2/27/2020	Naphthalene	ND	0.054		49.7	NO
BH-6 (11 ft)	2/27/2020	n-Butylbenzene	ND	0.081		–	NA
BH-6 (11 ft)	2/27/2020	n-Propylbenzene	ND	0.027		–	NA
BH-6 (11 ft)	2/27/2020	p-Isopropyltoluene	ND	0.027		–	NA
BH-6 (11 ft)	2/27/2020	sec-Butylbenzene	ND	0.027		–	NA
BH-6 (11 ft)	2/27/2020	Styrene	ND	0.027		7,260	NO
BH-6 (11 ft)	2/27/2020	tert-Butylbenzene	ND	0.027		–	NA
BH-6 (11 ft)	2/27/2020	Tetrachloroethene	ND	0.027		337	NO
BH-6 (11 ft)	2/27/2020	Toluene	ND	0.027		5,230	NO
BH-6 (11 ft)	2/27/2020	trans-1,2-Dichloroethene	ND	0.027		295	NO
BH-6 (11 ft)	2/27/2020	trans-1,3-Dichloropropene	ND	0.027		–	NA
BH-6 (11 ft)	2/27/2020	Trichloroethene	ND	0.027		15.5	NO
BH-6 (11 ft)	2/27/2020	Trichlorofluoromethane	ND	0.027		1,230	NO
BH-6 (11 ft)	2/27/2020	Vinyl Chloride	ND	0.027		0.742	NO
BH-6 (11 ft)	2/27/2020	Xylenes, Total	ND	0.054		871	NO
BH-6 (11 ft) Dup	2/27/2020	1,1,1,2-Tetrachloroethane	ND	0.027		28.1	NO
BH-6 (11 ft) Dup	2/27/2020	1,1,1-Trichloroethane	ND	0.027		14,400	NO
BH-6 (11 ft) Dup	2/27/2020	1,1,2,2-Tetrachloroethane	ND	0.027		7.98	NO
BH-6 (11 ft) Dup	2/27/2020	1,1,2-Trichloroethane	ND	0.027		18.8	NO
BH-6 (11 ft) Dup	2/27/2020	1,1-Dichloroethane	ND	0.027		78.6	NO
BH-6 (11 ft) Dup	2/27/2020	1,1-Dichloroethene	ND	0.027		440	NO
BH-6 (11 ft) Dup	2/27/2020	1,1-Dichloropropene	ND	0.053		–	NA
BH-6 (11 ft) Dup	2/27/2020	1,2,3-Trichlorobenzene	ND	0.053		–	NA
BH-6 (11 ft) Dup	2/27/2020	1,2,3-Trichloropropane	ND	0.053		0.051	NO
BH-6 (11 ft) Dup	2/27/2020	1,2,4-Trichlorobenzene	ND	0.027		240	NO
BH-6 (11 ft) Dup	2/27/2020	1,2,4-Trimethylbenzene	ND	0.027		–	NA
BH-6 (11 ft) Dup	2/27/2020	1,2-Dibromo-3-Chloropropane	ND	0.053		0.0858	NO
BH-6 (11 ft) Dup	2/27/2020	1,2-Dibromoethane	ND	0.027		0.672	NO
BH-6 (11 ft) Dup	2/27/2020	1,2-Dichlorobenzene	ND	0.027		2,150	NO
BH-6 (11 ft) Dup	2/27/2020	1,2-Dichloroethane	ND	0.027		8.32	NO
BH-6 (11 ft) Dup	2/27/2020	1,2-Dichloropropane	ND	0.027		17.8	NO
BH-6 (11 ft) Dup	2/27/2020	1,3,5-Trimethylbenzene	ND	0.027		–	NA
BH-6 (11 ft) Dup	2/27/2020	1,3-Dichlorobenzene	ND	0.027		–	NA
BH-6 (11 ft) Dup	2/27/2020	1,3-Dichloropropane	ND	0.027		–	NA
BH-6 (11 ft) Dup	2/27/2020	1,4-Dichlorobenzene	ND	0.027		1,290	NO
BH-6 (11 ft) Dup	2/27/2020	1-Methylnaphthalene	ND	0.11		172	NO
BH-6 (11 ft) Dup	2/27/2020	2,2-Dichloropropane	ND	0.053		–	NA
BH-6 (11 ft) Dup	2/27/2020	2-Butanone	ND	0.27		37,400	NO
BH-6 (11 ft) Dup	2/27/2020	2-Chlorotoluene	ND	0.027		1,560	NO
BH-6 (11 ft) Dup	2/27/2020	2-Hexanone	ND	0.27		–	NA
BH-6 (11 ft) Dup	2/27/2020	2-Methylnaphthalene	ND	0.11		232	NO
BH-6 (11 ft) Dup	2/27/2020	4-Chlorotoluene	ND	0.027		–	NA
BH-6 (11 ft) Dup	2/27/2020	4-Methyl-2-Pentanone	ND	0.27		5,810	NO
BH-6 (11 ft) Dup	2/27/2020	Acetone	ND	0.4		66,300	NO
BH-6 (11 ft) Dup	2/27/2020	Benzene	ND	0.013		17.8	NO
BH-6 (11 ft) Dup	2/27/2020	Bromobenzene	ND	0.027		–	NA
BH-6 (11 ft) Dup	2/27/2020	Bromodichloromethane	ND	0.027		6.19	NO
BH-6 (11 ft) Dup	2/27/2020	Bromoform	ND	0.027		674	NO
BH-6 (11 ft) Dup	2/27/2020	Bromomethane	ND	0.08		17.7	NO
BH-6 (11 ft) Dup	2/27/2020	Carbon Disulfide	ND	0.27		1,550	NO
BH-6 (11 ft) Dup	2/27/2020	Carbon tetrachloride	ND	0.027		10.7	NO
BH-6 (11 ft) Dup	2/27/2020	Chlorobenzene	ND	0.027		378	NO
BH-6 (11 ft) Dup	2/27/2020	Chloroethane	ND	0.053		19,000	NO
BH-6 (11 ft) Dup	2/27/2020	Chloroform	ND	0.027		5.9	NO
BH-6 (11 ft) Dup	2/27/2020	Chloromethane	ND	0.08		41.1	NO

TABLE 1. SOIL ANALYTICAL DATA

MARATHON PETROLEUM COMPANY

MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (mg/kg)	Value RL (mg/kg)	Lab Qualifier	¹ Screening Level (mg/kg)	Screening Level Exceedance
BH-6 (11 ft) Dup	2/27/2020	cis-1,2-Dichloroethene	ND	0.027		156	NO
BH-6 (11 ft) Dup	2/27/2020	cis-1,3-Dichloropropene	ND	0.027		–	NA
BH-6 (11 ft) Dup	2/27/2020	Dibromochloromethane	ND	0.027		13.9	NO
BH-6 (11 ft) Dup	2/27/2020	Dibromomethane	ND	0.027		57.9	NO
BH-6 (11 ft) Dup	2/27/2020	Dichlorodifluoromethane	ND	0.027		182	NO
BH-6 (11 ft) Dup	2/27/2020	Ethylbenzene	ND	0.027		75.1	NO
BH-6 (11 ft) Dup	2/27/2020	Hexachlorobutadiene	ND	0.053		68.3	NO
BH-6 (11 ft) Dup	2/27/2020	Isopropylbenzene	ND	0.027		2,360	NO
BH-6 (11 ft) Dup	2/27/2020	Methylene Chloride	ND	0.08		766	NO
BH-6 (11 ft) Dup	2/27/2020	MTBE	ND	0.027		–	NA
BH-6 (11 ft) Dup	2/27/2020	Naphthalene	ND	0.053		49.7	NO
BH-6 (11 ft) Dup	2/27/2020	n-Butylbenzene	ND	0.08		–	NA
BH-6 (11 ft) Dup	2/27/2020	n-Propylbenzene	ND	0.027		–	NA
BH-6 (11 ft) Dup	2/27/2020	p-Isopropyltoluene	ND	0.027		–	NA
BH-6 (11 ft) Dup	2/27/2020	sec-Butylbenzene	ND	0.027		–	NA
BH-6 (11 ft) Dup	2/27/2020	Styrene	ND	0.027		7,260	NO
BH-6 (11 ft) Dup	2/27/2020	tert-Butylbenzene	ND	0.027		–	NA
BH-6 (11 ft) Dup	2/27/2020	Tetrachloroethene	ND	0.027		337	NO
BH-6 (11 ft) Dup	2/27/2020	Toluene	ND	0.027		5,230	NO
BH-6 (11 ft) Dup	2/27/2020	trans-1,2-Dichloroethene	ND	0.027		295	NO
BH-6 (11 ft) Dup	2/27/2020	trans-1,3-Dichloropropene	ND	0.027		–	NA
BH-6 (11 ft) Dup	2/27/2020	Trichloroethene	ND	0.027		15.5	NO
BH-6 (11 ft) Dup	2/27/2020	Trichlorofluoromethane	ND	0.027		1,230	NO
BH-6 (11 ft) Dup	2/27/2020	Vinyl Chloride	ND	0.027		0.742	NO
BH-6 (11 ft) Dup	2/27/2020	Xylenes, Total	ND	0.053		871	NO
BH-7 (14 ft)	2/27/2020	1,1,1,2-Tetrachloroethane	ND	0.28		28.1	NO
BH-7 (14 ft)	2/27/2020	1,1,1-Trichloroethane	ND	0.28		14,400	NO
BH-7 (14 ft)	2/27/2020	1,1,2,2-Tetrachloroethane	ND	0.28		7.98	NO
BH-7 (14 ft)	2/27/2020	1,1,2-Trichloroethane	ND	0.28		18.8	NO
BH-7 (14 ft)	2/27/2020	1,1-Dichloroethane	ND	0.28		78.6	NO
BH-7 (14 ft)	2/27/2020	1,1-Dichloroethene	ND	0.28		440	NO
BH-7 (14 ft)	2/27/2020	1,1-Dichloropropene	ND	0.56		–	NA
BH-7 (14 ft)	2/27/2020	1,2,3-Trichlorobenzene	ND	0.56		–	NA
BH-7 (14 ft)	2/27/2020	1,2,3-Trichloropropane	ND	0.56		0.051	NO
BH-7 (14 ft)	2/27/2020	1,2,4-Trichlorobenzene	ND	0.28		240	NO
BH-7 (14 ft)	2/27/2020	1,2,4-Trimethylbenzene	ND	0.28		–	NA
BH-7 (14 ft)	2/27/2020	1,2-Dibromo-3-Chloropropane	ND	0.56		0.0858	NO
BH-7 (14 ft)	2/27/2020	1,2-Dibromoethane	ND	0.28		0.672	NO
BH-7 (14 ft)	2/27/2020	1,2-Dichlorobenzene	ND	0.28		2,150	NO
BH-7 (14 ft)	2/27/2020	1,2-Dichloroethane	ND	0.28		8.32	NO
BH-7 (14 ft)	2/27/2020	1,2-Dichloropropane	ND	0.28		17.8	NO
BH-7 (14 ft)	2/27/2020	1,3,5-Trimethylbenzene	ND	0.28		–	NA
BH-7 (14 ft)	2/27/2020	1,3-Dichlorobenzene	ND	0.28		–	NA
BH-7 (14 ft)	2/27/2020	1,3-Dichloropropane	ND	0.28		–	NA
BH-7 (14 ft)	2/27/2020	1,4-Dichlorobenzene	ND	0.28		1,290	NO
BH-7 (14 ft)	2/27/2020	1-Methylnaphthalene	ND	1.1		172	NO
BH-7 (14 ft)	2/27/2020	2,2-Dichloropropane	ND	0.56		–	NA
BH-7 (14 ft)	2/27/2020	2-Butanone	ND	2.8		37,400	NO
BH-7 (14 ft)	2/27/2020	2-Chlorotoluene	ND	0.28		1,560	NO
BH-7 (14 ft)	2/27/2020	2-Hexanone	ND	2.8		–	NA
BH-7 (14 ft)	2/27/2020	2-Methylnaphthalene	ND	1.1		232	NO
BH-7 (14 ft)	2/27/2020	4-Chlorotoluene	ND	0.28		–	NA
BH-7 (14 ft)	2/27/2020	4-Methyl-2-Pentanone	ND	2.8		5,810	NO
BH-7 (14 ft)	2/27/2020	Acetone	ND	4.2		66,300	NO
BH-7 (14 ft)	2/27/2020	Benzene	ND	0.14		17.8	NO
BH-7 (14 ft)	2/27/2020	Bromobenzene	ND	0.28		–	NA
BH-7 (14 ft)	2/27/2020	Bromodichloromethane	ND	0.28		6.19	NO
BH-7 (14 ft)	2/27/2020	Bromoform	ND	0.28		674	NO
BH-7 (14 ft)	2/27/2020	Bromomethane	ND	0.84		17.7	NO
BH-7 (14 ft)	2/27/2020	Carbon Disulfide	ND	2.8		1,550	NO
BH-7 (14 ft)	2/27/2020	Carbon tetrachloride	ND	0.28		10.7	NO
BH-7 (14 ft)	2/27/2020	Chlorobenzene	ND	0.28		378	NO
BH-7 (14 ft)	2/27/2020	Chloroethane	ND	0.56		19,000	NO
BH-7 (14 ft)	2/27/2020	Chloroform	ND	0.28		5.9	NO
BH-7 (14 ft)	2/27/2020	Chloromethane	ND	0.84		41.1	NO
BH-7 (14 ft)	2/27/2020	cis-1,2-Dichloroethene	ND	0.28		156	NO
BH-7 (14 ft)	2/27/2020	cis-1,3-Dichloropropene	ND	0.28		–	NA
BH-7 (14 ft)	2/27/2020	Dibromochloromethane	ND	0.28		13.9	NO
BH-7 (14 ft)	2/27/2020	Dibromomethane	ND	0.28		57.9	NO
BH-7 (14 ft)	2/27/2020	Dichlorodifluoromethane	ND	0.28		182	NO
BH-7 (14 ft)	2/27/2020	Ethylbenzene	ND	0.28		75.1	NO
BH-7 (14 ft)	2/27/2020	Hexachlorobutadiene	ND	0.56		68.3	NO
BH-7 (14 ft)	2/27/2020	Isopropylbenzene	ND	0.28		2,360	NO
BH-7 (14 ft)	2/27/2020	Methylene Chloride	ND	0.84		766	NO
BH-7 (14 ft)	2/27/2020	MTBE	ND	0.28		–	NA
BH-7 (14 ft)	2/27/2020	Naphthalene	ND	0.56		49.7	NO
BH-7 (14 ft)	2/27/2020	n-Butylbenzene	ND	0.84		–	NA
BH-7 (14 ft)	2/27/2020	n-Propylbenzene	ND	0.28		–	NA
BH-7 (14 ft)	2/27/2020	p-Isopropyltoluene	ND	0.28		–	NA
BH-7 (14 ft)	2/27/2020	sec-Butylbenzene	ND	0.28		–	NA
BH-7 (14 ft)	2/27/2020	Styrene	ND	0.28		7,260	NO
BH-7 (14 ft)	2/27/2020	tert-Butylbenzene	ND	0.28		–	NA
BH-7 (14 ft)	2/27/2020	Tetrachloroethene	ND	0.28		337	NO
BH-7 (14 ft)	2/27/2020	Toluene	ND	0.28		5,230	NO
BH-7 (14 ft)	2/27/2020	trans-1,2-Dichloroethene	ND	0.28		295	NO
BH-7 (14 ft)	2/27/2020	trans-1,3-Dichloropropene	ND	0.28		–	NA

TABLE 1. SOIL ANALYTICAL DATA
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (mg/kg)	Value RL (mg/kg)	Lab Qualifier	¹ Screening Level (mg/kg)	Screening Level Exceedance
BH-7 (14 ft)	2/27/2020	Trichloroethene	ND	0.28		15.5	NO
BH-7 (14 ft)	2/27/2020	Trichlorofluoromethane	ND	0.28		1,230	NO
BH-7 (14 ft)	2/27/2020	Vinyl Chloride	ND	0.28		0.742	NO
BH-7 (14 ft)	2/27/2020	Xylenes, Total	ND	0.56		871	NO
BH-8 (8 ft)	2/25/2020	1,1,1,2-Tetrachloroethane	ND	0.029	D	28.1	NO
BH-8 (8 ft)	2/25/2020	1,1,1-Trichloroethane	ND	0.029	D	14,400	NO
BH-8 (8 ft)	2/25/2020	1,1,2,2-Tetrachloroethane	ND	0.029	D	7.98	NO
BH-8 (8 ft)	2/25/2020	1,1,2-Trichloroethane	ND	0.029	D	18.8	NO
BH-8 (8 ft)	2/25/2020	1,1-Dichloroethane	ND	0.029	D	78.6	NO
BH-8 (8 ft)	2/25/2020	1,1-Dichloroethene	ND	0.029	D	440	NO
BH-8 (8 ft)	2/25/2020	1,1-Dichloropropene	ND	0.058	D	–	NA
BH-8 (8 ft)	2/25/2020	1,2,3-Trichlorobenzene	ND	0.058	D	–	NA
BH-8 (8 ft)	2/25/2020	1,2,3-Trichloropropane	ND	0.058	D	0.051	NO
BH-8 (8 ft)	2/25/2020	1,2,4-Trichlorobenzene	ND	0.029	D	240	NO
BH-8 (8 ft)	2/25/2020	1,2,4-Trimethylbenzene	1.8	0.029	D	–	NA
BH-8 (8 ft)	2/25/2020	1,2-Dibromo-3-Chloropropane	ND	0.058	D	0.0858	NO
BH-8 (8 ft)	2/25/2020	1,2-Dibromoethane	ND	0.029	D	0.672	NO
BH-8 (8 ft)	2/25/2020	1,2-Dichlorobenzene	ND	0.029	D	2,150	NO
BH-8 (8 ft)	2/25/2020	1,2-Dichloroethane	ND	0.029	D	8.32	NO
BH-8 (8 ft)	2/25/2020	1,2-Dichloropropane	ND	0.029	D	17.8	NO
BH-8 (8 ft)	2/25/2020	1,3,5-Trimethylbenzene	1.1	0.029	D	–	NA
BH-8 (8 ft)	2/25/2020	1,3-Dichlorobenzene	ND	0.029	D	–	NA
BH-8 (8 ft)	2/25/2020	1,3-Dichloropropane	ND	0.029	D	–	NA
BH-8 (8 ft)	2/25/2020	1,4-Dichlorobenzene	ND	0.029	D	1,290	NO
BH-8 (8 ft)	2/25/2020	1-Methylnaphthalene	ND	0.12	D	172	NO
BH-8 (8 ft)	2/25/2020	2,2-Dichloropropane	ND	0.058	D	–	NA
BH-8 (8 ft)	2/25/2020	2-Butanone	ND	0.29	D	37,400	NO
BH-8 (8 ft)	2/25/2020	2-Chlorotoluene	ND	0.029	D	1,560	NO
BH-8 (8 ft)	2/25/2020	2-Hexanone	ND	0.29	D	–	NA
BH-8 (8 ft)	2/25/2020	2-Methylnaphthalene	ND	0.12	D	232	NO
BH-8 (8 ft)	2/25/2020	4-Chlorotoluene	ND	0.029	D	–	NA
BH-8 (8 ft)	2/25/2020	4-Methyl-2-Pentanone	ND	0.29	D	5,810	NO
BH-8 (8 ft)	2/25/2020	Acetone	ND	0.43	D	66,300	NO
BH-8 (8 ft)	2/25/2020	Benzene	1.8	0.014	D	17.8	NO
BH-8 (8 ft)	2/25/2020	Bromobenzene	ND	0.029	D	–	NA
BH-8 (8 ft)	2/25/2020	Bromodichloromethane	ND	0.029	D	6.19	NO
BH-8 (8 ft)	2/25/2020	Bromoform	ND	0.029	D	674	NO
BH-8 (8 ft)	2/25/2020	Bromomethane	ND	0.087	D	17.7	NO
BH-8 (8 ft)	2/25/2020	Carbon Disulfide	ND	0.29	D	1,550	NO
BH-8 (8 ft)	2/25/2020	Carbon tetrachloride	ND	0.029	D	10.7	NO
BH-8 (8 ft)	2/25/2020	Chlorobenzene	ND	0.029	D	378	NO
BH-8 (8 ft)	2/25/2020	Chloroethane	ND	0.058	D	19,000	NO
BH-8 (8 ft)	2/25/2020	Chloroform	ND	0.029	D	5.9	NO
BH-8 (8 ft)	2/25/2020	Chloromethane	ND	0.087	D	41.1	NO
BH-8 (8 ft)	2/25/2020	cis-1,2-Dichloroethene	ND	0.029	D	156	NO
BH-8 (8 ft)	2/25/2020	cis-1,3-Dichloropropene	ND	0.029	D	–	NA
BH-8 (8 ft)	2/25/2020	Dibromochloromethane	ND	0.029	D	13.9	NO
BH-8 (8 ft)	2/25/2020	Dibromomethane	ND	0.029	D	57.9	NO
BH-8 (8 ft)	2/25/2020	Dichlorodifluoromethane	ND	0.029	D	182	NO
BH-8 (8 ft)	2/25/2020	Ethylbenzene	2.5	0.029	D	75.1	NO
BH-8 (8 ft)	2/25/2020	Hexachlorobutadiene	ND	0.058	D	68.3	NO
BH-8 (8 ft)	2/25/2020	Isopropylbenzene	0.56	0.029	D	2,360	NO
BH-8 (8 ft)	2/25/2020	Methylene Chloride	ND	0.087	D	766	NO
BH-8 (8 ft)	2/25/2020	MTBE	ND	0.029	D	–	NA
BH-8 (8 ft)	2/25/2020	Naphthalene	ND	0.058	D	49.7	NO
BH-8 (8 ft)	2/25/2020	n-Butylbenzene	ND	0.087	D	–	NA
BH-8 (8 ft)	2/25/2020	n-Propylbenzene	0.56	0.029	D	–	NA
BH-8 (8 ft)	2/25/2020	p-Isopropyltoluene	ND	0.029	D	–	NA
BH-8 (8 ft)	2/25/2020	sec-Butylbenzene	0.28	0.029	D	–	NA
BH-8 (8 ft)	2/25/2020	Styrene	ND	0.029	D	7,260	NO
BH-8 (8 ft)	2/25/2020	tert-Butylbenzene	ND	0.029	D	–	NA
BH-8 (8 ft)	2/25/2020	Tetrachloroethene	ND	0.029	D	337	NO
BH-8 (8 ft)	2/25/2020	Toluene	0.36	0.029	D	5,230	NO
BH-8 (8 ft)	2/25/2020	trans-1,2-Dichloroethene	ND	0.029	D	295	NO
BH-8 (8 ft)	2/25/2020	trans-1,3-Dichloropropene	ND	0.029	D	–	NA
BH-8 (8 ft)	2/25/2020	Trichloroethene	ND	0.029	D	15.5	NO
BH-8 (8 ft)	2/25/2020	Trichlorofluoromethane	ND	0.029	D	1,230	NO
BH-8 (8 ft)	2/25/2020	Vinyl Chloride	ND	0.029	D	0.742	NO
BH-8 (8 ft)	2/25/2020	Xylenes, Total	21	0.058	D	871	NO
BH-9 (19 ft)	2/26/2020	1,1,1,2-Tetrachloroethane	ND	0.028		28.1	NO
BH-9 (19 ft)	2/26/2020	1,1,1-Trichloroethane	ND	0.028		14,400	NO
BH-9 (19 ft)	2/26/2020	1,1,2,2-Tetrachloroethane	ND	0.028		7.98	NO
BH-9 (19 ft)	2/26/2020	1,1,2-Trichloroethane	ND	0.028		18.8	NO
BH-9 (19 ft)	2/26/2020	1,1-Dichloroethane	ND	0.028		78.6	NO
BH-9 (19 ft)	2/26/2020	1,1-Dichloroethene	ND	0.028		440	NO
BH-9 (19 ft)	2/26/2020	1,1-Dichloropropene	ND	0.056		–	NA
BH-9 (19 ft)	2/26/2020	1,2,3-Trichlorobenzene	ND	0.056		–	NA
BH-9 (19 ft)	2/26/2020	1,2,3-Trichloropropane	ND	0.056		0.051	NO
BH-9 (19 ft)	2/26/2020	1,2,4-Trichlorobenzene	ND	0.028		240	NO
BH-9 (19 ft)	2/26/2020	1,2,4-Trimethylbenzene	ND	0.028		–	NA
BH-9 (19 ft)	2/26/2020	1,2-Dibromo-3-Chloropropane	ND	0.056		0.0858	NO
BH-9 (19 ft)	2/26/2020	1,2-Dibromoethane	ND	0.028		0.672	NO
BH-9 (19 ft)	2/26/2020	1,2-Dichlorobenzene	ND	0.028		2,150	NO
BH-9 (19 ft)	2/26/2020	1,2-Dichloroethane	ND	0.028		8.32	NO
BH-9 (19 ft)	2/26/2020	1,2-Dichloropropane	ND	0.028		17.8	NO
BH-9 (19 ft)	2/26/2020	1,3,5-Trimethylbenzene	ND	0.028		–	NA

TABLE 1. SOIL ANALYTICAL DATA
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (mg/kg)	Value RL (mg/kg)	Lab Qualifier	¹ Screening Level (mg/kg)	Screening Level Exceedance
BH-9 (19 ft)	2/26/2020	1,3-Dichlorobenzene	ND	0.028		–	NA
BH-9 (19 ft)	2/26/2020	1,3-Dichloropropane	ND	0.028		–	NA
BH-9 (19 ft)	2/26/2020	1,4-Dichlorobenzene	ND	0.028		1,290	NO
BH-9 (19 ft)	2/26/2020	1-Methylnaphthalene	ND	0.11		172	NO
BH-9 (19 ft)	2/26/2020	2,2-Dichloropropane	ND	0.056		–	NA
BH-9 (19 ft)	2/26/2020	2-Butanone	ND	0.28		37,400	NO
BH-9 (19 ft)	2/26/2020	2-Chlorotoluene	ND	0.028		1,560	NO
BH-9 (19 ft)	2/26/2020	2-Hexanone	ND	0.28		–	NA
BH-9 (19 ft)	2/26/2020	2-Methylnaphthalene	ND	0.11		232	NO
BH-9 (19 ft)	2/26/2020	4-Chlorotoluene	ND	0.028		–	NA
BH-9 (19 ft)	2/26/2020	4-Methyl-2-Pentanone	ND	0.28		5,810	NO
BH-9 (19 ft)	2/26/2020	Acetone	ND	0.42		66,300	NO
BH-9 (19 ft)	2/26/2020	Benzene	0.52	0.014		17.8	NO
BH-9 (19 ft)	2/26/2020	Bromobenzene	ND	0.028		–	NA
BH-9 (19 ft)	2/26/2020	Bromodichloromethane	ND	0.028		6.19	NO
BH-9 (19 ft)	2/26/2020	Bromoform	ND	0.028		674	NO
BH-9 (19 ft)	2/26/2020	Bromomethane	ND	0.084		17.7	NO
BH-9 (19 ft)	2/26/2020	Carbon Disulfide	ND	0.28		1,550	NO
BH-9 (19 ft)	2/26/2020	Carbon tetrachloride	ND	0.028		10.7	NO
BH-9 (19 ft)	2/26/2020	Chlorobenzene	ND	0.028		378	NO
BH-9 (19 ft)	2/26/2020	Chloroethane	ND	0.056		19,000	NO
BH-9 (19 ft)	2/26/2020	Chloroform	ND	0.028		5.9	NO
BH-9 (19 ft)	2/26/2020	Chloromethane	ND	0.084		41.1	NO
BH-9 (19 ft)	2/26/2020	cis-1,2-Dichloroethene	ND	0.028		156	NO
BH-9 (19 ft)	2/26/2020	cis-1,3-Dichloropropene	ND	0.028		–	NA
BH-9 (19 ft)	2/26/2020	Dibromochloromethane	ND	0.028		13.9	NO
BH-9 (19 ft)	2/26/2020	Dibromomethane	ND	0.028		57.9	NO
BH-9 (19 ft)	2/26/2020	Dichlorodifluoromethane	ND	0.028		182	NO
BH-9 (19 ft)	2/26/2020	Ethylbenzene	ND	0.028		75.1	NO
BH-9 (19 ft)	2/26/2020	Hexachlorobutadiene	ND	0.056		68.3	NO
BH-9 (19 ft)	2/26/2020	Isopropylbenzene	ND	0.028		2,360	NO
BH-9 (19 ft)	2/26/2020	Methylene Chloride	ND	0.084		766	NO
BH-9 (19 ft)	2/26/2020	MTBE	ND	0.028		–	NA
BH-9 (19 ft)	2/26/2020	Naphthalene	ND	0.056		49.7	NO
BH-9 (19 ft)	2/26/2020	n-Butylbenzene	ND	0.084		–	NA
BH-9 (19 ft)	2/26/2020	n-Propylbenzene	ND	0.028		–	NA
BH-9 (19 ft)	2/26/2020	p-Isopropyltoluene	ND	0.028		–	NA
BH-9 (19 ft)	2/26/2020	sec-Butylbenzene	ND	0.028		–	NA
BH-9 (19 ft)	2/26/2020	Styrene	ND	0.028		7,260	NO
BH-9 (19 ft)	2/26/2020	tert-Butylbenzene	ND	0.028		–	NA
BH-9 (19 ft)	2/26/2020	Tetrachloroethene	ND	0.028		337	NO
BH-9 (19 ft)	2/26/2020	Toluene	ND	0.028		5,230	NO
BH-9 (19 ft)	2/26/2020	trans-1,2-Dichloroethene	ND	0.028		295	NO
BH-9 (19 ft)	2/26/2020	trans-1,3-Dichloropropene	ND	0.028		–	NA
BH-9 (19 ft)	2/26/2020	Trichloroethene	ND	0.028		15.5	NO
BH-9 (19 ft)	2/26/2020	Trichlorofluoromethane	ND	0.028		1,230	NO
BH-9 (19 ft)	2/26/2020	Vinyl Chloride	ND	0.028		0.742	NO
BH-9 (19 ft)	2/26/2020	Xylenes, Total	ND	0.056		871	NO

Notes:
¹ NMED SSL's - New Mexico Environmental Department Industrial and Residential Soil Screening Levels, June 2019.
D = Lab qualifier; sample diluted due to matrix.
ft = Feet.
mg/kg = Milligrams per kilogram.
– = No standard established.
NA = No applicable standard.
ND = Not detected.
RL = Laboratory reporting limit.

**TABLE 2A. GROUNDWATER ANALYTICAL DATA - VOCS
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO**

Location	Date Sampled	Analyte	Method Category	Lab Result (µg/L)	Value RL (µg/L)	Lab Qualifier	¹ Screening Level (µg/L)	Screening Level Exceedance
BH-1	2/27/2020	Benzene	VOC	16000	500		5	YES
	2/27/2020	Ethylbenzene	VOC	170	5		700	NO
	2/27/2020	Xylenes, Total	VOC	1500	75		620*	YES
	2/27/2020	Toluene	VOC	56	5		1000*	NO
BH-2	2/27/2020	Benzene	VOC	20000	1000		5	YES
	2/27/2020	Ethylbenzene	VOC	120	10		700	NO
	2/27/2020	Xylenes, Total	VOC	720	15		620*	YES
	2/27/2020	Toluene	VOC	310	10		1000*	NO
BH-3	2/27/2020	Benzene	VOC	30000	1000		5	YES
	2/27/2020	Ethylbenzene	VOC	220	10		700	NO
	2/27/2020	Xylenes, Total	VOC	1800	15		620*	YES
	2/27/2020	Toluene	VOC	2300	100		1000*	YES
BH-4	2/27/2020	Benzene	VOC	63	0.5		5	YES
	2/27/2020	Ethylbenzene	VOC	1.8	1		700	NO
	2/27/2020	Xylenes, Total	VOC	7.9	1.5		620*	NO
	2/27/2020	Toluene	VOC	3	1		1000*	NO
BH-5	2/27/2020	Benzene	VOC	29	0.5		5	YES
	2/27/2020	Ethylbenzene	VOC	3	1		700	NO
	2/27/2020	Xylenes, Total	VOC	26	1.5		620*	NO
	2/27/2020	Toluene	VOC	5.5	1		1000*	NO
BH-6	2/28/2020	Benzene	VOC	24	1		5	YES
	2/28/2020	Ethylbenzene	VOC	1.5	1		700	NO
	2/28/2020	Xylenes, Total	VOC	0.95	1.5	J	620*	NO
	2/28/2020	Toluene	VOC	0.9	1	J	1000*	NO
BH-6 Dup	2/28/2020	Benzene	VOC	25	1		5	YES
	2/28/2020	Ethylbenzene	VOC	1.7	1	J	700	NO
	2/28/2020	Xylenes, Total	VOC	1.4	1.5		620*	NO
	2/28/2020	Toluene	VOC	0.99	1	J	1000*	NO
BH-7	2/28/2020	Benzene	VOC	13000	1000		5	YES
	2/28/2020	Ethylbenzene	VOC	65	1		700	NO
	2/28/2020	Xylenes, Total	VOC	480	15		620*	NO
	2/28/2020	Toluene	VOC	6.4	1		1000*	NO
BH-8	2/27/2020	Benzene	VOC	160	5		5	YES
	2/27/2020	Ethylbenzene	VOC	56	10		700	NO
	2/27/2020	Xylenes, Total	VOC	560	15		620*	NO
	2/27/2020	Toluene	VOC	72	10		1000*	NO
BH-9	2/27/2020	Benzene	VOC	2700	100		5	YES
	2/27/2020	Ethylbenzene	VOC	48	1		700	NO
	2/27/2020	Xylenes, Total	VOC	290	1.5		620*	NO
	2/27/2020	Toluene	VOC	9.2	1		1000*	NO

Notes:

¹ United States Environmental Protection Agency Maximum Contaminant Levels (MCL), Tap Water HQ 1.0, 2019 used, unless otherwise specified.

* = NMAC 20.6.2 - New Mexico Administrative Code Ground and Surface Water Protection, December 2018.

VOCS = Volatile organic compounds.

J = Lab qualifier; analyte detected below quantitation limits.

µg/L = Micrograms per liter.

– = No Standard established.

ND = Not detected.

RL = Laboratory reporting limit.

TABLE 2B. GROUNDWATER ANALYTICAL DATA - SVOCs
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (µg/L)	Value RL (µg/L)	Lab Qualifier	¹ Screening Level (µg/L)	Screening Level Exceedance
BH-1	2/27/2020	1,2,4-Trichlorobenzene	ND	10		70	NO
BH-1	2/27/2020	1,2-Dichlorobenzene	ND	10		600	NO
BH-1	2/27/2020	1,3-Dichlorobenzene	ND	10		–	NA
BH-1	2/27/2020	1,4-Dichlorobenzene	10	10		75	NO
BH-1	2/27/2020	1-Methylnaphthalene	ND	10	J	–	NA
BH-1	2/27/2020	2,4,5-Trichlorophenol	ND	20		–	NA
BH-1	2/27/2020	2,4,6-Trichlorophenol	ND	10		–	NA
BH-1	2/27/2020	2,4-Dichlorophenol	ND	10		–	NA
BH-1	2/27/2020	2,4-Dimethylphenol	ND	10		–	NA
BH-1	2/27/2020	2,4-Dinitrophenol	ND	10		–	NA
BH-1	2/27/2020	2,4-Dinitrotoluene	ND	10		–	NA
BH-1	2/27/2020	2,6-Dinitrotoluene	ND	10		–	NA
BH-1	2/27/2020	2-Chloronaphthalene	ND	10		–	NA
BH-1	2/27/2020	2-Chlorophenol	ND	10		–	NA
BH-1	2/27/2020	2-Methylnaphthalene	ND	10	J	–	NA
BH-1	2/27/2020	2-Methylphenol	ND	10		–	NA
BH-1	2/27/2020	2-Nitroaniline	ND	10		–	NA
BH-1	2/27/2020	2-Nitrophenol	ND	10		–	NA
BH-1	2/27/2020	3,3-Dichlorobenzidine	ND	10		–	NA
BH-1	2/27/2020	3,4-Methylphenol	ND	10		–	NA
BH-1	2/27/2020	3-Nitroaniline	ND	10		–	NA
BH-1	2/27/2020	4,6-Dinitro-2-methylphenol	ND	10		–	NA
BH-1	2/27/2020	4-Bromophenyl-phenylether	8.4	10		–	NA
BH-1	2/27/2020	4-Chloro-3-Methylphenol	ND	10		–	NA
BH-1	2/27/2020	4-Chloroaniline	ND	10		–	NA
BH-1	2/27/2020	4-Chlorophenyl-phenylether	ND	10		–	NA
BH-1	2/27/2020	4-Nitroaniline	13	20		–	NA
BH-1	2/27/2020	4-Nitrophenol	ND	10		–	NA
BH-1	2/27/2020	Acenaphthene	ND	10		–	NA
BH-1	2/27/2020	Acenaphthylene	ND	10		–	NA
BH-1	2/27/2020	Aniline	ND	10		–	NA
BH-1	2/27/2020	Anthracene	ND	10		–	NA
BH-1	2/27/2020	Azobenzene	ND	10		–	NA
BH-1	2/27/2020	Benzo(a)anthracene	ND	10		–	NA
BH-1	2/27/2020	Benzo(a)pyrene	ND	10		0.2	NO
BH-1	2/27/2020	Benzo(b)fluoranthene	ND	10		–	NA
BH-1	2/27/2020	Benzo(g,h,i)perylene	ND	10		–	NA
BH-1	2/27/2020	Benzo(k)fluoranthene	49	10		–	NA
BH-1	2/27/2020	Benzoic Acid	ND	20	J	–	NA
BH-1	2/27/2020	Benzyl Alcohol	ND	10		–	NA
BH-1	2/27/2020	Bis(2-chloroethoxy)methane	ND	10		–	NA
BH-1	2/27/2020	Bis(2-chloroethyl)ether	ND	20		–	NA
BH-1	2/27/2020	Bis(2-chloroisopropyl)ether	ND	10		–	NA
BH-1	2/27/2020	Bis(2-ethylhexyl)phthalate	ND	10		6	NO
BH-1	2/27/2020	Butylbenzylphthalate	ND	10		–	NA
BH-1	2/27/2020	Carbazole	ND	10		–	NA
BH-1	2/27/2020	Chrysene	ND	10		–	NA
BH-1	2/27/2020	Dibenzo(a,h)anthracene	ND	10		–	NA
BH-1	2/27/2020	Dibenzofuran	ND	10		–	NA

TABLE 2B. GROUNDWATER ANALYTICAL DATA - SVOCs
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (µg/L)	Value RL (µg/L)	Lab Qualifier	¹ Screening Level (µg/L)	Screening Level Exceedance
BH-1	2/27/2020	Diethylphthalate	ND	10		–	NA
BH-1	2/27/2020	Dimethylphthalate	15	10		–	NA
BH-1	2/27/2020	Di-n-butylphthalate	ND	10		–	NA
BH-1	2/27/2020	Di-n-octylphthalate	ND	10		–	NA
BH-1	2/27/2020	Fluoranthene	ND	10		–	NA
BH-1	2/27/2020	Fluorene	10	10		–	NA
BH-1	2/27/2020	Hexachlorobenzene	ND	10		1	NO
BH-1	2/27/2020	Hexachlorobutadiene	ND	10		–	NA
BH-1	2/27/2020	Hexachlorocyclopentadiene	ND	10		50	NO
BH-1	2/27/2020	Hexachloroethane	ND	10		–	NA
BH-1	2/27/2020	Indeno(1,2,3-cd)pyrene	ND	10		–	NA
BH-1	2/27/2020	Isophorone	ND	10		–	NA
BH-1	2/27/2020	Naphthalene	ND	10		–	NA
BH-1	2/27/2020	Nitrobenzene	ND	10		–	NA
BH-1	2/27/2020	N-Nitrosodimethylamine	7.1	10		–	NA
BH-1	2/27/2020	N-Nitrosodi-n-propylamine	ND	20		–	NA
BH-1	2/27/2020	N-Nitrosodiphenylamine	ND	10		–	NA
BH-1	2/27/2020	Pentachlorophenol	ND	10		1	NO
BH-1	2/27/2020	Phenanthrene	ND	10		–	NA
BH-1	2/27/2020	Phenol	ND	10		–	NA
BH-1	2/27/2020	Pyrene	ND	10		–	NA
BH-1	2/27/2020	Pyridine	ND	10		–	NA
BH-2	2/27/2020	1,2,4-Trichlorobenzene	ND	10		70	NO
BH-2	2/27/2020	1,2-Dichlorobenzene	ND	10		600	NO
BH-2	2/27/2020	1,3-Dichlorobenzene	ND	10		–	NA
BH-2	2/27/2020	1,4-Dichlorobenzene	ND	10		75	NO
BH-2	2/27/2020	1-Methylnaphthalene	ND	10	J	–	NA
BH-2	2/27/2020	2,4,5-Trichlorophenol	ND	20		–	NA
BH-2	2/27/2020	2,4,6-Trichlorophenol	ND	10		–	NA
BH-2	2/27/2020	2,4-Dichlorophenol	ND	10		–	NA
BH-2	2/27/2020	2,4-Dimethylphenol	ND	10		–	NA
BH-2	2/27/2020	2,4-Dinitrophenol	ND	10		–	NA
BH-2	2/27/2020	2,4-Dinitrotoluene	ND	10		–	NA
BH-2	2/27/2020	2,6-Dinitrotoluene	ND	10		–	NA
BH-2	2/27/2020	2-Chloronaphthalene	ND	10		–	NA
BH-2	2/27/2020	2-Chlorophenol	ND	10		–	NA
BH-2	2/27/2020	2-Methylnaphthalene	ND	10	J	–	NA
BH-2	2/27/2020	2-Methylphenol	ND	10		–	NA
BH-2	2/27/2020	2-Nitroaniline	ND	10		–	NA
BH-2	2/27/2020	2-Nitrophenol	ND	10		–	NA
BH-2	2/27/2020	3,3-Dichlorobenzidine	ND	10		–	NA
BH-2	2/27/2020	3,4-Methylphenol	ND	10		–	NA
BH-2	2/27/2020	3-Nitroaniline	ND	10		–	NA
BH-2	2/27/2020	4,6-Dinitro-2-methylphenol	ND	10		–	NA
BH-2	2/27/2020	4-Bromophenyl-phenylether	13	10		–	NA
BH-2	2/27/2020	4-Chloro-3-Methylphenol	ND	10		–	NA
BH-2	2/27/2020	4-Chloroaniline	ND	10		–	NA
BH-2	2/27/2020	4-Chlorophenyl-phenylether	ND	10		–	NA
BH-2	2/27/2020	4-Nitroaniline	35	20		–	NA

TABLE 2B. GROUNDWATER ANALYTICAL DATA - SVOCs
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (µg/L)	Value RL (µg/L)	Lab Qualifier	¹ Screening Level (µg/L)	Screening Level Exceedance
BH-2	2/27/2020	4-Nitrophenol	ND	10		–	NA
BH-2	2/27/2020	Acenaphthene	ND	10		–	NA
BH-2	2/27/2020	Acenaphthylene	ND	10		–	NA
BH-2	2/27/2020	Aniline	ND	10		–	NA
BH-2	2/27/2020	Anthracene	ND	10		–	NA
BH-2	2/27/2020	Azobenzene	ND	10		–	NA
BH-2	2/27/2020	Benzo(a)anthracene	ND	10		–	NA
BH-2	2/27/2020	Benzo(a)pyrene	ND	10		0.2	NO
BH-2	2/27/2020	Benzo(b)fluoranthene	ND	10		–	NA
BH-2	2/27/2020	Benzo(g,h,i)perylene	ND	10		–	NA
BH-2	2/27/2020	Benzo(k)fluoranthene	54	10		–	NA
BH-2	2/27/2020	Benzoic Acid	ND	20		–	NA
BH-2	2/27/2020	Benzyl Alcohol	ND	10		–	NA
BH-2	2/27/2020	Bis(2-chloroethoxy)methane	ND	10		–	NA
BH-2	2/27/2020	Bis(2-chloroethyl)ether	ND	20		–	NA
BH-2	2/27/2020	Bis(2-chloroisopropyl)ether	ND	10		–	NA
BH-2	2/27/2020	Bis(2-ethylhexyl)phthalate	ND	10		6	NO
BH-2	2/27/2020	Butylbenzylphthalate	ND	10		–	NA
BH-2	2/27/2020	Carbazole	ND	10		–	NA
BH-2	2/27/2020	Chrysene	ND	10		–	NA
BH-2	2/27/2020	Dibenzo(a,h)anthracene	ND	10		–	NA
BH-2	2/27/2020	Dibenzofuran	ND	10		–	NA
BH-2	2/27/2020	Diethylphthalate	ND	10		–	NA
BH-2	2/27/2020	Dimethylphthalate	17	10		–	NA
BH-2	2/27/2020	Di-n-butylphthalate	ND	10		–	NA
BH-2	2/27/2020	Di-n-octylphthalate	ND	10		–	NA
BH-2	2/27/2020	Fluoranthene	ND	10		–	NA
BH-2	2/27/2020	Fluorene	28	10		–	NA
BH-2	2/27/2020	Hexachlorobenzene	ND	10		1	NO
BH-2	2/27/2020	Hexachlorobutadiene	ND	10		–	NA
BH-2	2/27/2020	Hexachlorocyclopentadiene	ND	10		50	NO
BH-2	2/27/2020	Hexachloroethane	ND	10		–	NA
BH-2	2/27/2020	Indeno(1,2,3-cd)pyrene	ND	10		–	NA
BH-2	2/27/2020	Isophorone	ND	10		–	NA
BH-2	2/27/2020	Naphthalene	ND	10		–	NA
BH-2	2/27/2020	Nitrobenzene	ND	10		–	NA
BH-2	2/27/2020	N-Nitrosodimethylamine	12	10		–	NA
BH-2	2/27/2020	N-Nitrosodi-n-propylamine	ND	20		–	NA
BH-2	2/27/2020	N-Nitrosodiphenylamine	ND	10		–	NA
BH-2	2/27/2020	Pentachlorophenol	ND	10		1	NO
BH-2	2/27/2020	Phenanthrene	ND	10		–	NA
BH-2	2/27/2020	Phenol	ND	10		–	NA
BH-2	2/27/2020	Pyrene	ND	10		–	NA
BH-2	2/27/2020	Pyridine	ND	10		–	NA
BH-3	2/27/2020	1,2,4-Trichlorobenzene	ND	10		70	NO
BH-3	2/27/2020	1,2-Dichlorobenzene	ND	10		600	NO
BH-3	2/27/2020	1,3-Dichlorobenzene	ND	10		–	NA
BH-3	2/27/2020	1,4-Dichlorobenzene	4.1	10		75	NO
BH-3	2/27/2020	1-Methylnaphthalene	ND	10		–	NA

**TABLE 2B. GROUNDWATER ANALYTICAL DATA - SVOCs
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO**

Location	Date Sampled	Analyte	Lab Result (µg/L)	Value RL (µg/L)	Lab Qualifier	¹ Screening Level (µg/L)	Screening Level Exceedance
BH-3	2/27/2020	2,4,5-Trichlorophenol	ND	20		–	NA
BH-3	2/27/2020	2,4,6-Trichlorophenol	ND	10		–	NA
BH-3	2/27/2020	2,4-Dichlorophenol	ND	10		–	NA
BH-3	2/27/2020	2,4-Dimethylphenol	ND	10		–	NA
BH-3	2/27/2020	2,4-Dinitrophenol	78	10		–	NA
BH-3	2/27/2020	2,4-Dinitrotoluene	ND	10		–	NA
BH-3	2/27/2020	2,6-Dinitrotoluene	ND	10		–	NA
BH-3	2/27/2020	2-Chloronaphthalene	ND	10		–	NA
BH-3	2/27/2020	2-Chlorophenol	ND	10		–	NA
BH-3	2/27/2020	2-Methylnaphthalene	ND	10		–	NA
BH-3	2/27/2020	2-Methylphenol	ND	10	J	–	NA
BH-3	2/27/2020	2-Nitroaniline	ND	10		–	NA
BH-3	2/27/2020	2-Nitrophenol	ND	10		–	NA
BH-3	2/27/2020	3,3-Dichlorobenzidine	ND	10		–	NA
BH-3	2/27/2020	3,4-Methylphenol	ND	10		–	NA
BH-3	2/27/2020	3-Nitroaniline	ND	10		–	NA
BH-3	2/27/2020	4,6-Dinitro-2-methylphenol	ND	10		–	NA
BH-3	2/27/2020	4-Bromophenyl-phenylether	ND	10		–	NA
BH-3	2/27/2020	4-Chloro-3-Methylphenol	ND	10		–	NA
BH-3	2/27/2020	4-Chloroaniline	ND	10		–	NA
BH-3	2/27/2020	4-Chlorophenyl-phenylether	ND	10		–	NA
BH-3	2/27/2020	4-Nitroaniline	250	40		–	NA
BH-3	2/27/2020	4-Nitrophenol	ND	10		–	NA
BH-3	2/27/2020	Acenaphthene	ND	10		–	NA
BH-3	2/27/2020	Acenaphthylene	ND	10		–	NA
BH-3	2/27/2020	Aniline	ND	10		–	NA
BH-3	2/27/2020	Anthracene	ND	10		–	NA
BH-3	2/27/2020	Azobenzene	ND	10		–	NA
BH-3	2/27/2020	Benzo(a)anthracene	ND	10		–	NA
BH-3	2/27/2020	Benzo(a)pyrene	ND	10		0.2	NO
BH-3	2/27/2020	Benzo(b)fluoranthene	ND	10		–	NA
BH-3	2/27/2020	Benzo(g,h,i)perylene	ND	10		–	NA
BH-3	2/27/2020	Benzo(k)fluoranthene	120	10		–	NA
BH-3	2/27/2020	Benzoic Acid	ND	20		–	NA
BH-3	2/27/2020	Benzyl Alcohol	ND	10		–	NA
BH-3	2/27/2020	Bis(2-chloroethoxy)methane	ND	10		–	NA
BH-3	2/27/2020	Bis(2-chloroethyl)ether	ND	20		–	NA
BH-3	2/27/2020	Bis(2-chloroisopropyl)ether	ND	10		–	NA
BH-3	2/27/2020	Bis(2-ethylhexyl)phthalate	ND	10		6	NO
BH-3	2/27/2020	Butylbenzylphthalate	ND	10		–	NA
BH-3	2/27/2020	Carbazole	ND	10		–	NA
BH-3	2/27/2020	Chrysene	ND	10		–	NA
BH-3	2/27/2020	Dibenzo(a,h)anthracene	ND	10		–	NA
BH-3	2/27/2020	Dibenzofuran	ND	10		–	NA
BH-3	2/27/2020	Diethylphthalate	ND	10		–	NA
BH-3	2/27/2020	Dimethylphthalate	ND	10		–	NA
BH-3	2/27/2020	Di-n-butylphthalate	ND	10		–	NA
BH-3	2/27/2020	Di-n-octylphthalate	ND	10		–	NA
BH-3	2/27/2020	Fluoranthene	ND	10		–	NA

TABLE 2B. GROUNDWATER ANALYTICAL DATA - SVOCs
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (µg/L)	Value RL (µg/L)	Lab Qualifier	¹ Screening Level (µg/L)	Screening Level Exceedance
BH-3	2/27/2020	Fluorene	ND	10		–	NA
BH-3	2/27/2020	Hexachlorobenzene	ND	10		1	NO
BH-3	2/27/2020	Hexachlorobutadiene	ND	10		–	NA
BH-3	2/27/2020	Hexachlorocyclopentadiene	ND	10		50	NO
BH-3	2/27/2020	Hexachloroethane	ND	10		–	NA
BH-3	2/27/2020	Indeno(1,2,3-cd)pyrene	ND	10		–	NA
BH-3	2/27/2020	Isophorone	ND	10		–	NA
BH-3	2/27/2020	Naphthalene	ND	10		–	NA
BH-3	2/27/2020	Nitrobenzene	ND	10		–	NA
BH-3	2/27/2020	N-Nitrosodimethylamine	13	10		–	NA
BH-3	2/27/2020	N-Nitrosodi-n-propylamine	ND	20		–	NA
BH-3	2/27/2020	N-Nitrosodiphenylamine	ND	10		–	NA
BH-3	2/27/2020	Pentachlorophenol	ND	10		1	NO
BH-3	2/27/2020	Phenanthrene	ND	10		–	NA
BH-3	2/27/2020	Phenol	ND	10		–	NA
BH-3	2/27/2020	Pyrene	ND	10		–	NA
BH-3	2/27/2020	Pyridine	ND	10		–	NA
BH-4	2/27/2020	1,2,4-Trichlorobenzene	ND	10		70	NO
BH-4	2/27/2020	1,2-Dichlorobenzene	ND	15		600	NO
BH-4	2/27/2020	1,3-Dichlorobenzene	ND	15		–	NA
BH-4	2/27/2020	1,4-Dichlorobenzene	ND	10		75	NO
BH-4	2/27/2020	1-Methylnaphthalene	ND	10		–	NA
BH-4	2/27/2020	2,4,5-Trichlorophenol	ND	30		–	NA
BH-4	2/27/2020	2,4,6-Trichlorophenol	ND	10		–	NA
BH-4	2/27/2020	2,4-Dichlorophenol	ND	10		–	NA
BH-4	2/27/2020	2,4-Dimethylphenol	ND	15		–	NA
BH-4	2/27/2020	2,4-Dinitrophenol	ND	10		–	NA
BH-4	2/27/2020	2,4-Dinitrotoluene	ND	10		–	NA
BH-4	2/27/2020	2,6-Dinitrotoluene	ND	10		–	NA
BH-4	2/27/2020	2-Chloronaphthalene	ND	15		–	NA
BH-4	2/27/2020	2-Chlorophenol	ND	10		–	NA
BH-4	2/27/2020	2-Methylnaphthalene	ND	10		–	NA
BH-4	2/27/2020	2-Methylphenol	ND	15		–	NA
BH-4	2/27/2020	2-Nitroaniline	ND	10		–	NA
BH-4	2/27/2020	2-Nitrophenol	ND	15		–	NA
BH-4	2/27/2020	3,3-Dichlorobenzidine	ND	10		–	NA
BH-4	2/27/2020	3,4-Methylphenol	ND	15		–	NA
BH-4	2/27/2020	3-Nitroaniline	ND	15		–	NA
BH-4	2/27/2020	4,6-Dinitro-2-methylphenol	ND	10		–	NA
BH-4	2/27/2020	4-Bromophenyl-phenylether	ND	15		–	NA
BH-4	2/27/2020	4-Chloro-3-Methylphenol	ND	15		–	NA
BH-4	2/27/2020	4-Chloroaniline	ND	10		–	NA
BH-4	2/27/2020	4-Chlorophenyl-phenylether	ND	15		–	NA
BH-4	2/27/2020	4-Nitroaniline	9.5	20		–	NA
BH-4	2/27/2020	4-Nitrophenol	ND	15		–	NA
BH-4	2/27/2020	Acenaphthene	ND	15		–	NA
BH-4	2/27/2020	Acenaphthylene	ND	15		–	NA
BH-4	2/27/2020	Aniline	ND	10		–	NA
BH-4	2/27/2020	Anthracene	ND	15		–	NA

TABLE 2B. GROUNDWATER ANALYTICAL DATA - SVOCs
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (µg/L)	Value RL (µg/L)	Lab Qualifier	¹ Screening Level (µg/L)	Screening Level Exceedance
BH-4	2/27/2020	Azobenzene	ND	10		–	NA
BH-4	2/27/2020	Benzo(a)anthracene	ND	10		–	NA
BH-4	2/27/2020	Benzo(a)pyrene	ND	10		0.2	NO
BH-4	2/27/2020	Benzo(b)fluoranthene	ND	10		–	NA
BH-4	2/27/2020	Benzo(g,h,i)perylene	ND	15		–	NA
BH-4	2/27/2020	Benzo(k)fluoranthene	ND	10		–	NA
BH-4	2/27/2020	Benzoic Acid	ND	30	J	–	NA
BH-4	2/27/2020	Benzyl Alcohol	ND	15		–	NA
BH-4	2/27/2020	Bis(2-chloroethoxy)methane	ND	10		–	NA
BH-4	2/27/2020	Bis(2-chloroethyl)ether	ND	20		–	NA
BH-4	2/27/2020	Bis(2-chloroisopropyl)ether	ND	15		–	NA
BH-4	2/27/2020	Bis(2-ethylhexyl)phthalate	ND	10		6	NO
BH-4	2/27/2020	Butylbenzylphthalate	ND	10		–	NA
BH-4	2/27/2020	Carbazole	ND	15		–	NA
BH-4	2/27/2020	Chrysene	ND	10		–	NA
BH-4	2/27/2020	Dibenzo(a,h)anthracene	ND	10		–	NA
BH-4	2/27/2020	Dibenzofuran	ND	10		–	NA
BH-4	2/27/2020	Diethylphthalate	ND	15		–	NA
BH-4	2/27/2020	Dimethylphthalate	ND	15		–	NA
BH-4	2/27/2020	Di-n-butylphthalate	ND	15		–	NA
BH-4	2/27/2020	Di-n-octylphthalate	ND	10		–	NA
BH-4	2/27/2020	Fluoranthene	ND	15		–	NA
BH-4	2/27/2020	Fluorene	ND	10		–	NA
BH-4	2/27/2020	Hexachlorobenzene	ND	10		1	NO
BH-4	2/27/2020	Hexachlorobutadiene	ND	10		–	NA
BH-4	2/27/2020	Hexachlorocyclopentadiene	ND	10		50	NO
BH-4	2/27/2020	Hexachloroethane	ND	10		–	NA
BH-4	2/27/2020	Indeno(1,2,3-cd)pyrene	ND	10		–	NA
BH-4	2/27/2020	Isophorone	ND	15		–	NA
BH-4	2/27/2020	Naphthalene	ND	10		–	NA
BH-4	2/27/2020	Nitrobenzene	ND	10		–	NA
BH-4	2/27/2020	N-Nitrosodimethylamine	ND	10		–	NA
BH-4	2/27/2020	N-Nitrosodi-n-propylamine	ND	20		–	NA
BH-4	2/27/2020	N-Nitrosodiphenylamine	ND	10		–	NA
BH-4	2/27/2020	Pentachlorophenol	ND	10		1	NO
BH-4	2/27/2020	Phenanthrene	ND	15		–	NA
BH-4	2/27/2020	Phenol	ND	15		–	NA
BH-4	2/27/2020	Pyrene	ND	10		–	NA
BH-4	2/27/2020	Pyridine	ND	10		–	NA
BH-5	2/27/2020	1,2,4-Trichlorobenzene	ND	15	D	70	NO
BH-5	2/27/2020	1,2-Dichlorobenzene	ND	10	D	600	NO
BH-5	2/27/2020	1,3-Dichlorobenzene	ND	10	D	–	NA
BH-5	2/27/2020	1,4-Dichlorobenzene	ND	15	D	75	NO
BH-5	2/27/2020	1-Methylnaphthalene	ND	15	D	–	NA
BH-5	2/27/2020	2,4,5-Trichlorophenol	ND	20	D	–	NA
BH-5	2/27/2020	2,4,6-Trichlorophenol	ND	15	D	–	NA
BH-5	2/27/2020	2,4-Dichlorophenol	ND	15	D	–	NA
BH-5	2/27/2020	2,4-Dimethylphenol	ND	10	D	–	NA
BH-5	2/27/2020	2,4-Dinitrophenol	ND	15	D	–	NA

TABLE 2B. GROUNDWATER ANALYTICAL DATA - SVOCs
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (µg/L)	Value RL (µg/L)	Lab Qualifier	¹ Screening Level (µg/L)	Screening Level Exceedance
BH-5	2/27/2020	2,4-Dinitrotoluene	ND	15	D	–	NA
BH-5	2/27/2020	2,6-Dinitrotoluene	ND	15	D	–	NA
BH-5	2/27/2020	2-Chloronaphthalene	ND	10	D	–	NA
BH-5	2/27/2020	2-Chlorophenol	ND	15	D	–	NA
BH-5	2/27/2020	2-Methylnaphthalene	ND	15	D	–	NA
BH-5	2/27/2020	2-Methylphenol	ND	10	D	–	NA
BH-5	2/27/2020	2-Nitroaniline	ND	15	D	–	NA
BH-5	2/27/2020	2-Nitrophenol	ND	10	D	–	NA
BH-5	2/27/2020	3,3-Dichlorobenzidine	ND	15	D	–	NA
BH-5	2/27/2020	3,4-Methylphenol	ND	10	D	–	NA
BH-5	2/27/2020	3-Nitroaniline	ND	10	D	–	NA
BH-5	2/27/2020	4,6-Dinitro-2-methylphenol	ND	15	D	–	NA
BH-5	2/27/2020	4-Bromophenyl-phenylether	ND	10	D	–	NA
BH-5	2/27/2020	4-Chloro-3-Methylphenol	ND	10	D	–	NA
BH-5	2/27/2020	4-Chloroaniline	ND	15	D	–	NA
BH-5	2/27/2020	4-Chlorophenyl-phenylether	ND	10	D	–	NA
BH-5	2/27/2020	4-Nitroaniline	19	30	D	–	NA
BH-5	2/27/2020	4-Nitrophenol	ND	10	D	–	NA
BH-5	2/27/2020	Acenaphthene	ND	10	D	–	NA
BH-5	2/27/2020	Acenaphthylene	ND	10	D	–	NA
BH-5	2/27/2020	Aniline	ND	15	D	–	NA
BH-5	2/27/2020	Anthracene	ND	10	D	–	NA
BH-5	2/27/2020	Azobenzene	ND	15	D	–	NA
BH-5	2/27/2020	Benzo(a)anthracene	ND	15	D	–	NA
BH-5	2/27/2020	Benzo(a)pyrene	ND	15	D	0.2	NO
BH-5	2/27/2020	Benzo(b)fluoranthene	ND	15	D	–	NA
BH-5	2/27/2020	Benzo(g,h,i)perylene	ND	10	D	–	NA
BH-5	2/27/2020	Benzo(k)fluoranthene	ND	15	D	–	NA
BH-5	2/27/2020	Benzoic Acid	ND	20	JD	–	NA
BH-5	2/27/2020	Benzyl Alcohol	ND	10	D	–	NA
BH-5	2/27/2020	Bis(2-chloroethoxy)methane	ND	15	D	–	NA
BH-5	2/27/2020	Bis(2-chloroethyl)ether	ND	30	D	–	NA
BH-5	2/27/2020	Bis(2-chloroisopropyl)ether	ND	10	D	–	NA
BH-5	2/27/2020	Bis(2-ethylhexyl)phthalate	ND	15	D	6	NO
BH-5	2/27/2020	Butylbenzylphthalate	ND	15	D	–	NA
BH-5	2/27/2020	Carbazole	ND	10	D	–	NA
BH-5	2/27/2020	Chrysene	ND	15	D	–	NA
BH-5	2/27/2020	Dibenzo(a,h)anthracene	ND	15	D	–	NA
BH-5	2/27/2020	Dibenzofuran	ND	15	D	–	NA
BH-5	2/27/2020	Diethylphthalate	ND	10	D	–	NA
BH-5	2/27/2020	Dimethylphthalate	ND	10	D	–	NA
BH-5	2/27/2020	Di-n-butylphthalate	ND	10	D	–	NA
BH-5	2/27/2020	Di-n-octylphthalate	ND	15	D	–	NA
BH-5	2/27/2020	Fluoranthene	ND	10	D	–	NA
BH-5	2/27/2020	Fluorene	ND	15	D	–	NA
BH-5	2/27/2020	Hexachlorobenzene	ND	15	D	1	NO
BH-5	2/27/2020	Hexachlorobutadiene	ND	15	D	–	NA
BH-5	2/27/2020	Hexachlorocyclopentadiene	ND	15	D	50	NO
BH-5	2/27/2020	Hexachloroethane	ND	15	D	–	NA

TABLE 2B. GROUNDWATER ANALYTICAL DATA - SVOCs
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (µg/L)	Value RL (µg/L)	Lab Qualifier	¹ Screening Level (µg/L)	Screening Level Exceedance
BH-5	2/27/2020	Indeno(1,2,3-cd)pyrene	ND	15	D	–	NA
BH-5	2/27/2020	Isophorone	ND	10	D	–	NA
BH-5	2/27/2020	Naphthalene	ND	15	D	–	NA
BH-5	2/27/2020	Nitrobenzene	ND	15	D	–	NA
BH-5	2/27/2020	N-Nitrosodimethylamine	ND	15	D	–	NA
BH-5	2/27/2020	N-Nitrosodi-n-propylamine	ND	30	D	–	NA
BH-5	2/27/2020	N-Nitrosodiphenylamine	ND	15	D	–	NA
BH-5	2/27/2020	Pentachlorophenol	ND	15	D	1	NO
BH-5	2/27/2020	Phenanthrene	ND	10	D	–	NA
BH-5	2/27/2020	Phenol	ND	10	D	–	NA
BH-5	2/27/2020	Pyrene	ND	15	D	–	NA
BH-5	2/27/2020	Pyridine	ND	15	D	–	NA
BH-6	2/28/2020	1,2,4-Trichlorobenzene	ND	10		70	NO
BH-6	2/28/2020	1,2-Dichlorobenzene	ND	14		600	NO
BH-6	2/28/2020	1,3-Dichlorobenzene	ND	14		–	NA
BH-6	2/28/2020	1,4-Dichlorobenzene	ND	10		75	NO
BH-6	2/28/2020	1-Methylnaphthalene	ND	10		–	NA
BH-6	2/28/2020	2,4,5-Trichlorophenol	ND	29		–	NA
BH-6	2/28/2020	2,4,6-Trichlorophenol	ND	10		–	NA
BH-6	2/28/2020	2,4-Dichlorophenol	ND	10		–	NA
BH-6	2/28/2020	2,4-Dimethylphenol	ND	14		–	NA
BH-6	2/28/2020	2,4-Dinitrophenol	ND	10		–	NA
BH-6	2/28/2020	2,4-Dinitrotoluene	ND	10		–	NA
BH-6	2/28/2020	2,6-Dinitrotoluene	ND	10		–	NA
BH-6	2/28/2020	2-Chloronaphthalene	ND	14		–	NA
BH-6	2/28/2020	2-Chlorophenol	ND	10		–	NA
BH-6	2/28/2020	2-Methylnaphthalene	ND	10		–	NA
BH-6	2/28/2020	2-Methylphenol	ND	14		–	NA
BH-6	2/28/2020	2-Nitroaniline	ND	10		–	NA
BH-6	2/28/2020	2-Nitrophenol	ND	14		–	NA
BH-6	2/28/2020	3,3-Dichlorobenzidine	ND	10		–	NA
BH-6	2/28/2020	3,4-Methylphenol	ND	14		–	NA
BH-6	2/28/2020	3-Nitroaniline	ND	14		–	NA
BH-6	2/28/2020	4,6-Dinitro-2-methylphenol	ND	10		–	NA
BH-6	2/28/2020	4-Bromophenyl-phenylether	ND	14		–	NA
BH-6	2/28/2020	4-Chloro-3-Methylphenol	ND	14		–	NA
BH-6	2/28/2020	4-Chloroaniline	ND	10		–	NA
BH-6	2/28/2020	4-Chlorophenyl-phenylether	ND	14		–	NA
BH-6	2/28/2020	4-Nitroaniline	10	20		–	NA
BH-6	2/28/2020	4-Nitrophenol	ND	14		–	NA
BH-6	2/28/2020	Acenaphthene	ND	14		–	NA
BH-6	2/28/2020	Acenaphthylene	ND	14		–	NA
BH-6	2/28/2020	Aniline	ND	10		–	NA
BH-6	2/28/2020	Anthracene	ND	14		–	NA
BH-6	2/28/2020	Azobenzene	ND	10		–	NA
BH-6	2/28/2020	Benzo(a)anthracene	ND	10		–	NA
BH-6	2/28/2020	Benzo(a)pyrene	ND	10		0.2	NO
BH-6	2/28/2020	Benzo(b)fluoranthene	ND	10		–	NA
BH-6	2/28/2020	Benzo(g,h,i)perylene	ND	14		–	NA

TABLE 2B. GROUNDWATER ANALYTICAL DATA - SVOCs
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (µg/L)	Value RL (µg/L)	Lab Qualifier	¹ Screening Level (µg/L)	Screening Level Exceedance
BH-6	2/28/2020	Benzo(k)fluoranthene	ND	10		–	NA
BH-6	2/28/2020	Benzoic Acid	ND	29	J	–	NA
BH-6	2/28/2020	Benzyl Alcohol	ND	14		–	NA
BH-6	2/28/2020	Bis(2-chloroethoxy)methane	ND	10		–	NA
BH-6	2/28/2020	Bis(2-chloroethyl)ether	ND	20		–	NA
BH-6	2/28/2020	Bis(2-chloroisopropyl)ether	ND	14		–	NA
BH-6	2/28/2020	Bis(2-ethylhexyl)phthalate	ND	10		6	NO
BH-6	2/28/2020	Butylbenzylphthalate	ND	10		–	NA
BH-6	2/28/2020	Carbazole	ND	14		–	NA
BH-6	2/28/2020	Chrysene	ND	10		–	NA
BH-6	2/28/2020	Dibenzo(a,h)anthracene	ND	10		–	NA
BH-6	2/28/2020	Dibenzofuran	ND	10		–	NA
BH-6	2/28/2020	Diethylphthalate	ND	14		–	NA
BH-6	2/28/2020	Dimethylphthalate	ND	14		–	NA
BH-6	2/28/2020	Di-n-butylphthalate	ND	14		–	NA
BH-6	2/28/2020	Di-n-octylphthalate	ND	10		–	NA
BH-6	2/28/2020	Fluoranthene	ND	14		–	NA
BH-6	2/28/2020	Fluorene	ND	10		–	NA
BH-6	2/28/2020	Hexachlorobenzene	ND	10		1	NO
BH-6	2/28/2020	Hexachlorobutadiene	ND	10		–	NA
BH-6	2/28/2020	Hexachlorocyclopentadiene	ND	10		50	NO
BH-6	2/28/2020	Hexachloroethane	ND	10		–	NA
BH-6	2/28/2020	Indeno(1,2,3-cd)pyrene	ND	10		–	NA
BH-6	2/28/2020	Isophorone	ND	14		–	NA
BH-6	2/28/2020	Naphthalene	ND	10		–	NA
BH-6	2/28/2020	Nitrobenzene	ND	10		–	NA
BH-6	2/28/2020	N-Nitrosodimethylamine	ND	10		–	NA
BH-6	2/28/2020	N-Nitrosodi-n-propylamine	ND	20		–	NA
BH-6	2/28/2020	N-Nitrosodiphenylamine	ND	10		–	NA
BH-6	2/28/2020	Pentachlorophenol	ND	10		1	NO
BH-6	2/28/2020	Phenanthrene	ND	14		–	NA
BH-6	2/28/2020	Phenol	ND	14		–	NA
BH-6	2/28/2020	Pyrene	ND	10		–	NA
BH-6	2/28/2020	Pyridine	ND	10		–	NA
BH-6 Dup	2/28/2020	1,2,4-Trichlorobenzene	ND	10	D	70	NO
BH-6 Dup	2/28/2020	1,2-Dichlorobenzene	ND	10	JD	600	NO
BH-6 Dup	2/28/2020	1,3-Dichlorobenzene	ND	10		–	NA
BH-6 Dup	2/28/2020	1,4-Dichlorobenzene	ND	10		75	NO
BH-6 Dup	2/28/2020	1-Methylnaphthalene	ND	10		–	NA
BH-6 Dup	2/28/2020	2,4,5-Trichlorophenol	ND	20	D	–	NA
BH-6 Dup	2/28/2020	2,4,6-Trichlorophenol	ND	10	D	–	NA
BH-6 Dup	2/28/2020	2,4-Dichlorophenol	ND	10	D	–	NA
BH-6 Dup	2/28/2020	2,4-Dimethylphenol	ND	10		–	NA
BH-6 Dup	2/28/2020	2,4-Dinitrophenol	ND	10		–	NA
BH-6 Dup	2/28/2020	2,4-Dinitrotoluene	ND	10		–	NA
BH-6 Dup	2/28/2020	2,6-Dinitrotoluene	ND	10	D	–	NA
BH-6 Dup	2/28/2020	2-Chloronaphthalene	ND	10	D	–	NA
BH-6 Dup	2/28/2020	2-Chlorophenol	ND	10		–	NA
BH-6 Dup	2/28/2020	2-Methylnaphthalene	ND	10		–	NA

TABLE 2B. GROUNDWATER ANALYTICAL DATA - SVOCs
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (µg/L)	Value RL (µg/L)	Lab Qualifier	¹ Screening Level (µg/L)	Screening Level Exceedance
BH-6 Dup	2/28/2020	2-Methylphenol	ND	10	D	–	NA
BH-6 Dup	2/28/2020	2-Nitroaniline	ND	10	D	–	NA
BH-6 Dup	2/28/2020	2-Nitrophenol	ND	10		–	NA
BH-6 Dup	2/28/2020	3,3-Dichlorobenzidine	ND	10	D	–	NA
BH-6 Dup	2/28/2020	3,4-Methylphenol	ND	10		–	NA
BH-6 Dup	2/28/2020	3-Nitroaniline	ND	10		–	NA
BH-6 Dup	2/28/2020	4,6-Dinitro-2-methylphenol	ND	10		–	NA
BH-6 Dup	2/28/2020	4-Bromophenyl-phenylether	ND	10		–	NA
BH-6 Dup	2/28/2020	4-Chloro-3-Methylphenol	ND	10	D	–	NA
BH-6 Dup	2/28/2020	4-Chloroaniline	ND	10		–	NA
BH-6 Dup	2/28/2020	4-Chlorophenyl-phenylether	ND	10		–	NA
BH-6 Dup	2/28/2020	4-Nitroaniline	ND	20	D	–	NA
BH-6 Dup	2/28/2020	4-Nitrophenol	ND	10		–	NA
BH-6 Dup	2/28/2020	Acenaphthene	ND	10	D	–	NA
BH-6 Dup	2/28/2020	Acenaphthylene	ND	10		–	NA
BH-6 Dup	2/28/2020	Aniline	ND	10	D	–	NA
BH-6 Dup	2/28/2020	Anthracene	ND	10	D	–	NA
BH-6 Dup	2/28/2020	Azobenzene	ND	10		–	NA
BH-6 Dup	2/28/2020	Benzo(a)anthracene	ND	10		–	NA
BH-6 Dup	2/28/2020	Benzo(a)pyrene	ND	10		0.2	NO
BH-6 Dup	2/28/2020	Benzo(b)fluoranthene	ND	10		–	NA
BH-6 Dup	2/28/2020	Benzo(g,h,i)perylene	4.1	10		–	NA
BH-6 Dup	2/28/2020	Benzo(k)fluoranthene	ND	10	D	–	NA
BH-6 Dup	2/28/2020	Benzoic Acid	ND	20	D	–	NA
BH-6 Dup	2/28/2020	Benzyl Alcohol	ND	10	D	–	NA
BH-6 Dup	2/28/2020	Bis(2-chloroethoxy)methane	ND	10	D	–	NA
BH-6 Dup	2/28/2020	Bis(2-chloroethyl)ether	ND	20	D	–	NA
BH-6 Dup	2/28/2020	Bis(2-chloroisopropyl)ether	ND	10		–	NA
BH-6 Dup	2/28/2020	Bis(2-ethylhexyl)phthalate	ND	10		6	NO
BH-6 Dup	2/28/2020	Butylbenzylphthalate	ND	10		–	NA
BH-6 Dup	2/28/2020	Carbazole	ND	10		–	NA
BH-6 Dup	2/28/2020	Chrysene	ND	10	D	–	NA
BH-6 Dup	2/28/2020	Dibenzo(a,h)anthracene	ND	10	D	–	NA
BH-6 Dup	2/28/2020	Dibenzofuran	ND	10	D	–	NA
BH-6 Dup	2/28/2020	Diethylphthalate	ND	10	D	–	NA
BH-6 Dup	2/28/2020	Dimethylphthalate	ND	10		–	NA
BH-6 Dup	2/28/2020	Di-n-butylphthalate	ND	10	D	–	NA
BH-6 Dup	2/28/2020	Di-n-octylphthalate	ND	10		–	NA
BH-6 Dup	2/28/2020	Fluoranthene	ND	10	D	–	NA
BH-6 Dup	2/28/2020	Fluorene	ND	10		–	NA
BH-6 Dup	2/28/2020	Hexachlorobenzene	ND	10		1	NO
BH-6 Dup	2/28/2020	Hexachlorobutadiene	ND	10		–	NA
BH-6 Dup	2/28/2020	Hexachlorocyclopentadiene	ND	10	D	50	NO
BH-6 Dup	2/28/2020	Hexachloroethane	ND	10	D	–	NA
BH-6 Dup	2/28/2020	Indeno(1,2,3-cd)pyrene	ND	10	D	–	NA
BH-6 Dup	2/28/2020	Isophorone	ND	10	D	–	NA
BH-6 Dup	2/28/2020	Naphthalene	ND	10	D	–	NA
BH-6 Dup	2/28/2020	Nitrobenzene	ND	10	D	–	NA
BH-6 Dup	2/28/2020	N-Nitrosodimethylamine	ND	10	D	–	NA

TABLE 2B. GROUNDWATER ANALYTICAL DATA - SVOCs
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (µg/L)	Value RL (µg/L)	Lab Qualifier	¹ Screening Level (µg/L)	Screening Level Exceedance
BH-6 Dup	2/28/2020	N-Nitrosodi-n-propylamine	ND	20		–	NA
BH-6 Dup	2/28/2020	N-Nitrosodiphenylamine	ND	10	D	–	NA
BH-6 Dup	2/28/2020	Pentachlorophenol	ND	10		1	NO
BH-6 Dup	2/28/2020	Phenanthrene	2.7	10		–	NA
BH-6 Dup	2/28/2020	Phenol	ND	10	D	–	NA
BH-6 Dup	2/28/2020	Pyrene	ND	10		–	NA
BH-6 Dup	2/28/2020	Pyridine	ND	10		–	NA
BH-7	2/28/2020	1,2,4-Trichlorobenzene	ND	14		70	NO
BH-7	2/28/2020	1,2-Dichlorobenzene	ND	10		600	NO
BH-7	2/28/2020	1,3-Dichlorobenzene	ND	10	D	–	NA
BH-7	2/28/2020	1,4-Dichlorobenzene	ND	14	D	75	NO
BH-7	2/28/2020	1-Methylnaphthalene	ND	14	D	–	NA
BH-7	2/28/2020	2,4,5-Trichlorophenol	ND	20		–	NA
BH-7	2/28/2020	2,4,6-Trichlorophenol	ND	14	D	–	NA
BH-7	2/28/2020	2,4-Dichlorophenol	ND	14		–	NA
BH-7	2/28/2020	2,4-Dimethylphenol	ND	10	D	–	NA
BH-7	2/28/2020	2,4-Dinitrophenol	ND	14	D	–	NA
BH-7	2/28/2020	2,4-Dinitrotoluene	ND	14		–	NA
BH-7	2/28/2020	2,6-Dinitrotoluene	ND	14	D	–	NA
BH-7	2/28/2020	2-Chloronaphthalene	ND	10	D	–	NA
BH-7	2/28/2020	2-Chlorophenol	ND	14	D	–	NA
BH-7	2/28/2020	2-Methylnaphthalene	ND	14	D	–	NA
BH-7	2/28/2020	2-Methylphenol	ND	10	D	–	NA
BH-7	2/28/2020	2-Nitroaniline	ND	14		–	NA
BH-7	2/28/2020	2-Nitrophenol	ND	10	D	–	NA
BH-7	2/28/2020	3,3-Dichlorobenzidine	ND	14		–	NA
BH-7	2/28/2020	3,4-Methylphenol	ND	10	D	–	NA
BH-7	2/28/2020	3-Nitroaniline	ND	10		–	NA
BH-7	2/28/2020	4,6-Dinitro-2-methylphenol	ND	14	D	–	NA
BH-7	2/28/2020	4-Bromophenyl-phenylether	ND	10		–	NA
BH-7	2/28/2020	4-Chloro-3-Methylphenol	ND	10	D	–	NA
BH-7	2/28/2020	4-Chloroaniline	ND	14	D	–	NA
BH-7	2/28/2020	4-Chlorophenyl-phenylether	ND	10	D	–	NA
BH-7	2/28/2020	4-Nitroaniline	16	29		–	NA
BH-7	2/28/2020	4-Nitrophenol	ND	10	D	–	NA
BH-7	2/28/2020	Acenaphthene	ND	10		–	NA
BH-7	2/28/2020	Acenaphthylene	ND	10		–	NA
BH-7	2/28/2020	Aniline	ND	14		–	NA
BH-7	2/28/2020	Anthracene	ND	10		–	NA
BH-7	2/28/2020	Azobenzene	ND	14		–	NA
BH-7	2/28/2020	Benzo(a)anthracene	ND	14	D	–	NA
BH-7	2/28/2020	Benzo(a)pyrene	ND	14	D	0.2	NO
BH-7	2/28/2020	Benzo(b)fluoranthene	ND	14	D	–	NA
BH-7	2/28/2020	Benzo(g,h,i)perylene	ND	10	D	–	NA
BH-7	2/28/2020	Benzo(k)fluoranthene	85	14		–	NA
BH-7	2/28/2020	Benzoic Acid	ND	20		–	NA
BH-7	2/28/2020	Benzyl Alcohol	ND	10	D	–	NA
BH-7	2/28/2020	Bis(2-chloroethoxy)methane	ND	14		–	NA
BH-7	2/28/2020	Bis(2-chloroethyl)ether	ND	29		–	NA

TABLE 2B. GROUNDWATER ANALYTICAL DATA - SVOCs
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (µg/L)	Value RL (µg/L)	Lab Qualifier	¹ Screening Level (µg/L)	Screening Level Exceedance
BH-7	2/28/2020	Bis(2-chloroisopropyl)ether	ND	10		–	NA
BH-7	2/28/2020	Bis(2-ethylhexyl)phthalate	ND	14	D	6	NO
BH-7	2/28/2020	Butylbenzylphthalate	ND	14	D	–	NA
BH-7	2/28/2020	Carbazole	ND	10		–	NA
BH-7	2/28/2020	Chrysene	ND	14		–	NA
BH-7	2/28/2020	Dibenzo(a,h)anthracene	ND	14		–	NA
BH-7	2/28/2020	Dibenzofuran	ND	14		–	NA
BH-7	2/28/2020	Diethylphthalate	ND	10	D	–	NA
BH-7	2/28/2020	Dimethylphthalate	ND	10		–	NA
BH-7	2/28/2020	Di-n-butylphthalate	ND	10		–	NA
BH-7	2/28/2020	Di-n-octylphthalate	ND	14	D	–	NA
BH-7	2/28/2020	Fluoranthene	ND	10	D	–	NA
BH-7	2/28/2020	Fluorene	ND	14	D	–	NA
BH-7	2/28/2020	Hexachlorobenzene	ND	14		1	NO
BH-7	2/28/2020	Hexachlorobutadiene	ND	14	D	–	NA
BH-7	2/28/2020	Hexachlorocyclopentadiene	ND	14		50	NO
BH-7	2/28/2020	Hexachloroethane	ND	14		–	NA
BH-7	2/28/2020	Indeno(1,2,3-cd)pyrene	ND	14		–	NA
BH-7	2/28/2020	Isophorone	ND	10		–	NA
BH-7	2/28/2020	Naphthalene	ND	14	D	–	NA
BH-7	2/28/2020	Nitrobenzene	ND	14		–	NA
BH-7	2/28/2020	N-Nitrosodimethylamine	ND	14	D	–	NA
BH-7	2/28/2020	N-Nitrosodi-n-propylamine	ND	29	D	–	NA
BH-7	2/28/2020	N-Nitrosodiphenylamine	ND	14	D	–	NA
BH-7	2/28/2020	Pentachlorophenol	ND	14	D	1	NO
BH-7	2/28/2020	Phenanthrene	ND	10	D	–	NA
BH-7	2/28/2020	Phenol	ND	10		–	NA
BH-7	2/28/2020	Pyrene	ND	14		–	NA
BH-7	2/28/2020	Pyridine	ND	14		–	NA
BH-8	2/27/2020	1,2,4-Trichlorobenzene	ND	10		70	NO
BH-8	2/27/2020	1,2-Dichlorobenzene	ND	10		600	NO
BH-8	2/27/2020	1,3-Dichlorobenzene	ND	10		–	NA
BH-8	2/27/2020	1,4-Dichlorobenzene	ND	10		75	NO
BH-8	2/27/2020	1-Methylnaphthalene	ND	10	J	–	NA
BH-8	2/27/2020	2,4,5-Trichlorophenol	ND	20		–	NA
BH-8	2/27/2020	2,4,6-Trichlorophenol	ND	10		–	NA
BH-8	2/27/2020	2,4-Dichlorophenol	ND	10		–	NA
BH-8	2/27/2020	2,4-Dimethylphenol	ND	10		–	NA
BH-8	2/27/2020	2,4-Dinitrophenol	ND	10		–	NA
BH-8	2/27/2020	2,4-Dinitrotoluene	ND	10		–	NA
BH-8	2/27/2020	2,6-Dinitrotoluene	ND	10		–	NA
BH-8	2/27/2020	2-Chloronaphthalene	ND	10		–	NA
BH-8	2/27/2020	2-Chlorophenol	ND	10		–	NA
BH-8	2/27/2020	2-Methylnaphthalene	ND	10	J	–	NA
BH-8	2/27/2020	2-Methylphenol	ND	10		–	NA
BH-8	2/27/2020	2-Nitroaniline	ND	10		–	NA
BH-8	2/27/2020	2-Nitrophenol	ND	10		–	NA
BH-8	2/27/2020	3,3-Dichlorobenzidine	ND	10		–	NA
BH-8	2/27/2020	3,4-Methylphenol	ND	10		–	NA

TABLE 2B. GROUNDWATER ANALYTICAL DATA - SVOCs
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (µg/L)	Value RL (µg/L)	Lab Qualifier	¹ Screening Level (µg/L)	Screening Level Exceedance
BH-8	2/27/2020	3-Nitroaniline	ND	10		–	NA
BH-8	2/27/2020	4,6-Dinitro-2-methylphenol	ND	10		–	NA
BH-8	2/27/2020	4-Bromophenyl-phenylether	ND	10		–	NA
BH-8	2/27/2020	4-Chloro-3-Methylphenol	ND	10		–	NA
BH-8	2/27/2020	4-Chloroaniline	ND	10		–	NA
BH-8	2/27/2020	4-Chlorophenyl-phenylether	ND	10		–	NA
BH-8	2/27/2020	4-Nitroaniline	10	20		–	NA
BH-8	2/27/2020	4-Nitrophenol	ND	10		–	NA
BH-8	2/27/2020	Acenaphthene	ND	10		–	NA
BH-8	2/27/2020	Acenaphthylene	ND	10		–	NA
BH-8	2/27/2020	Aniline	ND	10		–	NA
BH-8	2/27/2020	Anthracene	ND	10		–	NA
BH-8	2/27/2020	Azobenzene	ND	10		–	NA
BH-8	2/27/2020	Benzo(a)anthracene	ND	10		–	NA
BH-8	2/27/2020	Benzo(a)pyrene	ND	10		0.2	NO
BH-8	2/27/2020	Benzo(b)fluoranthene	ND	10		–	NA
BH-8	2/27/2020	Benzo(g,h,i)perylene	ND	10		–	NA
BH-8	2/27/2020	Benzo(k)fluoranthene	ND	10		–	NA
BH-8	2/27/2020	Benzoic Acid	ND	20	J	–	NA
BH-8	2/27/2020	Benzyl Alcohol	ND	10		–	NA
BH-8	2/27/2020	Bis(2-chloroethoxy)methane	ND	10		–	NA
BH-8	2/27/2020	Bis(2-chloroethyl)ether	ND	20		–	NA
BH-8	2/27/2020	Bis(2-chloroisopropyl)ether	ND	10		–	NA
BH-8	2/27/2020	Bis(2-ethylhexyl)phthalate	ND	10		6	NO
BH-8	2/27/2020	Butylbenzylphthalate	ND	10		–	NA
BH-8	2/27/2020	Carbazole	ND	10		–	NA
BH-8	2/27/2020	Chrysene	ND	10		–	NA
BH-8	2/27/2020	Dibenzo(a,h)anthracene	ND	10		–	NA
BH-8	2/27/2020	Dibenzofuran	ND	10		–	NA
BH-8	2/27/2020	Diethylphthalate	ND	10		–	NA
BH-8	2/27/2020	Dimethylphthalate	ND	10		–	NA
BH-8	2/27/2020	Di-n-butylphthalate	ND	10		–	NA
BH-8	2/27/2020	Di-n-octylphthalate	ND	10		–	NA
BH-8	2/27/2020	Fluoranthene	ND	10		–	NA
BH-8	2/27/2020	Fluorene	ND	10		–	NA
BH-8	2/27/2020	Hexachlorobenzene	ND	10		1	NO
BH-8	2/27/2020	Hexachlorobutadiene	ND	10		–	NA
BH-8	2/27/2020	Hexachlorocyclopentadiene	ND	10		50	NO
BH-8	2/27/2020	Hexachloroethane	ND	10		–	NA
BH-8	2/27/2020	Indeno(1,2,3-cd)pyrene	ND	10		–	NA
BH-8	2/27/2020	Isophorone	ND	10		–	NA
BH-8	2/27/2020	Naphthalene	ND	10	J	–	NA
BH-8	2/27/2020	Nitrobenzene	ND	10		–	NA
BH-8	2/27/2020	N-Nitrosodimethylamine	4	10		–	NA
BH-8	2/27/2020	N-Nitrosodi-n-propylamine	ND	20		–	NA
BH-8	2/27/2020	N-Nitrosodiphenylamine	ND	10		–	NA
BH-8	2/27/2020	Pentachlorophenol	ND	10		1	NO
BH-8	2/27/2020	Phenanthrene	ND	10		–	NA
BH-8	2/27/2020	Phenol	ND	10		–	NA

TABLE 2B. GROUNDWATER ANALYTICAL DATA - SVOCs
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (µg/L)	Value RL (µg/L)	Lab Qualifier	¹ Screening Level (µg/L)	Screening Level Exceedance
BH-8	2/27/2020	Pyrene	ND	10		–	NA
BH-8	2/27/2020	Pyridine	ND	10		–	NA
BH-9	2/27/2020	1,2,4-Trichlorobenzene	ND	15		70	NO
BH-9	2/27/2020	1,2-Dichlorobenzene	ND	10		600	NO
BH-9	2/27/2020	1,3-Dichlorobenzene	ND	10		–	NA
BH-9	2/27/2020	1,4-Dichlorobenzene	ND	15		75	NO
BH-9	2/27/2020	1-Methylnaphthalene	ND	15		–	NA
BH-9	2/27/2020	2,4,5-Trichlorophenol	ND	20		–	NA
BH-9	2/27/2020	2,4,6-Trichlorophenol	ND	15		–	NA
BH-9	2/27/2020	2,4-Dichlorophenol	ND	15		–	NA
BH-9	2/27/2020	2,4-Dimethylphenol	ND	10		–	NA
BH-9	2/27/2020	2,4-Dinitrophenol	ND	15		–	NA
BH-9	2/27/2020	2,4-Dinitrotoluene	ND	15		–	NA
BH-9	2/27/2020	2,6-Dinitrotoluene	ND	15		–	NA
BH-9	2/27/2020	2-Chloronaphthalene	ND	10		–	NA
BH-9	2/27/2020	2-Chlorophenol	ND	15		–	NA
BH-9	2/27/2020	2-Methylnaphthalene	ND	15		–	NA
BH-9	2/27/2020	2-Methylphenol	ND	10		–	NA
BH-9	2/27/2020	2-Nitroaniline	ND	15		–	NA
BH-9	2/27/2020	2-Nitrophenol	ND	10		–	NA
BH-9	2/27/2020	3,3-Dichlorobenzidine	ND	15		–	NA
BH-9	2/27/2020	3,4-Methylphenol	ND	10		–	NA
BH-9	2/27/2020	3-Nitroaniline	ND	10		–	NA
BH-9	2/27/2020	4,6-Dinitro-2-methylphenol	ND	15		–	NA
BH-9	2/27/2020	4-Bromophenyl-phenylether	ND	10		–	NA
BH-9	2/27/2020	4-Chloro-3-Methylphenol	ND	10		–	NA
BH-9	2/27/2020	4-Chloroaniline	ND	15		–	NA
BH-9	2/27/2020	4-Chlorophenyl-phenylether	ND	10		–	NA
BH-9	2/27/2020	4-Nitroaniline	ND	30		–	NA
BH-9	2/27/2020	4-Nitrophenol	ND	10		–	NA
BH-9	2/27/2020	Acenaphthene	ND	10		–	NA
BH-9	2/27/2020	Acenaphthylene	ND	10		–	NA
BH-9	2/27/2020	Aniline	ND	15		–	NA
BH-9	2/27/2020	Anthracene	ND	10		–	NA
BH-9	2/27/2020	Azobenzene	ND	15		–	NA
BH-9	2/27/2020	Benzo(a)anthracene	ND	15		–	NA
BH-9	2/27/2020	Benzo(a)pyrene	ND	15		0.2	NO
BH-9	2/27/2020	Benzo(b)fluoranthene	ND	15		–	NA
BH-9	2/27/2020	Benzo(g,h,i)perylene	ND	10		–	NA
BH-9	2/27/2020	Benzo(k)fluoranthene	46	15		–	NA
BH-9	2/27/2020	Benzoic Acid	ND	20		–	NA
BH-9	2/27/2020	Benzyl Alcohol	ND	10		–	NA
BH-9	2/27/2020	Bis(2-chloroethoxy)methane	ND	15		–	NA
BH-9	2/27/2020	Bis(2-chloroethyl)ether	ND	30		–	NA
BH-9	2/27/2020	Bis(2-chloroisopropyl)ether	ND	10		–	NA
BH-9	2/27/2020	Bis(2-ethylhexyl)phthalate	ND	15		6	NO
BH-9	2/27/2020	Butylbenzylphthalate	ND	15		–	NA
BH-9	2/27/2020	Carbazole	ND	10		–	NA
BH-9	2/27/2020	Chrysene	ND	15		–	NA

**TABLE 2B. GROUNDWATER ANALYTICAL DATA - SVOCS
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO**

Location	Date Sampled	Analyte	Lab Result (µg/L)	Value RL (µg/L)	Lab Qualifier	¹ Screening Level (µg/L)	Screening Level Exceedance
BH-9	2/27/2020	Dibenzo(a,h)anthracene	ND	15		–	NA
BH-9	2/27/2020	Dibenzofuran	ND	15		–	NA
BH-9	2/27/2020	Diethylphthalate	ND	10		–	NA
BH-9	2/27/2020	Dimethylphthalate	ND	10		–	NA
BH-9	2/27/2020	Di-n-butylphthalate	ND	10		–	NA
BH-9	2/27/2020	Di-n-octylphthalate	ND	15		–	NA
BH-9	2/27/2020	Fluoranthene	ND	10		–	NA
BH-9	2/27/2020	Fluorene	ND	15		–	NA
BH-9	2/27/2020	Hexachlorobenzene	ND	15		1	NO
BH-9	2/27/2020	Hexachlorobutadiene	ND	15		–	NA
BH-9	2/27/2020	Hexachlorocyclopentadiene	ND	15		50	NO
BH-9	2/27/2020	Hexachloroethane	ND	15		–	NA
BH-9	2/27/2020	Indeno(1,2,3-cd)pyrene	ND	15		–	NA
BH-9	2/27/2020	Isophorone	ND	10		–	NA
BH-9	2/27/2020	Naphthalene	ND	15		–	NA
BH-9	2/27/2020	Nitrobenzene	ND	15		–	NA
BH-9	2/27/2020	N-Nitrosodimethylamine	ND	15		–	NA
BH-9	2/27/2020	N-Nitrosodi-n-propylamine	ND	30		–	NA
BH-9	2/27/2020	N-Nitrosodiphenylamine	ND	15		–	NA
BH-9	2/27/2020	Pentachlorophenol	ND	15		1	NO
BH-9	2/27/2020	Phenanthrene	ND	10		–	NA
BH-9	2/27/2020	Phenol	46	10		–	NA
BH-9	2/27/2020	Pyrene	ND	15		–	NA
BH-9	2/27/2020	Pyridine	ND	15		–	NA

Notes:

¹ United States Environmental Protection Agency Maximum Contaminant Levels (MCL), Tap Water HQ 1.0, 2019.

SVOCS = Semi-volatile organic compounds.

D = Lab qualifier; sample diluted due to matrix.

J = Lab qualifier; analyte detected below quantitation limits.

µg/L = Micrograms per liter.

– = No standard established.

NA = No applicable standard.

ND = Not detected.

RL = Laboratory reporting limit.

**TABLE 2C. GROUNDWATER ANALYTICAL DATA - METALS
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO**

Location	Date Sampled	Analyte	Lab Result (mg/L)	Value RL (mg/L)	Lab Qualifier	¹ Screening Level (mg/L)	Screening Level Exceedance
BH-1	2/27/2020	Arsenic, Total	0.015	0.01		0.01	YES
	2/27/2020	Barium, Total	0.79	0.002		2	NO
	2/27/2020	Cadmium, Total	ND	0.002		0.005	NO
	2/27/2020	Calcium, Total	120	10		–	NA
	2/27/2020	Chromium, Total	0.01	0.006		0.05*	NO
	2/27/2020	Lead, Total	0.045	0.01		0.015	YES
	2/27/2020	Magnesium, Total	35	1		–	NA
	2/27/2020	Mercury, Total	0.00016	0.0002	J	0.002	NO
	2/27/2020	Selenium, Total	0.0052	0.01	J	0.05	NO
	2/27/2020	Silver, Total	ND	0.005		0.05*	NO
	2/27/2020	Sodium, Total	950	10		–	NA
BH-2	2/27/2020	Arsenic, Total	0.0056	0.005		0.01	NO
	2/27/2020	Barium, Total	0.36	0.002		2	NO
	2/27/2020	Cadmium, Total	ND	0.002		0.005	NO
	2/27/2020	Calcium, Total	24	1		–	NA
	2/27/2020	Chromium, Total	ND	0.006		0.05*	NO
	2/27/2020	Lead, Total	ND	0.005		0.015	NO
	2/27/2020	Magnesium, Total	18	1		–	NA
	2/27/2020	Mercury, Total	ND	0.0002		0.002	NO
	2/27/2020	Selenium, Total	0.0055	0.005		0.05	NO
	2/27/2020	Silver, Total	ND	0.005		0.05*	NO
	2/27/2020	Sodium, Total	870	10		–	NA
BH-3	2/27/2020	Arsenic, Total	0.022	0.01		0.01	YES
	2/27/2020	Barium, Total	1.8	0.004		2	NO
	2/27/2020	Cadmium, Total	ND	0.002		0.005	NO
	2/27/2020	Calcium, Total	90	10		–	NA
	2/27/2020	Chromium, Total	0.039	0.006		0.05*	NO
	2/27/2020	Lead, Total	0.063	0.01		0.015	YES
	2/27/2020	Magnesium, Total	52	10		–	NA
	2/27/2020	Mercury, Total	ND	0.0002		0.002	NO
	2/27/2020	Selenium, Total	0.01	0.01		0.05	NO
	2/27/2020	Silver, Total	ND	0.005		0.05*	NO
	2/27/2020	Sodium, Total	1100	100		–	NA
BH-4	2/27/2020	Arsenic, Total	0.0032	0.005	J	0.01	NO
	2/27/2020	Barium, Total	0.092	0.002		2	NO
	2/27/2020	Cadmium, Total	ND	0.002		0.005	NO
	2/27/2020	Calcium, Total	45	1		–	NA
	2/27/2020	Chromium, Total	0.0026	0.006	J	0.05*	NO
	2/27/2020	Lead, Total	ND	0.005		0.015	NO
	2/27/2020	Magnesium, Total	30	1		–	NA
	2/27/2020	Mercury, Total	ND	0.0002		0.002	NO
	2/27/2020	Selenium, Total	ND	0.005		0.05	NO
	2/27/2020	Silver, Total	ND	0.005		0.05*	NO
	2/27/2020	Sodium, Total	1100	100		–	NA

TABLE 2C. GROUNDWATER ANALYTICAL DATA - METALS
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Sampled	Analyte	Lab Result (mg/L)	Value RL (mg/L)	Lab Qualifier	¹ Screening Level (mg/L)	Screening Level Exceedance
BH-5	2/27/2020	Arsenic, Total	0.16	0.02	D	0.01	YES
	2/27/2020	Barium, Total	4.4	0.02		2	YES
	2/27/2020	Cadmium, Total	ND	0.02		0.005	NO
	2/27/2020	Calcium, Total	710	20		–	NA
	2/27/2020	Chromium, Total	0.37	0.06		0.05*	YES
	2/27/2020	Lead, Total	0.42	0.02	D	0.015	YES
	2/27/2020	Magnesium, Total	270	20		–	NA
	2/27/2020	Mercury, Total	ND	0.0002		0.002	NO
	2/27/2020	Selenium, Total	0.056	0.02	D	0.05	YES
	2/27/2020	Silver, Total	ND	0.05		0.05*	NO
	2/27/2020	Sodium, Total	980	20		–	NA
BH-6	2/28/2020	Arsenic, Total	0.021	0.005		0.01	YES
	2/28/2020	Barium, Total	0.81	0.002		2	NO
	2/28/2020	Cadmium, Total	ND	0.002		0.005	NO
	2/28/2020	Calcium, Total	140	10		–	NA
	2/28/2020	Chromium, Total	0.037	0.006		0.05*	NO
	2/28/2020	Lead, Total	0.052	0.01		0.015	YES
	2/28/2020	Magnesium, Total	65	1		–	NA
	2/28/2020	Mercury, Total	ND	0.0002		0.002	NO
	2/28/2020	Selenium, Total	0.0091	0.005		0.05	NO
	2/28/2020	Silver, Total	ND	0.005		0.05*	NO
	2/28/2020	Sodium, Total	1400	100		–	NA
BH-6 Dup	2/28/2020	Arsenic, Total	0.049	0.01		0.01	YES
	2/28/2020	Barium, Total	1.7	0.004		2	NO
	2/28/2020	Cadmium, Total	ND	0.002		0.005	NO
	2/28/2020	Calcium, Total	480	10		–	NA
	2/28/2020	Chromium, Total	0.085	0.006		0.05*	YES
	2/28/2020	Lead, Total	0.14	0.01		0.015	YES
	2/28/2020	Magnesium, Total	130	10		–	NA
	2/28/2020	Mercury, Total	ND	0.0002		0.002	NO
	2/28/2020	Selenium, Total	0.028	0.01		0.05	NO
	2/28/2020	Silver, Total	ND	0.005		0.05*	NO
	2/28/2020	Sodium, Total	1400	100		–	NA
BH-7	2/28/2020	Arsenic, Total	0.15	0.02	D	0.01	YES
	2/28/2020	Barium, Total	8.7	0.02		2	YES
	2/28/2020	Cadmium, Total	ND	0.02		0.005	NO
	2/28/2020	Calcium, Total	670	20		–	NA
	2/28/2020	Chromium, Total	0.38	0.06		0.05*	YES
	2/28/2020	Lead, Total	0.48	0.02	D	0.015	YES
	2/28/2020	Magnesium, Total	280	20		–	NA
	2/28/2020	Mercury, Total	0.00027	0.0002		0.002	NO
	2/28/2020	Selenium, Total	0.061	0.02	D	0.05	YES
	2/28/2020	Silver, Total	ND	0.05		0.05*	NO
	2/28/2020	Sodium, Total	880	20		–	NA

**TABLE 2C. GROUNDWATER ANALYTICAL DATA - METALS
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO**

Location	Date Sampled	Analyte	Lab Result (mg/L)	Value RL (mg/L)	Lab Qualifier	¹ Screening Level (mg/L)	Screening Level Exceedance
BH-8	2/27/2020	Arsenic, Total	ND	0.01		0.01	NO
	2/27/2020	Barium, Total	0.79	0.002		2	NO
	2/27/2020	Cadmium, Total	ND	0.002		0.005	NO
	2/27/2020	Calcium, Total	34	1		–	NA
	2/27/2020	Chromium, Total	0.0076	0.006		0.05*	NO
	2/27/2020	Lead, Total	0.01	0.01		0.015	NO
	2/27/2020	Magnesium, Total	22	1		–	NA
	2/27/2020	Mercury, Total	ND	0.0002		0.002	NO
	2/27/2020	Selenium, Total	0.0032	0.005	J	0.05	NO
	2/27/2020	Silver, Total	ND	0.005		0.05*	NO
	2/27/2020	Sodium, Total	990	100		–	NA
BH-9	2/27/2020	Arsenic, Total	0.008	0.01	J	0.01	NO
	2/27/2020	Barium, Total	1.9	0.004		2	NO
	2/27/2020	Cadmium, Total	ND	0.002		0.005	NO
	2/27/2020	Calcium, Total	83	1		–	NA
	2/27/2020	Chromium, Total	0.017	0.006		0.05*	NO
	2/27/2020	Lead, Total	0.023	0.01		0.015	YES
	2/27/2020	Magnesium, Total	28	1		–	NA
	2/27/2020	Mercury, Total	ND	0.0002		0.002	NO
	2/27/2020	Selenium, Total	ND	0.005		0.05	NO
	2/27/2020	Silver, Total	ND	0.005		0.05*	NO
	2/27/2020	Sodium, Total	970	10		–	NA

Notes:

¹ United States Environmental Protection Agency Maximum Contaminant Levels (MCL), Tap Water HQ 1.0, 2019 used, unless otherwise specified.

* = NMAC 20.6.2 - New Mexico Administrative Code Ground and Surface Water Protection, December 2018.

D = Lab qualifier; sample diluted due to matrix.

J = Lab qualifier; analyte detected below quantitation limits.

mg/L = milligrams per liter.

– = No standard established.

NA = No applicable standard.

ND = Not detected.

RL = Laboratory reporting limit.

**TABLE 2D. GROUNDWATER ANALYTICAL DATA - GENERAL CHEMISTRY
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO**

Sample ID	Date Sampled	Analyte	Lab Result	Lab Units	Value RL	Value Units	Lab Qualifier	¹ Screening Level (mg/L)	Screening Level Exceedance
BH-1	2/27/2020	Alkalinity	1146	mg/L CaCO3	20	mg/L		–	NO
	2/27/2020	Bicarbonate as CaCO3	1146	mg/L CaCO3	20	mg/L		–	NO
	2/27/2020	Carbonate	ND	mg/L CaCO3	2	mg/L		–	NO
	2/27/2020	Chloride	600	mg/L	25	mg/L	*	–	NO
	2/27/2020	Nitrogen, Nitrate	0.39	mg/L	0.5	mg/L	J	10	NO
	2/27/2020	pH	8.05	unitless		unitless	H	–	NO
	2/27/2020	Solids, Total Dissolved	3160	mg/L	200	mg/L	*D	–	NO
BH-2	2/27/2020	Sulfate	220	mg/L	10	mg/L		–	NO
	2/27/2020	Alkalinity	1300	mg/L CaCO3	50	mg/L		–	NO
	2/27/2020	Bicarbonate as CaCO3	1215	mg/L CaCO3	50	mg/L		–	NO
	2/27/2020	Carbonate	85	mg/L CaCO3	5	mg/L		–	NO
	2/27/2020	Chloride	480	mg/L	25	mg/L	*	–	NO
	2/27/2020	Nitrogen, Nitrate	0.69	mg/L	0.5	mg/L		10	NO
	2/27/2020	pH	8.09	unitless		unitless	H	–	NO
BH-3	2/27/2020	Solids, Total Dissolved	2390	mg/L	40	mg/L	*D	–	NO
	2/27/2020	Sulfate	39	mg/L	2.5	mg/L		–	NO
	2/27/2020	Alkalinity	1300	mg/L CaCO3	50	mg/L		–	NO
	2/27/2020	Bicarbonate as CaCO3	1224	mg/L CaCO3	50	mg/L		–	NO
	2/27/2020	Carbonate	76.2	mg/L CaCO3	5	mg/L		–	NO
	2/27/2020	Chloride	870	mg/L	25	mg/L	*	–	NO
	2/27/2020	Nitrogen, Nitrate	0.13	mg/L	0.5	mg/L	J	10	NO
BH-4	2/27/2020	pH	8.06	unitless		unitless	H	–	NO
	2/27/2020	Solids, Total Dissolved	4230	mg/L	200	mg/L	*D	–	NO
	2/27/2020	Sulfate	18	mg/L	2.5	mg/L		–	NO
	2/27/2020	Alkalinity	1039	mg/L CaCO3	20	mg/L		–	NO
	2/27/2020	Bicarbonate as CaCO3	1039	mg/L CaCO3	20	mg/L		–	NO
	2/27/2020	Carbonate	ND	mg/L CaCO3	2	mg/L		–	NO
	2/27/2020	Chloride	480	mg/L	25	mg/L	*	–	NO
BH-5	2/27/2020	Nitrogen, Nitrate	0.14	mg/L	0.5	mg/L	J	10	NO
	2/27/2020	pH	7.89	unitless		unitless	H	–	NO
	2/27/2020	Solids, Total Dissolved	3090	mg/L	40	mg/L	*D	–	NO
	2/27/2020	Sulfate	860	mg/L	25	mg/L	*	–	NO
	2/27/2020	Alkalinity	947.2	mg/L CaCO3	20	mg/L		–	NO
	2/27/2020	Bicarbonate as CaCO3	947.2	mg/L CaCO3	20	mg/L		–	NO
	2/27/2020	Carbonate	ND	mg/L CaCO3	2	mg/L		–	NO
BH-6	2/27/2020	Chloride	290	mg/L	10	mg/L	*	–	NO
	2/27/2020	Nitrogen, Nitrate	ND	mg/L	0.5	mg/L		10	NO
	2/27/2020	pH	8.21	unitless		unitless	H	–	NO
	2/27/2020	Solids, Total Dissolved	6180	mg/L	200	mg/L	*D	–	NO
	2/27/2020	Sulfate	810	mg/L	10	mg/L	*	–	NO
	2/28/2020	Alkalinity	1133	mg/L CaCO3	50	mg/L		–	NO
	2/28/2020	Bicarbonate as CaCO3	1084	mg/L CaCO3	50	mg/L		–	NO
BH-6 Dup	2/28/2020	Carbonate	49.2	mg/L CaCO3	5	mg/L		–	NO
	2/28/2020	Chloride	900	mg/L	25	mg/L	*	–	NO
	2/28/2020	Nitrogen, Nitrate	0.22	mg/L	0.5	mg/L	J	10	NO
	2/28/2020	pH	8.26	unitless		unitless	H	–	NO
	2/28/2020	Solids, Total Dissolved	5550	mg/L	200	mg/L	*D	–	NO
	2/28/2020	Sulfate	950	mg/L	25	mg/L	*	–	NO
	2/28/2020	Alkalinity	1160	mg/L CaCO3	50	mg/L		–	NO
BH-6 Dup	2/28/2020	Bicarbonate as CaCO3	1127	mg/L CaCO3	50	mg/L		–	NO
	2/28/2020	Carbonate	33	mg/L CaCO3	5	mg/L		–	NO
	2/28/2020	Chloride	830	mg/L	50	mg/L	*	–	NO
	2/28/2020	Nitrogen, Nitrate	0.24	mg/L	0.5	mg/L	J	10	NO
	2/28/2020	pH	8.3	unitless		unitless	H	–	NO
	2/28/2020	Solids, Total Dissolved	5940	mg/L	200	mg/L	*D	–	NO
	2/28/2020	Sulfate	880	mg/L	50	mg/L	*	–	NO

**TABLE 2D. GROUNDWATER ANALYTICAL DATA - GENERAL CHEMISTRY
MARATHON PETROLEUM COMPANY
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO**

Sample ID	Date Sampled	Analyte	Lab Result	Lab Units	Value RL	Value Units	Lab Qualifier	¹ Screening Level (mg/L)	Screening Level Exceedance
BH-7	2/28/2020	Alkalinity	1137	mg/L CaCO3	50	mg/L		–	NO
	2/28/2020	Bicarbonate as CaCO3	1065	mg/L CaCO3	50	mg/L		–	NO
	2/28/2020	Carbonate	71.4	mg/L CaCO3	5	mg/L		–	NO
	2/28/2020	Chloride	340	mg/L	10	mg/L	*	–	NO
	2/28/2020	Nitrogen, Nitrate	ND	mg/L	0.5	mg/L		10	NO
	2/28/2020	pH	8.39	unitless		unitless	H	–	NO
	2/28/2020	Solids, Total Dissolved	2560	mg/L	200	mg/L	*D	–	NO
BH-8	2/28/2020	Sulfate	250	mg/L	2.5	mg/L		–	NO
	2/27/2020	Alkalinity	1169	mg/L CaCO3	50	mg/L		–	NO
	2/27/2020	Bicarbonate as CaCO3	1080	mg/L CaCO3	50	mg/L		–	NO
	2/27/2020	Carbonate	89.4	mg/L CaCO3	5	mg/L		–	NO
	2/27/2020	Chloride	430	mg/L	25	mg/L	*	–	NO
	2/27/2020	Nitrogen, Nitrate	ND	mg/L	0.5	mg/L		10	NO
	2/27/2020	pH	8.43	unitless		unitless	H	–	NO
BH-9	2/27/2020	Solids, Total Dissolved	3030	mg/L	200	mg/L	*D	–	NO
	2/27/2020	Sulfate	560	mg/L	25	mg/L	*	–	NO
	2/27/2020	Alkalinity	1489	mg/L CaCO3	50	mg/L		–	NO
	2/27/2020	Bicarbonate as CaCO3	1407	mg/L CaCO3	50	mg/L		–	NO
	2/27/2020	Carbonate	82.2	mg/L CaCO3	5	mg/L		–	NO
	2/27/2020	Chloride	430	mg/L	25	mg/L	*	–	NO
	2/27/2020	Nitrogen, Nitrate	0.17	mg/L	0.5	mg/L	J	10	NO
	2/27/2020	pH	8.23	unitless		unitless	H	–	NO
	2/27/2020	Solids, Total Dissolved	2950	mg/L	200	mg/L	*D	–	NO
	2/27/2020	Sulfate	92	mg/L	2.5	mg/L		–	NO

Notes:

¹ United States Environmental Protection Agency Maximum Contaminant Levels (MCL), Tap Water HQ 1.0, 2019.

* = Exceedance of maximum contaminate level for laboratory standard

D = Lab qualifier; sample diluted due to matrix.

H = Holding time for preparation or analysis exceeded. Field parameters measured in lab, holding time is 15 minutes from time of sample collection.

J = Lab qualifier; analyte detected below quantitation limits.

mg/L = milligrams per liter.

– = No Standard established.

RL = Laboratory reporting limit.

Appendix A. Boring Logs

Lithology Log

Sheet 1 of 3

LOCATION ID

BH-1

Project Name		Project Number		Site ID	
Wingate Benzene Investigation		697-072-001			
Drilling Company		Driller		Ground Elevation	
Yellow Jacket		SL		Total Drilled Depth	
				30 feet-bgs	
Drilling Equipment		Drilling Method		Date/Time Drilling Started	
Track Mounted		HSA		2/24/2020	
Type of Sampling Device				Water Level (bgs)	
Continuous Sampler				First ___ feet-bgs	
Sample Hammer				Final	
Type NA				Hydrogeologist	
Driving Weight Drop				W. Coles	
				Checked by/Date	

Location Description (include sketch in field logbook)

See borehole location figure

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of			Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
								Gr	Sa	Fi	
0				Roadbase/gravel, crushed asphalt							Hand augered to 5' bgs to clear borehold location
1				Red/brown fat CLAY, moist, black staining present from 3' - 5'	CH						
2											
3											
4											
5				Red/brown fat CLAY, moist, wet zone at 10'	CH					Drilled using hollow stem auger and continuous sampler	
6											
7											
8											
9											
10											

Lithology Log (continued)

Sheet 2 of 3

LOCATION ID	
BH-1	

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of			Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
								Gr	Sa	Fi	
10				Same as above	CH						
11											
12											
13											
14											
15				Brown fine to medium grained SAND, moist to saturated (25')	SM						
16											
17											
18											
19											
20											
21											
22											
23											

Soil sample collected at 23'.
TOV/Benzene = 1.3/1.3 ppm

Lithology Log (continued)

Sheet 3 of 3

LOCATION ID
BH-1

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of			Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
								Gr	Sa	Fi	
23				Same as above	SM						
24											
25											
26											
27											
28											
29											
30											
31				Boring terminated at 30' bgs							
32											
33											
34											
35											
36											

Lithology Log

Sheet 1 of 2

LOCATION ID

BH-2

Project Name		Project Number		Site ID	
Wingate Benzene Investigation		697-072-001			
Drilling Company		Driller		Ground Elevation	
Yellow Jacket		SL		Total Drilled Depth	
				20 feet-bgs	
Drilling Equipment		Drilling Method		Date/Time Drilling Started	
Track Mounted		HSA		2/25/2020	
Type of Sampling Device				Water Level (bgs)	
Continuous Sampler				First ___ feet-bgs	
Sample Hammer				Final	
Type NA				Hydrogeologist	
Driving Weight Drop				W. Coles	
				Checked by/Date	

Location Description (include sketch in field logbook)

See borehole location figure

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of			Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
								Gr	Sa	Fi	
0				Roadbase and gravel							Hand augered to 5' bgs to clear borehold location
1											
2				Red/brown fat CLAY, moist, black staining and hydrocarbon odor at 3' - 3.5'	CH						
3											
4											
5				Red/brown fat CLAY, black staining and strong hydrocarbon odor present	CH					Drilled using hollow stem augers and continuous sampler	
6											
7											
8				Dark gray fat CLAY	CH						
9											
10											

Lithology Log (continued)

Sheet 2 of 2

LOCATION ID

BH-2

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of			Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
								Gr	Sa	Fi	
10				Same as above							
11											
12											
13				Sample collected @13'. TOV/Benzene at 1.0/0.6 ppm	CH						
14											
15											
16											
17											
18				Saturated fine to medium grained sand (from cuttings); no recovery in sampler barrel	SM						
19											
20				Boring terminated at 20' bgs							
21											
22											
23											



Location Description (include sketch in field logbook)	See borehole location figure
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Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of			Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
								Gr	Sa	Fi	
0				Gravel, layer of geotextile at 1'							Hand augered to 5' bgs to clear borehold location
1				Red/brown fat CLAY, moist, black staining and strong hydrocarbon odor present	CH						
2											
3											
4											
5				Red/brown fat CLAY, moist	CH						Drilled using hollow stem augers and continuous sampler
6											
7				Gray fat CLAY, staining present, moist, wet zone at 10'	CH						
8											
9											
10											

Lithology Log (continued)

Sheet 2 of 2

LOCATION ID

BH-3

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of			Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
								Gr	Sa	Fi	
10				Same as above, wet at 17'							
11											
12											
13											
14											
15				Sample collected at 15'. TOV/Benzene = 69/0.6 ppm							
16											
17											
18											
19											
20				Gray, fine to medium grained SAND, hydrocarbon odor present, saturated	SM						
21											
22											
23				Boring terminated at 20' bgs							

Project Name		Project Number		Site ID	
Wingate Benzene Investigation		697-072-001			
Drilling Company		Driller		Ground Elevation	
Yellow Jacket		SL		Total Drilled Depth	
				25 feet-bgs	
Drilling Equipment		Drilling Method		Date/Time Drilling Started	
Track Mounted		HSA		2/26/2020	
		Borehole Diameter		Date/Time Total Depth Reached	
		8.5 inches		2/26/2020	
Type of Sampling Device				Water Level (bgs)	
Continuous Sampler				First ___ feet-bgs	
Sample Hammer				Final	
				Hydrogeologist	
Type NA				Checked by/Date	
Driving Weight Drop				W. Coles	

Location Description (include sketch in field logbook)	See borehole location figure
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Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of			Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
								Gr	Sa	Fi	
0				Gravel							Hand augered to 5' bgs to clear borehold location
1				Red/brown fat CLAY, black staining from 2.5' - 5'	CH						
2											
3											
4											
5				Red/brown fat CLAY, black staining and HC odor present, wet zone from 10' - 11', root zone from 12' - 13'	CH						Drilled using hollow stem augers and continuous sampler
6											
7											
8											
9											
10											

Lithology Log (continued)

Sheet 2 of 3

LOCATION ID

BH-4

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of			Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
								Gr	Sa	Fi	
10				Same as above	CH						
11											
12											
13				Brown, red, and gray mottled CLAY, little fine sand, moist, no staining or odor observed							
14											
15											
16											
17											
18											
19											
20											
21				Brown fine sandy CLAY, saturated, no staining or odor	CL						
22											
23											



Lithology Log (continued)

Sheet 3 of 3

LOCATION ID
BH-4

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of			Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
								Gr	Sa	Fi	
23				Brown fine grained SAND, no staining or odor observed, saturated	SM						
24											
25											
26				Boring terminated at 25' bgs							
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											

Lithology Log

Project Name		Project Number		Site ID	
Wingate Benzene Investigation		697-072-001			
Drilling Company		Driller		Ground Elevation	
Yellow Jacket		SL		Total Drilled Depth	
				20 feet-bgs	
Drilling Equipment		Drilling Method		Date/Time Drilling Started	
Track Mounted		HSA		2/26/2020	
		Borehole Diameter		Date/Time Total Depth Reached	
		8.5 inches		2/26/2020	
Type of Sampling Device				Water Level (bgs)	
Continuous Sampler				First feet-bgs	
Sample Hammer				Final	
				Hydrogeologist	
				Checked by/Date	
Type		Driving Weight		Drop	
NA				W. Coles	

Location Description (include sketch in field logbook)

See borehole location figure

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of			Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
								Gr	Sa	Fi	
0				Gravel							Hand augered to 5' bgs to clear borehold location
1				Red/brown fat CLAY, staining and slight HC odor from 2.5' - 5', moist	CH						
2											
3											
4											
5				Red/brown fat CLAY, moist wet zone from 10' - 11' comprised of red/brown sandy CLAY	CH						Drilled using hollow stem augers and continuous sampler
6											
7											
8											
9											
10											

Lithology Log (continued)

Sheet 2 of 2

LOCATION ID
BH-5

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of			Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
								Gr	Sa	Fi	
10				Same as above	CH						
11				Brown, red, and gray mottled CLAY, moist, no odor or staining observed, wet at 16'							
12											
13											
14					Sample collected at 14'; TOV/Benzene = 0.3/0.0 ppm						
15											
16											
17											
18				Brown fine to medium grained SAND, little clay; black staining and slight HC odor present, saturated	SM						
19											
20											
21				Boring terminated at 20' bgs							
22											
23											

Lithology Log

Sheet 1 of 2

LOCATION ID

BH-6

Project Name		Project Number		Site ID	
Wingate Benzene Investigation		697-072-001			
Drilling Company		Driller		Ground Elevation	
Yellow Jacket		SL		Total Drilled Depth	
				15 feet-bgs	
Drilling Equipment		Drilling Method		Borehole Diameter	
Track Mounted		HSA		8.5 inches	
Type of Sampling Device				Water Level (bgs)	
Continuous Sampler				First _____ feet-bgs	
Sample Hammer				Final	
Hydrogeologist				Checked by/Date	
Type NA		Driving Weight Drop		W. Coles	

Location Description (include sketch in field logbook)

See borehole location figure

[illegible]

Lithology Log (continued)

Sheet 2 of 2

LOCATION ID

BH-6

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of			Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
								Gr	Sa	Fi	
10				Same as above							
11				Sampled at 11'; TOV/Benezene = 0.0/0.0 ppm	CH						
12											
13											
14				Brown fine to medium grained SAND, no staining or odor noted in soils	SM						
15				Boring terminated at 15' bgs							
16											
17											
18											
19											
20											
21											
22											
23											

Lithology Log

Sheet 1 of 2

LOCATION ID

BH-7

Project Name		Project Number		Site ID	
Wingate Benzene Investigation		697-072-001			
Drilling Company		Driller		Ground Elevation	
Yellow Jacket		SL		Total Drilled Depth	
				20 feet-bgs	
Drilling Equipment		Drilling Method		Date/Time Drilling Started	
Track Mounted		HSA		2/27/2020	
Type of Sampling Device		Borehole Diameter		Date/Time Total Depth Reached	
Continuous Sampler		8.5 inches		2/27/2020	
Sample Hammer		Water Level (bgs)			
		First		Final	
		___ feet-bgs			
Type		Driving Weight		Hydrogeologist	
NA		Drop		W. Coles	
				Checked by/Date	

Location Description (include sketch in field logbook)

See borehole location figure

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of			Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
								Gr	Sa	Fi	
0				Asphalt and sub base material							Hand augered to 5' bgs to clear borehold location
1											
2											
3				Red/brown fat CLAY, moist, no odor or staining observed	CH						
4											
5											
6				Same as above	CH						Drilled using hollow stem augers and continuous sampler
7											
8											
9											
10											

Lithology Log (continued)

Sheet 2 of 2

LOCATION ID

BH-7

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of			Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
								Gr	Sa	Fi	
10				Same as above	CH						
11											
12											
13											
14				Sample collected at 14'; TOV/Benzene = 0.0/0.0 ppm	CL						
15				Gray CLAY, little fine to medium grained sand, moist, no odor or staining observed							
16											
17				Brown fine to medium grained SAND, little clay, saturated	SM						
18											
19											
20											
21				Boring terminated at 20' bgs							
22											
23											

Lithology Log

Project Name			Project Number		Site ID	
Wingate Benzene Investigation			697-072-001			
Drilling Company		Driller		Ground Elevation		Total Drilled Depth
Yellow Jacket		SL				15 feet-bgs
Drilling Equipment	Drilling Method	Borehole Diameter	Date/Time Drilling Started		Date/Time Total Depth Reached	
Track Mounted	HSA	8.5 inches	2/25/2020		2/25/2020	
Type of Sampling Device			Water Level (bgs)			
Continuous Sampler			First ___ feet-bgs		Final	
Sample Hammer			Hydrogeologist		Checked by/Date	
Type	NA	Driving Weight	Drop	W. Coles		

Location Description (include sketch in field logbook)

See borehole location figure

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of			Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
								Gr	Sa	Fi	
0				Gravel, rocks, roadbase							Hand augered to 5' bgs to clear borehold location
1											
2											
3				Red/brown fat CLAY, moist, stained (black) with strong hydrocarbon odor from 3' - 5'	CH						
4											
5											
6				Red/brown fat CLAY, black staining present, HC odor present	CH						Drilled using hollow stem augers and continuous sampler
7											
8											
9				Sampled at 8'; TOV/Benzene = 200+ (over range)/0.6 ppm							
10											

Lithology Log (continued)

Sheet 2 of 2

LOCATION ID

BH-8

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of			Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
								Gr	Sa	Fi	
10				Gray, black stained, fine to medium grained SAND, saturated	SM						
11											
12											
13											
14											
15				Boring terminated at 15' bgs							
16											
17											
18											
19											
20											
21											
22											
23											

Lithology Log

Sheet 1 of 3

LOCATION ID

BH-9

Project Name		Project Number		Site ID	
Wingate Benzene Investigation		697-072-001			
Drilling Company		Driller		Ground Elevation	
Yellow Jacket				Total Drilled Depth	
				25 feet-bgs	
Drilling Equipment		Drilling Method		Borehole Diameter	
Track Mounted		HSA		8.5 inches	
Type of Sampling Device				Water Level (bgs)	
Continuous Sampler				First feet-bgs	
Sample Hammer				Final	
Sample Hammer				Hydrogeologist	
Type NA				Checked by/Date	
Driving Weight Drop				W. Coles	

Location Description (include sketch in field logbook)

See borehole location figure

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of			Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
								Gr	Sa	Fi	
0				Gravel							Hand augered to 5' bgs to clear borehold location
1				Red/brown fat CLAY, black staining present 3' - 5', moist	CH						
2											
3											
4											
5				Red/brown fat CLAY, moist, black staining present	CH						Drilled using hollow stem augers and continuous sampler
6											
7											
8											
9											
10											

Lithology Log (continued)

Sheet 2 of 3

LOCATION ID

BH-9

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of			Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
								Gr	Sa	Fi	
10				Same as above	CH						
11											
12											
13											
14											
15											
16				Brown fine grained sandy CLAY, moist, no odor or staining observed Sampled at 19'; TOV/Benzene = 0.0/0.0 ppm	CL						
17											
18											
19											
20											
21				Gray fine grained SAND, little clay, saturated	SM						
22											
23											

Lithology Log (continued)

Sheet 3 of 3

LOCATION ID
BH-9

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of			Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
								Gr	Sa	Fi	
23				Same as above	SM						
24											
25											
26				Boring terminated at 25' bgs							
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											

Appendix B. Analytical Reports



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

March 19, 2020

Paul Hildebrandt

Marathon

92 Giant Crossing Rd

Gallup, NM 87301

TEL:

FAX

RE: Wingate Benzene Investigation

OrderNo.: 2002C93

Dear Paul Hildebrandt:

Hall Environmental Analysis Laboratory received 3 sample(s) on 2/28/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C93

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-6

Project: Wingate Benzene Investigation

Collection Date: 2/28/2020 8:15:00 AM

Lab ID: 2002C93-001

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS								
							Analyst: MRA	
Chloride	900	12	25	*	mg/L	50	3/4/2020 5:40:29 PM	R67041
Nitrogen, Nitrate (As N)	0.22	0.11	0.50	J	mg/L	5	2/29/2020 2:11:42 AM	A66917
Sulfate	950	12	25	*	mg/L	50	3/4/2020 5:40:29 PM	R67041
EPA METHOD 6020: TOTAL METALS								
							Analyst: DBK	
Arsenic	0.021	0.0025	0.0050		mg/L	5	3/13/2020 10:42:32 AM	50834
Lead	0.052	0.0050	0.010		mg/L	10	3/12/2020 4:02:56 PM	50834
Selenium	0.0091	0.0025	0.0050		mg/L	5	3/13/2020 10:42:32 AM	50834
EPA METHOD 7470: MERCURY								
							Analyst: pmf	
Mercury	ND	0.00012	0.00020		mg/L	1	3/10/2020 1:33:57 PM	50971
EPA 6010B: TOTAL RECOVERABLE METALS								
							Analyst: rde	
Barium	0.81	0.0011	0.0020		mg/L	1	3/16/2020 12:34:05 PM	50834
Cadmium	ND	0.00090	0.0020		mg/L	1	3/16/2020 12:34:05 PM	50834
Calcium	140	0.36	10		mg/L	10	3/16/2020 5:34:45 PM	50834
Chromium	0.037	0.0014	0.0060		mg/L	1	3/16/2020 12:34:05 PM	50834
Magnesium	65	0.022	1.0		mg/L	1	3/16/2020 5:14:27 PM	50834
Silver	ND	0.0013	0.0050		mg/L	1	3/16/2020 12:34:05 PM	50834
Sodium	1400	61	100		mg/L	100	3/16/2020 5:35:56 PM	50834
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: JDC	
Acenaphthene	ND	2.3	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Acenaphthylene	ND	2.4	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Aniline	ND	4.5	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Anthracene	ND	3.9	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Azobenzene	ND	3.4	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Benz(a)anthracene	ND	3.3	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Benzo(a)pyrene	ND	3.4	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Benzo(b)fluoranthene	ND	3.6	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Benzo(k)fluoranthene	ND	4.9	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Benzoic acid	10	9.3	20	J	µg/L	1	3/11/2020 1:57:57 PM	50816
Benzyl alcohol	ND	4.7	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Bis(2-chloroethoxy)methane	ND	4.4	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Bis(2-chloroisopropyl)ether	ND	4.0	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Bis(2-ethylhexyl)phthalate	ND	6.0	10		µg/L	1	3/11/2020 1:57:57 PM	50816
4-Bromophenyl phenyl ether	ND	2.0	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Butyl benzyl phthalate	ND	3.9	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Carbazole	ND	3.7	10		µg/L	1	3/11/2020 1:57:57 PM	50816

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C93

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-6

Project: Wingate Benzene Investigation

Collection Date: 2/28/2020 8:15:00 AM

Lab ID: 2002C93-001

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC	
4-Chloro-3-methylphenol	ND	4.7	10		µg/L	1	3/11/2020 1:57:57 PM	50816
4-Chloroaniline	ND	5.1	10		µg/L	1	3/11/2020 1:57:57 PM	50816
2-Chloronaphthalene	ND	1.9	10		µg/L	1	3/11/2020 1:57:57 PM	50816
2-Chlorophenol	ND	3.3	10		µg/L	1	3/11/2020 1:57:57 PM	50816
4-Chlorophenyl phenyl ether	ND	2.2	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Chrysene	ND	5.6	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Di-n-butyl phthalate	ND	4.4	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Di-n-octyl phthalate	ND	4.2	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Dibenz(a,h)anthracene	ND	3.7	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Dibenzofuran	ND	2.1	10		µg/L	1	3/11/2020 1:57:57 PM	50816
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/11/2020 1:57:57 PM	50816
1,3-Dichlorobenzene	ND	2.7	10		µg/L	1	3/11/2020 1:57:57 PM	50816
1,4-Dichlorobenzene	ND	2.9	10		µg/L	1	3/11/2020 1:57:57 PM	50816
3,3'-Dichlorobenzidine	ND	7.3	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Diethyl phthalate	ND	4.3	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Dimethyl phthalate	ND	5.6	10		µg/L	1	3/11/2020 1:57:57 PM	50816
2,4-Dichlorophenol	ND	4.4	20		µg/L	1	3/11/2020 1:57:57 PM	50816
2,4-Dimethylphenol	ND	5.5	10		µg/L	1	3/11/2020 1:57:57 PM	50816
4,6-Dinitro-2-methylphenol	ND	2.6	20		µg/L	1	3/11/2020 1:57:57 PM	50816
2,4-Dinitrophenol	ND	3.0	20		µg/L	1	3/11/2020 1:57:57 PM	50816
2,4-Dinitrotoluene	ND	3.4	10		µg/L	1	3/11/2020 1:57:57 PM	50816
2,6-Dinitrotoluene	ND	4.6	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Fluoranthene	ND	4.4	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Fluorene	ND	2.6	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Hexachlorobenzene	ND	3.4	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Hexachlorobutadiene	ND	4.2	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Hexachlorocyclopentadiene	ND	5.6	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Hexachloroethane	ND	4.0	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Isophorone	ND	3.4	10		µg/L	1	3/11/2020 1:57:57 PM	50816
1-Methylnaphthalene	ND	2.3	10		µg/L	1	3/11/2020 1:57:57 PM	50816
2-Methylnaphthalene	ND	2.3	10		µg/L	1	3/11/2020 1:57:57 PM	50816
2-Methylphenol	ND	3.6	10		µg/L	1	3/11/2020 1:57:57 PM	50816
3+4-Methylphenol	ND	4.6	10		µg/L	1	3/11/2020 1:57:57 PM	50816
N-Nitrosodi-n-propylamine	ND	4.1	10		µg/L	1	3/11/2020 1:57:57 PM	50816
N-Nitrosodimethylamine	ND	6.1	10		µg/L	1	3/11/2020 1:57:57 PM	50816
N-Nitrosodiphenylamine	ND	4.1	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Naphthalene	ND	2.2	10		µg/L	1	3/11/2020 1:57:57 PM	50816
2-Nitroaniline	ND	4.1	10		µg/L	1	3/11/2020 1:57:57 PM	50816

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C93

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-6

Project: Wingate Benzene Investigation

Collection Date: 2/28/2020 8:15:00 AM

Lab ID: 2002C93-001

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES					Analyst: JDC			
3-Nitroaniline	ND	4.9	10		µg/L	1	3/11/2020 1:57:57 PM	50816
4-Nitroaniline	ND	2.9	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Nitrobenzene	ND	4.0	10		µg/L	1	3/11/2020 1:57:57 PM	50816
2-Nitrophenol	ND	3.8	10		µg/L	1	3/11/2020 1:57:57 PM	50816
4-Nitrophenol	ND	4.2	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Pentachlorophenol	ND	7.6	20		µg/L	1	3/11/2020 1:57:57 PM	50816
Phenanthrene	ND	4.0	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Phenol	ND	3.6	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Pyrene	ND	5.6	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Pyridine	ND	3.4	10		µg/L	1	3/11/2020 1:57:57 PM	50816
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/11/2020 1:57:57 PM	50816
2,4,5-Trichlorophenol	ND	4.3	10		µg/L	1	3/11/2020 1:57:57 PM	50816
2,4,6-Trichlorophenol	ND	3.6	10		µg/L	1	3/11/2020 1:57:57 PM	50816
Surr: 2-Fluorophenol	39.1	0	19.1-74.7		%Rec	1	3/11/2020 1:57:57 PM	50816
Surr: Phenol-d5	31.3	0	19.2-57		%Rec	1	3/11/2020 1:57:57 PM	50816
Surr: 2,4,6-Tribromophenol	71.4	0	31-96.4		%Rec	1	3/11/2020 1:57:57 PM	50816
Surr: Nitrobenzene-d5	58.6	0	46.2-101		%Rec	1	3/11/2020 1:57:57 PM	50816
Surr: 2-Fluorobiphenyl	55.1	0	39.7-98.2		%Rec	1	3/11/2020 1:57:57 PM	50816
Surr: 4-Terphenyl-d14	62.7	0	31.1-102		%Rec	1	3/11/2020 1:57:57 PM	50816
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: CCM			
Benzene	24	0.17	1.0		µg/L	1	3/4/2020 3:04:00 PM	B66998
Toluene	0.90	0.35	1.0	J	µg/L	1	3/4/2020 3:04:00 PM	B66998
Ethylbenzene	1.5	0.13	1.0		µg/L	1	3/4/2020 3:04:00 PM	B66998
Xylenes, Total	0.95	0.45	1.5	J	µg/L	1	3/4/2020 3:04:00 PM	B66998
Surr: 1,2-Dichloroethane-d4	98.6	0	70-130		%Rec	1	3/4/2020 3:04:00 PM	B66998
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	3/4/2020 3:04:00 PM	B66998
Surr: Dibromofluoromethane	96.8	0	70-130		%Rec	1	3/4/2020 3:04:00 PM	B66998
Surr: Toluene-d8	101	0	70-130		%Rec	1	3/4/2020 3:04:00 PM	B66998
SM4500-H+B / 9040C: PH					Analyst: JRR			
pH	8.26			H	pH units	1	3/2/2020 6:06:32 PM	R66945
SM2320B: ALKALINITY					Analyst: JRR			
Bicarbonate (As CaCO3)	1084	50.00	50.00		mg/L Ca	2.5	3/5/2020 8:21:22 PM	R67047
Carbonate (As CaCO3)	49.20	5.000	5.000		mg/L Ca	2.5	3/5/2020 8:21:22 PM	R67047
Total Alkalinity (as CaCO3)	1133	50.00	50.00		mg/L Ca	2.5	3/5/2020 8:21:22 PM	R67047
SM2540C MOD: TOTAL DISSOLVED SOLIDS					Analyst: KS			
Total Dissolved Solids	5550	200	200	*D	mg/L	1	3/9/2020 10:48:00 AM	50911

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C93

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-7

Project: Wingate Benzene Investigation

Collection Date: 2/28/2020 9:00:00 AM

Lab ID: 2002C93-002

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS								
							Analyst: MRA	
Chloride	340	5.0	10	*	mg/L	20	2/29/2020 3:38:17 PM	R66918
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	2/29/2020 3:25:53 PM	R66918
Sulfate	250	1.2	2.5		mg/L	5	2/29/2020 3:25:53 PM	R66918
EPA METHOD 6020: TOTAL METALS								
							Analyst: DBK	
Arsenic	0.15	0.010	0.020	D	mg/L	10	3/13/2020 10:47:38 AM	50834
Lead	0.48	0.010	0.020	D	mg/L	10	3/12/2020 4:23:43 PM	50834
Selenium	0.061	0.010	0.020	D	mg/L	10	3/13/2020 10:47:38 AM	50834
EPA METHOD 7470: MERCURY								
							Analyst: pmf	
Mercury	0.00027	0.00012	0.00020		mg/L	1	3/10/2020 7:12:57 PM	50971
EPA 6010B: TOTAL RECOVERABLE METALS								
							Analyst: rde	
Barium	8.7	0.011	0.020		mg/L	5	3/16/2020 1:15:18 PM	50834
Cadmium	ND	0.0090	0.020		mg/L	5	3/16/2020 1:15:18 PM	50834
Calcium	670	0.72	20		mg/L	10	3/16/2020 5:50:41 PM	50834
Chromium	0.38	0.014	0.060		mg/L	5	3/16/2020 1:15:18 PM	50834
Magnesium	280	0.44	20		mg/L	10	3/16/2020 5:50:41 PM	50834
Silver	ND	0.013	0.050		mg/L	5	3/16/2020 1:15:18 PM	50834
Sodium	880	12	20		mg/L	10	3/16/2020 5:50:41 PM	50834
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: JDC	
Acenaphthene	ND	3.3	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Acenaphthylene	ND	3.5	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Aniline	ND	6.4	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Anthracene	ND	5.5	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Azobenzene	ND	4.9	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Benz(a)anthracene	ND	4.8	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Benzo(a)pyrene	ND	4.9	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Benzo(b)fluoranthene	ND	5.1	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Benzo(g,h,i)perylene	ND	5.7	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Benzo(k)fluoranthene	ND	7.0	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Benzoic acid	16	13	29	JD	µg/L	1	3/11/2020 3:51:43 PM	50816
Benzyl alcohol	ND	6.7	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Bis(2-chloroethoxy)methane	ND	6.4	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Bis(2-chloroethyl)ether	ND	3.8	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Bis(2-chloroisopropyl)ether	ND	5.8	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Bis(2-ethylhexyl)phthalate	ND	8.5	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
4-Bromophenyl phenyl ether	ND	2.8	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Butyl benzyl phthalate	ND	5.6	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Carbazole	ND	5.3	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C93

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-7

Project: Wingate Benzene Investigation

Collection Date: 2/28/2020 9:00:00 AM

Lab ID: 2002C93-002

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC	
4-Chloro-3-methylphenol	ND	6.8	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
4-Chloroaniline	ND	7.3	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
2-Chloronaphthalene	ND	2.7	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
2-Chlorophenol	ND	4.7	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
4-Chlorophenyl phenyl ether	ND	3.1	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Chrysene	ND	8.1	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Di-n-butyl phthalate	ND	6.3	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Di-n-octyl phthalate	ND	6.0	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Dibenz(a,h)anthracene	ND	5.3	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Dibenzofuran	ND	3.0	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
1,2-Dichlorobenzene	ND	3.3	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
1,3-Dichlorobenzene	ND	3.9	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
1,4-Dichlorobenzene	ND	4.1	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
3,3'-Dichlorobenzidine	ND	10	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Diethyl phthalate	ND	6.1	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Dimethyl phthalate	ND	8.0	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
2,4-Dichlorophenol	ND	6.3	29	D	µg/L	1	3/11/2020 3:51:43 PM	50816
2,4-Dimethylphenol	ND	7.8	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
4,6-Dinitro-2-methylphenol	ND	3.7	29	D	µg/L	1	3/11/2020 3:51:43 PM	50816
2,4-Dinitrophenol	ND	4.3	29	D	µg/L	1	3/11/2020 3:51:43 PM	50816
2,4-Dinitrotoluene	ND	4.9	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
2,6-Dinitrotoluene	ND	6.6	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Fluoranthene	ND	6.3	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Fluorene	ND	3.7	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Hexachlorobenzene	ND	4.9	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Hexachlorobutadiene	ND	5.9	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Hexachlorocyclopentadiene	ND	8.0	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Hexachloroethane	ND	5.7	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Indeno(1,2,3-cd)pyrene	ND	3.9	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Isophorone	ND	4.8	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
1-Methylnaphthalene	ND	3.3	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
2-Methylnaphthalene	ND	3.3	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
2-Methylphenol	ND	5.2	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
3+4-Methylphenol	ND	6.5	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
N-Nitrosodi-n-propylamine	ND	5.9	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
N-Nitrosodimethylamine	ND	8.7	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
N-Nitrosodiphenylamine	ND	5.9	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Naphthalene	ND	3.2	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
2-Nitroaniline	ND	5.8	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816

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	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C93

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-7

Project: Wingate Benzene Investigation

Collection Date: 2/28/2020 9:00:00 AM

Lab ID: 2002C93-002

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC	
3-Nitroaniline	ND	6.9	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
4-Nitroaniline	ND	4.2	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Nitrobenzene	ND	5.6	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
2-Nitrophenol	ND	5.4	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
4-Nitrophenol	ND	6.0	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Pentachlorophenol	ND	11	29	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Phenanthrene	ND	5.7	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Phenol	85	5.2	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Pyrene	ND	8.1	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Pyridine	ND	4.9	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
1,2,4-Trichlorobenzene	ND	3.7	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
2,4,5-Trichlorophenol	ND	6.1	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
2,4,6-Trichlorophenol	ND	5.2	14	D	µg/L	1	3/11/2020 3:51:43 PM	50816
Surr: 2-Fluorophenol	28.8	0	19.1-74.7	D	%Rec	1	3/11/2020 3:51:43 PM	50816
Surr: Phenol-d5	24.8	0	19.2-57	D	%Rec	1	3/11/2020 3:51:43 PM	50816
Surr: 2,4,6-Tribromophenol	39.3	0	31-96.4	D	%Rec	1	3/11/2020 3:51:43 PM	50816
Surr: Nitrobenzene-d5	34.8	0	46.2-101	SD	%Rec	1	3/11/2020 3:51:43 PM	50816
Surr: 2-Fluorobiphenyl	25.9	0	39.7-98.2	SD	%Rec	1	3/11/2020 3:51:43 PM	50816
Surr: 4-Terphenyl-d14	24.2	0	31.1-102	SD	%Rec	1	3/11/2020 3:51:43 PM	50816
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: CCM	
Benzene	13000	170	1000		µg/L	1E+	3/6/2020 2:34:00 PM	S67083
Toluene	6.4	0.35	1.0		µg/L	1	3/4/2020 3:28:00 PM	B66998
Ethylbenzene	65	0.13	1.0		µg/L	1	3/4/2020 3:28:00 PM	B66998
Xylenes, Total	480	4.5	15		µg/L	10	3/5/2020 2:46:00 PM	SL_W_
Surr: 1,2-Dichloroethane-d4	98.3	0	70-130		%Rec	1	3/4/2020 3:28:00 PM	B66998
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	1	3/4/2020 3:28:00 PM	B66998
Surr: Dibromofluoromethane	116	0	70-130		%Rec	1	3/4/2020 3:28:00 PM	B66998
Surr: Toluene-d8	102	0	70-130		%Rec	1	3/4/2020 3:28:00 PM	B66998
SM4500-H+B / 9040C: PH							Analyst: JRR	
pH	8.39			H	pH units	1	3/2/2020 6:41:45 PM	R66945
SM2320B: ALKALINITY							Analyst: JRR	
Bicarbonate (As CaCO3)	1065	50.00	50.00		mg/L Ca	2.5	3/5/2020 8:40:39 PM	R67047
Carbonate (As CaCO3)	71.40	5.000	5.000		mg/L Ca	2.5	3/5/2020 8:40:39 PM	R67047
Total Alkalinity (as CaCO3)	1137	50.00	50.00		mg/L Ca	2.5	3/5/2020 8:40:39 PM	R67047
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS	
Total Dissolved Solids	2560	200	200	*D	mg/L	1	3/9/2020 10:48:00 AM	50911

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C93

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: Dup 2

Project: Wingate Benzene Investigation

Collection Date: 2/28/2020 12:00:00 PM

Lab ID: 2002C93-003

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS								
							Analyst: MRA	
Chloride	830	25	50	*	mg/L	100	2/29/2020 4:03:07 PM	R66918
Nitrogen, Nitrate (As N)	0.24	0.11	0.50	J	mg/L	5	2/29/2020 3:50:42 PM	R66918
Sulfate	880	25	50	*	mg/L	100	2/29/2020 4:03:07 PM	R66918
EPA METHOD 6020: TOTAL METALS								
							Analyst: DBK	
Arsenic	0.049	0.0050	0.010		mg/L	10	3/12/2020 4:44:35 PM	50834
Lead	0.14	0.0050	0.010		mg/L	10	3/12/2020 4:44:35 PM	50834
Selenium	0.028	0.0050	0.010		mg/L	10	3/13/2020 10:49:21 AM	50834
EPA METHOD 7470: MERCURY								
							Analyst: pmf	
Mercury	ND	0.00012	0.00020		mg/L	1	3/10/2020 1:39:35 PM	50971
EPA 6010B: TOTAL RECOVERABLE METALS								
							Analyst: rde	
Barium	1.7	0.0021	0.0040		mg/L	2	3/16/2020 1:12:19 PM	50834
Cadmium	ND	0.00090	0.0020		mg/L	1	3/16/2020 12:42:50 PM	50834
Calcium	480	0.36	10		mg/L	10	3/16/2020 5:51:51 PM	50834
Chromium	0.085	0.0014	0.0060		mg/L	1	3/16/2020 12:42:50 PM	50834
Magnesium	130	0.22	10		mg/L	10	3/16/2020 5:51:51 PM	50834
Silver	ND	0.0013	0.0050		mg/L	1	3/16/2020 12:42:50 PM	50834
Sodium	1400	61	100		mg/L	100	3/16/2020 6:09:23 PM	50834
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: JDC	
Acenaphthene	ND	2.3	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Acenaphthylene	ND	2.4	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Aniline	ND	4.5	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Anthracene	ND	3.9	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Azobenzene	ND	3.4	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Benz(a)anthracene	ND	3.3	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Benzo(a)pyrene	ND	3.4	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Benzo(b)fluoranthene	ND	3.6	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Benzo(k)fluoranthene	ND	4.9	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Benzoic acid	ND	9.3	20		µg/L	1	3/11/2020 4:20:57 PM	50816
Benzyl alcohol	ND	4.7	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Bis(2-chloroethoxy)methane	ND	4.4	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Bis(2-chloroisopropyl)ether	ND	4.0	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Bis(2-ethylhexyl)phthalate	ND	6.0	10		µg/L	1	3/11/2020 4:20:57 PM	50816
4-Bromophenyl phenyl ether	ND	2.0	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Butyl benzyl phthalate	ND	3.9	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Carbazole	ND	3.7	10		µg/L	1	3/11/2020 4:20:57 PM	50816

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C93

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: Dup 2

Project: Wingate Benzene Investigation

Collection Date: 2/28/2020 12:00:00 PM

Lab ID: 2002C93-003

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC	
4-Chloro-3-methylphenol	ND	4.7	10		µg/L	1	3/11/2020 4:20:57 PM	50816
4-Chloroaniline	ND	5.1	10		µg/L	1	3/11/2020 4:20:57 PM	50816
2-Chloronaphthalene	ND	1.9	10		µg/L	1	3/11/2020 4:20:57 PM	50816
2-Chlorophenol	ND	3.3	10		µg/L	1	3/11/2020 4:20:57 PM	50816
4-Chlorophenyl phenyl ether	ND	2.2	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Chrysene	ND	5.6	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Di-n-butyl phthalate	ND	4.4	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Di-n-octyl phthalate	ND	4.2	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Dibenz(a,h)anthracene	ND	3.7	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Dibenzofuran	ND	2.1	10		µg/L	1	3/11/2020 4:20:57 PM	50816
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/11/2020 4:20:57 PM	50816
1,3-Dichlorobenzene	ND	2.7	10		µg/L	1	3/11/2020 4:20:57 PM	50816
1,4-Dichlorobenzene	ND	2.9	10		µg/L	1	3/11/2020 4:20:57 PM	50816
3,3'-Dichlorobenzidine	ND	7.3	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Diethyl phthalate	ND	4.3	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Dimethyl phthalate	ND	5.6	10		µg/L	1	3/11/2020 4:20:57 PM	50816
2,4-Dichlorophenol	ND	4.4	20		µg/L	1	3/11/2020 4:20:57 PM	50816
2,4-Dimethylphenol	ND	5.5	10		µg/L	1	3/11/2020 4:20:57 PM	50816
4,6-Dinitro-2-methylphenol	ND	2.6	20		µg/L	1	3/11/2020 4:20:57 PM	50816
2,4-Dinitrophenol	ND	3.0	20		µg/L	1	3/11/2020 4:20:57 PM	50816
2,4-Dinitrotoluene	ND	3.4	10		µg/L	1	3/11/2020 4:20:57 PM	50816
2,6-Dinitrotoluene	ND	4.6	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Fluoranthene	ND	4.4	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Fluorene	ND	2.6	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Hexachlorobenzene	ND	3.4	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Hexachlorobutadiene	ND	4.2	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Hexachlorocyclopentadiene	ND	5.6	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Hexachloroethane	ND	4.0	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Isophorone	ND	3.4	10		µg/L	1	3/11/2020 4:20:57 PM	50816
1-Methylnaphthalene	ND	2.3	10		µg/L	1	3/11/2020 4:20:57 PM	50816
2-Methylnaphthalene	ND	2.3	10		µg/L	1	3/11/2020 4:20:57 PM	50816
2-Methylphenol	ND	3.6	10		µg/L	1	3/11/2020 4:20:57 PM	50816
3+4-Methylphenol	ND	4.6	10		µg/L	1	3/11/2020 4:20:57 PM	50816
N-Nitrosodi-n-propylamine	ND	4.1	10		µg/L	1	3/11/2020 4:20:57 PM	50816
N-Nitrosodimethylamine	ND	6.1	10		µg/L	1	3/11/2020 4:20:57 PM	50816
N-Nitrosodiphenylamine	ND	4.1	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Naphthalene	ND	2.2	10		µg/L	1	3/11/2020 4:20:57 PM	50816
2-Nitroaniline	ND	4.1	10		µg/L	1	3/11/2020 4:20:57 PM	50816

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C93

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: Dup 2

Project: Wingate Benzene Investigation

Collection Date: 2/28/2020 12:00:00 PM

Lab ID: 2002C93-003

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES					Analyst: JDC			
3-Nitroaniline	ND	4.9	10		µg/L	1	3/11/2020 4:20:57 PM	50816
4-Nitroaniline	ND	2.9	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Nitrobenzene	ND	4.0	10		µg/L	1	3/11/2020 4:20:57 PM	50816
2-Nitrophenol	ND	3.8	10		µg/L	1	3/11/2020 4:20:57 PM	50816
4-Nitrophenol	ND	4.2	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Pentachlorophenol	ND	7.6	20		µg/L	1	3/11/2020 4:20:57 PM	50816
Phenanthrene	ND	4.0	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Phenol	ND	3.6	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Pyrene	ND	5.6	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Pyridine	ND	3.4	10		µg/L	1	3/11/2020 4:20:57 PM	50816
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/11/2020 4:20:57 PM	50816
2,4,5-Trichlorophenol	ND	4.3	10		µg/L	1	3/11/2020 4:20:57 PM	50816
2,4,6-Trichlorophenol	ND	3.6	10		µg/L	1	3/11/2020 4:20:57 PM	50816
Surr: 2-Fluorophenol	25.4	0	19.1-74.7		%Rec	1	3/11/2020 4:20:57 PM	50816
Surr: Phenol-d5	28.0	0	19.2-57		%Rec	1	3/11/2020 4:20:57 PM	50816
Surr: 2,4,6-Tribromophenol	51.4	0	31-96.4		%Rec	1	3/11/2020 4:20:57 PM	50816
Surr: Nitrobenzene-d5	53.2	0	46.2-101		%Rec	1	3/11/2020 4:20:57 PM	50816
Surr: 2-Fluorobiphenyl	54.8	0	39.7-98.2		%Rec	1	3/11/2020 4:20:57 PM	50816
Surr: 4-Terphenyl-d14	56.9	0	31.1-102		%Rec	1	3/11/2020 4:20:57 PM	50816
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: CCM			
Benzene	25	0.17	1.0		µg/L	1	3/5/2020 1:58:00 PM	SL_W_
Toluene	0.99	0.35	1.0	J	µg/L	1	3/5/2020 1:58:00 PM	SL_W_
Ethylbenzene	1.7	0.13	1.0		µg/L	1	3/5/2020 1:58:00 PM	SL_W_
Xylenes, Total	1.4	0.45	1.5	J	µg/L	1	3/5/2020 1:58:00 PM	SL_W_
Surr: 1,2-Dichloroethane-d4	96.4	0	70-130		%Rec	1	3/5/2020 1:58:00 PM	SL_W_
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	3/5/2020 1:58:00 PM	SL_W_
Surr: Dibromofluoromethane	96.6	0	70-130		%Rec	1	3/5/2020 1:58:00 PM	SL_W_
Surr: Toluene-d8	99.6	0	70-130		%Rec	1	3/5/2020 1:58:00 PM	SL_W_
SM4500-H+B / 9040C: PH					Analyst: JRR			
pH	8.30			H	pH units	1	3/2/2020 7:20:08 PM	R66945
SM2320B: ALKALINITY					Analyst: JRR			
Bicarbonate (As CaCO3)	1127	50.00	50.00		mg/L Ca	2.5	3/5/2020 9:00:39 PM	R67047
Carbonate (As CaCO3)	33.00	5.000	5.000		mg/L Ca	2.5	3/5/2020 9:00:39 PM	R67047
Total Alkalinity (as CaCO3)	1160	50.00	50.00		mg/L Ca	2.5	3/5/2020 9:00:39 PM	R67047
SM2540C MOD: TOTAL DISSOLVED SOLIDS					Analyst: KS			
Total Dissolved Solids	5940	200	200	*D	mg/L	1	3/9/2020 10:48:00 AM	50911

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2002C93

19-Mar-20

Client: Marathon
Project: Wingate Benzene Investigation

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A66917	RunNo: 66917								
Prep Date:	Analysis Date: 2/28/2020	SeqNo: 2301367 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.10								

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A66917	RunNo: 66917								
Prep Date:	Analysis Date: 2/28/2020	SeqNo: 2301368 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	102	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R66918	RunNo: 66918								
Prep Date:	Analysis Date: 2/29/2020	SeqNo: 2301480 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R66918	RunNo: 66918								
Prep Date:	Analysis Date: 2/29/2020	SeqNo: 2301481 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	98.5	90	110			
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	102	90	110			
Sulfate	10	0.50	10.00	0	99.8	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R67041	RunNo: 67041								
Prep Date:	Analysis Date: 3/4/2020	SeqNo: 2307355 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R67041	RunNo: 67041								
Prep Date:	Analysis Date: 3/4/2020	SeqNo: 2307356 Units: mg/L								
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#: 2002C93

19-Mar-20

Client: Marathon
Project: Wingate Benzene Investigation

Sample ID: LCS	SampType: lcs			TestCode: EPA Method 300.0: Anions						
Client ID: LCSW	Batch ID: R67041			RunNo: 67041						
Prep Date:	Analysis Date: 3/4/2020			SeqNo: 2307356		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	99.7	90	110			
Sulfate	10	0.50	10.00	0	102	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

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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#: 2002C93

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: MB-50834	SampType: MBLK	TestCode: EPA Method 6020: Total Metals								
Client ID: PBW	Batch ID: 50834	RunNo: 67256								
Prep Date: 3/3/2020	Analysis Date: 3/12/2020	SeqNo: 2317424 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								

Sample ID: MSLLCS-50834	SampType: LCSLL	TestCode: EPA Method 6020: Total Metals								
Client ID: BatchQC	Batch ID: 50834	RunNo: 67256								
Prep Date: 3/3/2020	Analysis Date: 3/12/2020	SeqNo: 2317425 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00096	0.0010	0.001000	0	95.6	70	130			J
Lead	0.0011	0.0010	0.001000	0	114	70	130			

Sample ID: MSLCS-50834	SampType: LCS	TestCode: EPA Method 6020: Total Metals								
Client ID: LCSW	Batch ID: 50834	RunNo: 67256								
Prep Date: 3/3/2020	Analysis Date: 3/12/2020	SeqNo: 2317426 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.049	0.0010	0.05000	0	98.8	80	120			
Lead	0.049	0.0010	0.05000	0	98.2	80	120			

Sample ID: MB-50834	SampType: MBLK	TestCode: EPA Method 6020: Total Metals								
Client ID: PBW	Batch ID: 50834	RunNo: 67272								
Prep Date: 3/3/2020	Analysis Date: 3/13/2020	SeqNo: 2318042 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Sample ID: MSLLCS-50834	SampType: LCSLL	TestCode: EPA Method 6020: Total Metals								
Client ID: BatchQC	Batch ID: 50834	RunNo: 67272								
Prep Date: 3/3/2020	Analysis Date: 3/13/2020	SeqNo: 2318043 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.0010	0.0010	0.001000	0	102	70	130			

Sample ID: MSLCS-50834	SampType: LCS	TestCode: EPA Method 6020: Total Metals								
Client ID: LCSW	Batch ID: 50834	RunNo: 67272								
Prep Date: 3/3/2020	Analysis Date: 3/13/2020	SeqNo: 2318044 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.048	0.0010	0.05000	0	95.4	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#: 2002C93

19-Mar-20

Client: Marathon
Project: Wingate Benzene Investigation

Sample ID: 2002C93-001DMSLL		SampType: MS		TestCode: EPA Method 6020: Total Metals						
Client ID: BH-6		Batch ID: 50834		RunNo: 67272						
Prep Date: 3/3/2020		Analysis Date: 3/13/2020		SeqNo: 2318047		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.084	0.0050	0.05000	0.02141	124	75	125			
Selenium	0.061	0.0050	0.05000	0.009089	104	75	125			

Sample ID: 2002C93-001DMSDL		SampType: MSD		TestCode: EPA Method 6020: Total Metals						
Client ID: BH-6		Batch ID: 50834		RunNo: 67272						
Prep Date: 3/3/2020		Analysis Date: 3/13/2020		SeqNo: 2318048		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.081	0.0050	0.05000	0.02141	119	75	125	3.39	20	
Selenium	0.063	0.0050	0.05000	0.009089	108	75	125	3.14	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#: 2002C93

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: 100ng lcs	SampType: LCS		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: LCSW	Batch ID: B66998		RunNo: 66998							
Prep Date:	Analysis Date: 3/4/2020		SeqNo: 2307093		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.5	70	130			
Toluene	21	1.0	20.00	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.6	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.9	70	130			
Surr: Dibromofluoromethane	9.5		10.00		95.4	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID: mb	SampType: MBLK		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: PBW	Batch ID: B66998		RunNo: 66998							
Prep Date:	Analysis Date: 3/4/2020		SeqNo: 2307094		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.4	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.9	70	130			
Surr: Dibromofluoromethane	9.4		10.00		94.2	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: 100ng lcs	SampType: LCS		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: LCSW	Batch ID: SL_W_67040		RunNo: 67040							
Prep Date:	Analysis Date: 3/5/2020		SeqNo: 2307694		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	97.9	70	130			
Toluene	21	1.0	20.00	0	105	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.4	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.9	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.6	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: mb	SampType: MBLK		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: PBW	Batch ID: SL_W_67040		RunNo: 67040							
Prep Date:	Analysis Date: 3/5/2020		SeqNo: 2307695		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant 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#: 2002C93

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: mb	SampType: MBLK		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: PBW	Batch ID: SL_W_67040		RunNo: 67040							
Prep Date:	Analysis Date: 3/5/2020		SeqNo: 2307695		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.6	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.1	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.2	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: 100ng lcs	SampType: LCS		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: LCSW	Batch ID: S67083		RunNo: 67083							
Prep Date:	Analysis Date: 3/6/2020		SeqNo: 2309607		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.0	70	130			
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.4	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.1	70	130			
Surr: Dibromofluoromethane	9.5		10.00		95.0	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: mb	SampType: MBLK		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: PBW	Batch ID: S67083		RunNo: 67083							
Prep Date:	Analysis Date: 3/6/2020		SeqNo: 2309608		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Surr: 1,2-Dichloroethane-d4	9.4		10.00		93.7	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.4	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.6	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical 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#: 2002C93

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: mb-50816	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 50816	RunNo: 67204								
Prep Date: 3/4/2020	Analysis Date: 3/11/2020	SeqNo: 2315289	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	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#: 2002C93

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: mb-50816	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 50816	RunNo: 67204								
Prep Date: 3/4/2020	Analysis Date: 3/11/2020	SeqNo: 2315289	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	83		200.0		41.6	19.1	74.7			
Surr: Phenol-d5	64		200.0		32.0	19.2	57			
Surr: 2,4,6-Tribromophenol	120		200.0		61.8	31	96.4			
Surr: Nitrobenzene-d5	61		100.0		61.4	46.2	101			
Surr: 2-Fluorobiphenyl	58		100.0		57.9	39.7	98.2			
Surr: 4-Terphenyl-d14	55		100.0		55.0	31.1	102			

Qualifiers:

* Value exceeds Maximum Contaminant 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#: 2002C93

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: Ics-50816	SampType: LCS				TestCode: EPA Method 8270C: Semivolatiles					
Client ID: LCSW	Batch ID: 50816				RunNo: 67204					
Prep Date: 3/4/2020	Analysis Date: 3/11/2020				SeqNo: 2315290	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	62	10	100.0	0	61.5	46.3	97.3			
4-Chloro-3-methylphenol	130	10	200.0	0	66.0	46.9	99.1			
2-Chlorophenol	120	10	200.0	0	58.3	39.1	98.2			
1,4-Dichlorobenzene	43	10	100.0	0	43.1	28.6	87.9			
2,4-Dinitrotoluene	57	10	100.0	0	56.6	44	88.3			
N-Nitrosodi-n-propylamine	61	10	100.0	0	60.9	40.3	107			
4-Nitrophenol	85	10	200.0	0	42.3	26.1	60.9			
Pentachlorophenol	120	20	200.0	0	58.4	30.6	83.6			
Phenol	73	10	200.0	0	36.5	22.7	63.7			
Pyrene	58	10	100.0	0	58.5	51.4	90			
1,2,4-Trichlorobenzene	50	10	100.0	0	49.8	35	94.3			
Surr: 2-Fluorophenol	99		200.0		49.6	19.1	74.7			
Surr: Phenol-d5	77		200.0		38.5	19.2	57			
Surr: 2,4,6-Tribromophenol	160		200.0		77.7	31	96.4			
Surr: Nitrobenzene-d5	70		100.0		69.6	46.2	101			
Surr: 2-Fluorobiphenyl	65		100.0		65.4	39.7	98.2			
Surr: 4-Terphenyl-d14	66		100.0		65.9	31.1	102			

Sample ID: 2002C93-001Bms	SampType: MS				TestCode: EPA Method 8270C: Semivolatiles					
Client ID: BH-6	Batch ID: 50816				RunNo: 67204					
Prep Date: 3/4/2020	Analysis Date: 3/11/2020				SeqNo: 2315292	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	56	10	100.0	0	55.7	30	94			
4-Chloro-3-methylphenol	120	10	200.0	0	59.6	30.9	101			
2-Chlorophenol	94	10	200.0	0	47.1	15.8	96.2			
1,4-Dichlorobenzene	40	10	100.0	0	39.8	25.6	87.2			
2,4-Dinitrotoluene	52	10	100.0	0	52.3	29.5	85.8			
N-Nitrosodi-n-propylamine	58	10	100.0	0	57.7	28.6	108			
4-Nitrophenol	8.8	10	200.0	0	4.39	15	59.7			JS
Pentachlorophenol	52	20	200.0	0	25.8	21.1	99.4			
Phenol	66	10	200.0	0	33.1	15	61.9			
Pyrene	62	10	100.0	0	61.7	37.5	105			
1,2,4-Trichlorobenzene	42	10	100.0	0	42.5	17.1	98.7			
Surr: 2-Fluorophenol	73		200.0		36.4	19.1	74.7			
Surr: Phenol-d5	68		200.0		33.9	19.2	57			
Surr: 2,4,6-Tribromophenol	130		200.0		66.4	31	96.4			
Surr: Nitrobenzene-d5	59		100.0		59.3	46.2	101			
Surr: 2-Fluorobiphenyl	58		100.0		58.4	39.7	98.2			

Qualifiers:

* Value exceeds Maximum Contaminant 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#: 2002C93

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: 2002C93-001Bms	SampType: MS	TestCode: EPA Method 8270C: Semivolatiles
Client ID: BH-6	Batch ID: 50816	RunNo: 67204
Prep Date: 3/4/2020	Analysis Date: 3/11/2020	SeqNo: 2315292 Units: µg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: 4-Terphenyl-d14	64	100.0 63.6 31.1 102

Sample ID: mb-50816	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles
Client ID: PBW	Batch ID: 50816	RunNo: 67321
Prep Date: 3/4/2020	Analysis Date: 3/16/2020	SeqNo: 2320806 Units: µg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Acenaphthene	ND	10
Acenaphthylene	ND	10
Aniline	ND	10
Anthracene	ND	10
Azobenzene	ND	10
Benz(a)anthracene	ND	10
Benzo(a)pyrene	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(g,h,i)perylene	ND	10
Benzo(k)fluoranthene	ND	10
Benzoic acid	ND	20
Benzyl alcohol	ND	10
Bis(2-chloroethoxy)methane	ND	10
Bis(2-chloroethyl)ether	ND	10
Bis(2-chloroisopropyl)ether	ND	10
Bis(2-ethylhexyl)phthalate	ND	10
4-Bromophenyl phenyl ether	ND	10
Butyl benzyl phthalate	ND	10
Carbazole	ND	10
4-Chloro-3-methylphenol	ND	10
4-Chloroaniline	ND	10
2-Chloronaphthalene	ND	10
2-Chlorophenol	ND	10
4-Chlorophenyl phenyl ether	ND	10
Chrysene	ND	10
Di-n-butyl phthalate	ND	10
Di-n-octyl phthalate	16	10
Dibenz(a,h)anthracene	ND	10
Dibenzofuran	ND	10
1,2-Dichlorobenzene	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2002C93

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: mb-50816	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 50816	RunNo: 67321								
Prep Date: 3/4/2020	Analysis Date: 3/16/2020	SeqNo: 2320806	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	7.0	20								J
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2002C93

19-Mar-20

Client: Marathon
Project: Wingate Benzene Investigation

Sample ID: mb-50816	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 50816	RunNo: 67321								
Prep Date: 3/4/2020	Analysis Date: 3/16/2020	SeqNo: 2320806	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	87		200.0		43.6	19.1	74.7			
Surr: Phenol-d5	70		200.0		34.8	19.2	57			
Surr: 2,4,6-Tribromophenol	100		200.0		51.9	31	96.4			
Surr: Nitrobenzene-d5	58		100.0		58.0	46.2	101			
Surr: 2-Fluorobiphenyl	54		100.0		54.5	39.7	98.2			
Surr: 4-Terphenyl-d14	60		100.0		59.9	31.1	102			

Qualifiers:

* Value exceeds Maximum Contaminant 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#: 2002C93

19-Mar-20

Client: Marathon
Project: Wingate Benzene Investigation

Sample ID: MB-50971	SampType: MBLK	TestCode: EPA Method 7470: Mercury
Client ID: PBW	Batch ID: 50971	RunNo: 67154
Prep Date: 3/9/2020	Analysis Date: 3/10/2020	SeqNo: 2313417 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND	0.00020

Sample ID: LLCS-50971	SampType: LCSLL	TestCode: EPA Method 7470: Mercury
Client ID: BatchQC	Batch ID: 50971	RunNo: 67154
Prep Date: 3/9/2020	Analysis Date: 3/10/2020	SeqNo: 2313418 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.00017	0.00020 0.0001500 0 117 50 150 J

Sample ID: LCS-50971	SampType: LCS	TestCode: EPA Method 7470: Mercury
Client ID: LCSW	Batch ID: 50971	RunNo: 67154
Prep Date: 3/9/2020	Analysis Date: 3/10/2020	SeqNo: 2313419 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0050	0.00020 0.005000 0 99.6 80 120

Sample ID: LCSD-50971	SampType: LCSD	TestCode: EPA Method 7470: Mercury
Client ID: LCSS02	Batch ID: 50971	RunNo: 67154
Prep Date: 3/9/2020	Analysis Date: 3/10/2020	SeqNo: 2313420 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0050	0.00020 0.005000 0 99.2 80 120 0.314 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#: 2002C93

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: MB-50834	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 50834	RunNo: 67342								
Prep Date: 3/3/2020	Analysis Date: 3/16/2020	SeqNo: 2321044 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Silver	ND	0.0050								

Sample ID: LCS-50834	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 50834	RunNo: 67342								
Prep Date: 3/3/2020	Analysis Date: 3/16/2020	SeqNo: 2321046 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	95.9	80	120			
Cadmium	0.48	0.0020	0.5000	0	95.3	80	120			
Chromium	0.48	0.0060	0.5000	0	95.2	80	120			
Silver	0.097	0.0050	0.1000	0	97.0	80	120			

Sample ID: MB-50834	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 50834	RunNo: 67342								
Prep Date: 3/3/2020	Analysis Date: 3/16/2020	SeqNo: 2321145 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Sodium	ND	1.0								

Sample ID: LCS-50834	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 50834	RunNo: 67342								
Prep Date: 3/3/2020	Analysis Date: 3/16/2020	SeqNo: 2321147 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	47	1.0	50.00	0	93.3	80	120			
Magnesium	48	1.0	50.00	0	95.1	80	120			
Sodium	49	1.0	50.00	0	97.7	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical 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#: 2002C93

19-Mar-20

Client: Marathon
Project: Wingate Benzene Investigation

Sample ID: mb-1 alk	SampType: mblk	TestCode: SM2320B: Alkalinity
Client ID: PBW	Batch ID: R67047	RunNo: 67047
Prep Date:	Analysis Date: 3/5/2020	SeqNo: 2309520 Units: mg/L CaCO3
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Alkalinity (as CaCO3)	ND	20.00

Sample ID: lcs-1 alk	SampType: lcs	TestCode: SM2320B: Alkalinity
Client ID: LCSW	Batch ID: R67047	RunNo: 67047
Prep Date:	Analysis Date: 3/5/2020	SeqNo: 2309521 Units: mg/L CaCO3
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Alkalinity (as CaCO3)	78.64	20.00 80.00 0 98.3 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#: 2002C93

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: MB-50911	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: PBW	Batch ID: 50911	RunNo: 67110								
Prep Date: 3/5/2020	Analysis Date: 3/9/2020	SeqNo: 2311039 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: LCS-50911	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: LCSW	Batch ID: 50911	RunNo: 67110								
Prep Date: 3/5/2020	Analysis Date: 3/9/2020	SeqNo: 2311040 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1030	20.0	1000	0	103	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical 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

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **2002C93**

RcptNo: 1

Received By: **Yazmine Garduno**

2/28/2020 3:15:00 PM

Completed By: **Leah Baca**

2/28/2020 3:55:01 PM

Reviewed By: **JR 3/2/20**

unpres. DAD 2/28/20

Chain of Custody

1. Is Chain of Custody sufficiently 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°C ? Yes ☐ No ☒ NA ☐
- Samples were collected the same day and chilled.**
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: 3
(2 or >12 unless noted)
Adjusted? yes
Checked by: mp 03/02/20

unpres. ENH 2/28/20

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: **For Total Metals Analysis for -0029 and -0030. Added 1 mL HNO₃ for acceptable pH. For -0010 added 0.5 mL HNO₃ for acceptable pH.**

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	6.2	Good	Yes			



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

March 19, 2020

Paul Hildebrandt

Marathon

92 Giant Crossing Rd

Gallup, NM 87301

TEL:

FAX

RE: Wingate Benzene Investigation

OrderNo.: 2002C96

Dear Paul Hildebrandt:

Hall Environmental Analysis Laboratory received 4 sample(s) on 2/28/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C96

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-1

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 8:06:00 AM

Lab ID: 2002C96-001

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS								
							Analyst: MRA	
Chloride	600	12	25	*	mg/L	50	3/4/2020 5:53:22 PM	R67041
Nitrogen, Nitrate (As N)	0.39	0.11	0.50	J	mg/L	5	2/28/2020 9:13:51 PM	A66917
Sulfate	220	5.0	10		mg/L	20	2/28/2020 9:26:16 PM	A66917
EPA METHOD 6020: TOTAL METALS								
							Analyst: DBK	
Arsenic	0.015	0.0050	0.010		mg/L	10	3/12/2020 4:54:59 PM	50834
Lead	0.045	0.0050	0.010		mg/L	10	3/12/2020 4:54:59 PM	50834
Selenium	0.0052	0.0050	0.010	J	mg/L	10	3/13/2020 10:51:03 AM	50834
EPA METHOD 7470: MERCURY								
							Analyst: pmf	
Mercury	0.00016	0.00012	0.00020	J	mg/L	1	3/10/2020 1:42:18 PM	50971
EPA 6010B: TOTAL RECOVERABLE METALS								
							Analyst: rde	
Barium	0.79	0.0011	0.0020		mg/L	1	3/16/2020 12:44:32 PM	50834
Cadmium	ND	0.00090	0.0020		mg/L	1	3/16/2020 12:44:32 PM	50834
Calcium	120	0.36	10		mg/L	10	3/16/2020 5:53:12 PM	50834
Chromium	0.010	0.0014	0.0060		mg/L	1	3/16/2020 12:44:32 PM	50834
Magnesium	35	0.022	1.0		mg/L	1	3/16/2020 5:18:21 PM	50834
Silver	ND	0.0013	0.0050		mg/L	1	3/16/2020 12:44:32 PM	50834
Sodium	950	6.1	10		mg/L	10	3/16/2020 5:53:12 PM	50834
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: JDC	
Acenaphthene	ND	2.3	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Acenaphthylene	ND	2.4	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Aniline	ND	4.5	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Anthracene	ND	3.9	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Azobenzene	ND	3.4	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Benz(a)anthracene	ND	3.3	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Benzo(a)pyrene	ND	3.4	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Benzo(b)fluoranthene	ND	3.6	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Benzo(k)fluoranthene	ND	4.9	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Benzoic acid	13	9.3	20	J	µg/L	1	3/11/2020 4:50:12 PM	50816
Benzyl alcohol	ND	4.7	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Bis(2-chloroethoxy)methane	ND	4.4	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Bis(2-chloroisopropyl)ether	ND	4.0	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Bis(2-ethylhexyl)phthalate	ND	6.0	10		µg/L	1	3/11/2020 4:50:12 PM	50816
4-Bromophenyl phenyl ether	ND	2.0	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Butyl benzyl phthalate	ND	3.9	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Carbazole	ND	3.7	10		µg/L	1	3/11/2020 4:50:12 PM	50816

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C96

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-1

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 8:06:00 AM

Lab ID: 2002C96-001

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC	
4-Chloro-3-methylphenol	ND	4.7	10		µg/L	1	3/11/2020 4:50:12 PM	50816
4-Chloroaniline	ND	5.1	10		µg/L	1	3/11/2020 4:50:12 PM	50816
2-Chloronaphthalene	ND	1.9	10		µg/L	1	3/11/2020 4:50:12 PM	50816
2-Chlorophenol	ND	3.3	10		µg/L	1	3/11/2020 4:50:12 PM	50816
4-Chlorophenyl phenyl ether	ND	2.2	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Chrysene	ND	5.6	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Di-n-butyl phthalate	ND	4.4	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Di-n-octyl phthalate	ND	4.2	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Dibenz(a,h)anthracene	ND	3.7	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Dibenzofuran	ND	2.1	10		µg/L	1	3/11/2020 4:50:12 PM	50816
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/11/2020 4:50:12 PM	50816
1,3-Dichlorobenzene	ND	2.7	10		µg/L	1	3/11/2020 4:50:12 PM	50816
1,4-Dichlorobenzene	ND	2.9	10		µg/L	1	3/11/2020 4:50:12 PM	50816
3,3'-Dichlorobenzidine	ND	7.3	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Diethyl phthalate	ND	4.3	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Dimethyl phthalate	ND	5.6	10		µg/L	1	3/11/2020 4:50:12 PM	50816
2,4-Dichlorophenol	ND	4.4	20		µg/L	1	3/11/2020 4:50:12 PM	50816
2,4-Dimethylphenol	ND	5.5	10		µg/L	1	3/11/2020 4:50:12 PM	50816
4,6-Dinitro-2-methylphenol	ND	2.6	20		µg/L	1	3/11/2020 4:50:12 PM	50816
2,4-Dinitrophenol	ND	3.0	20		µg/L	1	3/11/2020 4:50:12 PM	50816
2,4-Dinitrotoluene	ND	3.4	10		µg/L	1	3/11/2020 4:50:12 PM	50816
2,6-Dinitrotoluene	ND	4.6	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Fluoranthene	ND	4.4	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Fluorene	ND	2.6	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Hexachlorobenzene	ND	3.4	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Hexachlorobutadiene	ND	4.2	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Hexachlorocyclopentadiene	ND	5.6	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Hexachloroethane	ND	4.0	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Isophorone	ND	3.4	10		µg/L	1	3/11/2020 4:50:12 PM	50816
1-Methylnaphthalene	5.3	2.3	10	J	µg/L	1	3/11/2020 4:50:12 PM	50816
2-Methylnaphthalene	7.1	2.3	10	J	µg/L	1	3/11/2020 4:50:12 PM	50816
2-Methylphenol	10	3.6	10		µg/L	1	3/11/2020 4:50:12 PM	50816
3+4-Methylphenol	10	4.6	10		µg/L	1	3/11/2020 4:50:12 PM	50816
N-Nitrosodi-n-propylamine	ND	4.1	10		µg/L	1	3/11/2020 4:50:12 PM	50816
N-Nitrosodimethylamine	ND	6.1	10		µg/L	1	3/11/2020 4:50:12 PM	50816
N-Nitrosodiphenylamine	ND	4.1	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Naphthalene	10	2.2	10		µg/L	1	3/11/2020 4:50:12 PM	50816
2-Nitroaniline	ND	4.1	10		µg/L	1	3/11/2020 4:50:12 PM	50816

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C96

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-1

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 8:06:00 AM

Lab ID: 2002C96-001

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES					Analyst: JDC			
3-Nitroaniline	ND	4.9	10		µg/L	1	3/11/2020 4:50:12 PM	50816
4-Nitroaniline	ND	2.9	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Nitrobenzene	ND	4.0	10		µg/L	1	3/11/2020 4:50:12 PM	50816
2-Nitrophenol	ND	3.8	10		µg/L	1	3/11/2020 4:50:12 PM	50816
4-Nitrophenol	ND	4.2	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Pentachlorophenol	ND	7.6	20		µg/L	1	3/11/2020 4:50:12 PM	50816
Phenanthrene	ND	4.0	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Phenol	49	3.6	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Pyrene	ND	5.6	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Pyridine	ND	3.4	10		µg/L	1	3/11/2020 4:50:12 PM	50816
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/11/2020 4:50:12 PM	50816
2,4,5-Trichlorophenol	ND	4.3	10		µg/L	1	3/11/2020 4:50:12 PM	50816
2,4,6-Trichlorophenol	ND	3.6	10		µg/L	1	3/11/2020 4:50:12 PM	50816
Surr: 2-Fluorophenol	28.2	0	19.1-74.7		%Rec	1	3/11/2020 4:50:12 PM	50816
Surr: Phenol-d5	26.7	0	19.2-57		%Rec	1	3/11/2020 4:50:12 PM	50816
Surr: 2,4,6-Tribromophenol	53.0	0	31-96.4		%Rec	1	3/11/2020 4:50:12 PM	50816
Surr: Nitrobenzene-d5	46.9	0	46.2-101		%Rec	1	3/11/2020 4:50:12 PM	50816
Surr: 2-Fluorobiphenyl	45.7	0	39.7-98.2		%Rec	1	3/11/2020 4:50:12 PM	50816
Surr: 4-Terphenyl-d14	47.3	0	31.1-102		%Rec	1	3/11/2020 4:50:12 PM	50816
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: CCM			
Benzene	16000	110	500		µg/L	500	3/9/2020 1:09:00 PM	SL6714
Toluene	56	1.0	5.0		µg/L	5	3/6/2020 6:32:00 PM	S67083
Ethylbenzene	170	1.1	5.0		µg/L	5	3/6/2020 6:32:00 PM	S67083
Xylenes, Total	1500	28	75		µg/L	50	3/6/2020 6:09:00 PM	S67083
Surr: 1,2-Dichloroethane-d4	110	0	70-130		%Rec	5	3/6/2020 6:32:00 PM	S67083
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	5	3/6/2020 6:32:00 PM	S67083
Surr: Dibromofluoromethane	108	0	70-130		%Rec	5	3/6/2020 6:32:00 PM	S67083
Surr: Toluene-d8	102	0	70-130		%Rec	5	3/6/2020 6:32:00 PM	S67083
SM4500-H+B / 9040C: PH					Analyst: JRR			
pH	8.05			H	pH units	1	3/3/2020 2:15:22 PM	R66988
SM2320B: ALKALINITY					Analyst: JRR			
Bicarbonate (As CaCO3)	1146	20.00	20.00		mg/L Ca	1	3/3/2020 2:15:22 PM	R66988
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	3/3/2020 2:15:22 PM	R66988
Total Alkalinity (as CaCO3)	1146	20.00	20.00		mg/L Ca	1	3/3/2020 2:15:22 PM	R66988
SM2540C MOD: TOTAL DISSOLVED SOLIDS					Analyst: KS			
Total Dissolved Solids	3160	200	200	*D	mg/L	1	3/9/2020 10:48:00 AM	50911

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C96

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-2

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 10:34:00 AM

Lab ID: 2002C96-002

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS								
							Analyst: MRA	
Chloride	480	12	25	*	mg/L	50	3/3/2020 12:25:51 AM	R66966
Nitrogen, Nitrate (As N)	0.69	0.11	0.50		mg/L	5	2/28/2020 9:38:41 PM	A66917
Sulfate	39	1.2	2.5		mg/L	5	2/28/2020 9:38:41 PM	A66917
EPA METHOD 6020: TOTAL METALS								
							Analyst: DBK	
Arsenic	0.0056	0.0025	0.0050		mg/L	5	3/12/2020 5:05:23 PM	50834
Lead	ND	0.0025	0.0050		mg/L	5	3/12/2020 5:05:23 PM	50834
Selenium	0.0055	0.0025	0.0050		mg/L	5	3/13/2020 11:15:52 AM	50834
EPA METHOD 7470: MERCURY								
							Analyst: pmf	
Mercury	ND	0.00012	0.00020		mg/L	1	3/10/2020 1:45:01 PM	50971
EPA 6010B: TOTAL RECOVERABLE METALS								
							Analyst: rde	
Barium	0.36	0.0011	0.0020		mg/L	1	3/16/2020 12:47:47 PM	50834
Cadmium	ND	0.00090	0.0020		mg/L	1	3/16/2020 12:47:47 PM	50834
Calcium	24	0.036	1.0		mg/L	1	3/16/2020 5:24:08 PM	50834
Chromium	ND	0.0014	0.0060		mg/L	1	3/16/2020 12:47:47 PM	50834
Magnesium	18	0.022	1.0		mg/L	1	3/16/2020 5:24:08 PM	50834
Silver	ND	0.0013	0.0050		mg/L	1	3/16/2020 12:47:47 PM	50834
Sodium	870	6.1	10		mg/L	10	3/16/2020 5:45:16 PM	50834
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: JDC	
Acenaphthene	ND	2.3	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Acenaphthylene	ND	2.4	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Aniline	ND	4.5	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Anthracene	ND	3.9	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Azobenzene	ND	3.4	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Benz(a)anthracene	ND	3.3	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Benzo(a)pyrene	ND	3.4	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Benzo(b)fluoranthene	ND	3.6	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Benzo(k)fluoranthene	ND	4.9	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Benzoic acid	35	9.3	20		µg/L	1	3/11/2020 5:19:25 PM	50816
Benzyl alcohol	ND	4.7	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Bis(2-chloroethoxy)methane	ND	4.4	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Bis(2-chloroisopropyl)ether	ND	4.0	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Bis(2-ethylhexyl)phthalate	ND	6.0	10		µg/L	1	3/11/2020 5:19:25 PM	50816
4-Bromophenyl phenyl ether	ND	2.0	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Butyl benzyl phthalate	ND	3.9	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Carbazole	ND	3.7	10		µg/L	1	3/11/2020 5:19:25 PM	50816

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C96

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-2

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 10:34:00 AM

Lab ID: 2002C96-002

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC	
4-Chloro-3-methylphenol	ND	4.7	10		µg/L	1	3/11/2020 5:19:25 PM	50816
4-Chloroaniline	ND	5.1	10		µg/L	1	3/11/2020 5:19:25 PM	50816
2-Chloronaphthalene	ND	1.9	10		µg/L	1	3/11/2020 5:19:25 PM	50816
2-Chlorophenol	ND	3.3	10		µg/L	1	3/11/2020 5:19:25 PM	50816
4-Chlorophenyl phenyl ether	ND	2.2	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Chrysene	ND	5.6	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Di-n-butyl phthalate	ND	4.4	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Di-n-octyl phthalate	ND	4.2	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Dibenz(a,h)anthracene	ND	3.7	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Dibenzofuran	ND	2.1	10		µg/L	1	3/11/2020 5:19:25 PM	50816
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/11/2020 5:19:25 PM	50816
1,3-Dichlorobenzene	ND	2.7	10		µg/L	1	3/11/2020 5:19:25 PM	50816
1,4-Dichlorobenzene	ND	2.9	10		µg/L	1	3/11/2020 5:19:25 PM	50816
3,3'-Dichlorobenzidine	ND	7.3	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Diethyl phthalate	ND	4.3	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Dimethyl phthalate	ND	5.6	10		µg/L	1	3/11/2020 5:19:25 PM	50816
2,4-Dichlorophenol	ND	4.4	20		µg/L	1	3/11/2020 5:19:25 PM	50816
2,4-Dimethylphenol	ND	5.5	10		µg/L	1	3/11/2020 5:19:25 PM	50816
4,6-Dinitro-2-methylphenol	ND	2.6	20		µg/L	1	3/11/2020 5:19:25 PM	50816
2,4-Dinitrophenol	ND	3.0	20		µg/L	1	3/11/2020 5:19:25 PM	50816
2,4-Dinitrotoluene	ND	3.4	10		µg/L	1	3/11/2020 5:19:25 PM	50816
2,6-Dinitrotoluene	ND	4.6	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Fluoranthene	ND	4.4	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Fluorene	ND	2.6	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Hexachlorobenzene	ND	3.4	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Hexachlorobutadiene	ND	4.2	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Hexachlorocyclopentadiene	ND	5.6	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Hexachloroethane	ND	4.0	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Isophorone	ND	3.4	10		µg/L	1	3/11/2020 5:19:25 PM	50816
1-Methylnaphthalene	8.4	2.3	10	J	µg/L	1	3/11/2020 5:19:25 PM	50816
2-Methylnaphthalene	12	2.3	10		µg/L	1	3/11/2020 5:19:25 PM	50816
2-Methylphenol	ND	3.6	10		µg/L	1	3/11/2020 5:19:25 PM	50816
3+4-Methylphenol	28	4.6	10		µg/L	1	3/11/2020 5:19:25 PM	50816
N-Nitrosodi-n-propylamine	ND	4.1	10		µg/L	1	3/11/2020 5:19:25 PM	50816
N-Nitrosodimethylamine	ND	6.1	10		µg/L	1	3/11/2020 5:19:25 PM	50816
N-Nitrosodiphenylamine	ND	4.1	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Naphthalene	15	2.2	10		µg/L	1	3/11/2020 5:19:25 PM	50816
2-Nitroaniline	ND	4.1	10		µg/L	1	3/11/2020 5:19:25 PM	50816

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C96

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-2

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 10:34:00 AM

Lab ID: 2002C96-002

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES					Analyst: JDC			
3-Nitroaniline	ND	4.9	10		µg/L	1	3/11/2020 5:19:25 PM	50816
4-Nitroaniline	ND	2.9	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Nitrobenzene	ND	4.0	10		µg/L	1	3/11/2020 5:19:25 PM	50816
2-Nitrophenol	ND	3.8	10		µg/L	1	3/11/2020 5:19:25 PM	50816
4-Nitrophenol	ND	4.2	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Pentachlorophenol	ND	7.6	20		µg/L	1	3/11/2020 5:19:25 PM	50816
Phenanthrene	ND	4.0	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Phenol	54	3.6	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Pyrene	ND	5.6	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Pyridine	ND	3.4	10		µg/L	1	3/11/2020 5:19:25 PM	50816
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/11/2020 5:19:25 PM	50816
2,4,5-Trichlorophenol	ND	4.3	10		µg/L	1	3/11/2020 5:19:25 PM	50816
2,4,6-Trichlorophenol	ND	3.6	10		µg/L	1	3/11/2020 5:19:25 PM	50816
Surr: 2-Fluorophenol	43.1	0	19.1-74.7		%Rec	1	3/11/2020 5:19:25 PM	50816
Surr: Phenol-d5	37.7	0	19.2-57		%Rec	1	3/11/2020 5:19:25 PM	50816
Surr: 2,4,6-Tribromophenol	83.1	0	31-96.4		%Rec	1	3/11/2020 5:19:25 PM	50816
Surr: Nitrobenzene-d5	66.6	0	46.2-101		%Rec	1	3/11/2020 5:19:25 PM	50816
Surr: 2-Fluorobiphenyl	73.4	0	39.7-98.2		%Rec	1	3/11/2020 5:19:25 PM	50816
Surr: 4-Terphenyl-d14	67.6	0	31.1-102		%Rec	1	3/11/2020 5:19:25 PM	50816
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: CCM			
Benzene	20000	230	1000		µg/L	1E+	3/9/2020 9:07:00 PM	SL6714
Toluene	310	2.0	10		µg/L	10	3/9/2020 1:57:00 PM	SL6714
Ethylbenzene	120	2.1	10		µg/L	10	3/9/2020 1:57:00 PM	SL6714
Xylenes, Total	720	5.5	15		µg/L	10	3/9/2020 1:57:00 PM	SL6714
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	10	3/9/2020 1:57:00 PM	SL6714
Surr: 4-Bromofluorobenzene	99.7	0	70-130		%Rec	10	3/9/2020 1:57:00 PM	SL6714
Surr: Dibromofluoromethane	104	0	70-130		%Rec	10	3/9/2020 1:57:00 PM	SL6714
Surr: Toluene-d8	101	0	70-130		%Rec	10	3/9/2020 1:57:00 PM	SL6714
SM4500-H+B / 9040C: PH					Analyst: JRR			
pH	8.09			H	pH units	1	3/3/2020 2:55:03 PM	R66988
SM2320B: ALKALINITY					Analyst: JRR			
Bicarbonate (As CaCO3)	1215	50.00	50.00		mg/L Ca	2.5	3/5/2020 9:19:37 PM	R67047
Carbonate (As CaCO3)	85.00	5.000	5.000		mg/L Ca	2.5	3/5/2020 9:19:37 PM	R67047
Total Alkalinity (as CaCO3)	1300	50.00	50.00		mg/L Ca	2.5	3/5/2020 9:19:37 PM	R67047
SM2540C MOD: TOTAL DISSOLVED SOLIDS					Analyst: KS			
Total Dissolved Solids	2390	40.0	40.0	*D	mg/L	1	3/9/2020 10:48:00 AM	50911

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- D Sample Diluted Due to Matrix
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- 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
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- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C96

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-3

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 11:15:00 AM

Lab ID: 2002C96-003

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS								
							Analyst: MRA	
Chloride	870	12	25	*	mg/L	50	3/3/2020 12:38:11 AM	R66966
Nitrogen, Nitrate (As N)	0.13	0.11	0.50	J	mg/L	5	2/28/2020 10:28:19 PM	A66917
Sulfate	18	1.2	2.5		mg/L	5	2/28/2020 10:28:19 PM	A66917
EPA METHOD 6020: TOTAL METALS								
							Analyst: DBK	
Arsenic	0.022	0.0050	0.010		mg/L	10	3/12/2020 5:15:47 PM	50834
Lead	0.063	0.0050	0.010		mg/L	10	3/12/2020 5:15:47 PM	50834
Selenium	0.010	0.0050	0.010		mg/L	10	3/13/2020 10:57:57 AM	50834
EPA METHOD 7470: MERCURY								
							Analyst: pmf	
Mercury	ND	0.00012	0.00020		mg/L	1	3/10/2020 1:47:44 PM	50971
EPA 6010B: TOTAL RECOVERABLE METALS								
							Analyst: rde	
Barium	1.8	0.0021	0.0040		mg/L	2	3/16/2020 12:55:04 PM	50834
Cadmium	ND	0.00090	0.0020		mg/L	1	3/16/2020 12:49:13 PM	50834
Calcium	90	0.36	10		mg/L	10	3/16/2020 5:46:30 PM	50834
Chromium	0.039	0.0014	0.0060		mg/L	1	3/16/2020 12:49:13 PM	50834
Magnesium	52	0.22	10		mg/L	10	3/16/2020 5:46:30 PM	50834
Silver	ND	0.0013	0.0050		mg/L	1	3/16/2020 12:49:13 PM	50834
Sodium	1100	61	100		mg/L	100	3/16/2020 6:05:39 PM	50834
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: JDC	
Acenaphthene	ND	2.3	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Acenaphthylene	ND	2.4	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Aniline	ND	4.5	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Anthracene	ND	3.9	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Azobenzene	ND	3.4	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Benz(a)anthracene	ND	3.3	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Benzo(a)pyrene	ND	3.4	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Benzo(b)fluoranthene	ND	3.6	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Benzo(k)fluoranthene	ND	4.9	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Benzoic acid	250	19	40		µg/L	2	3/16/2020 2:23:03 PM	50816
Benzyl alcohol	ND	4.7	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Bis(2-chloroethoxy)methane	ND	4.4	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Bis(2-chloroisopropyl)ether	ND	4.0	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Bis(2-ethylhexyl)phthalate	ND	6.0	10		µg/L	1	3/11/2020 5:48:40 PM	50816
4-Bromophenyl phenyl ether	ND	2.0	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Butyl benzyl phthalate	ND	3.9	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Carbazole	ND	3.7	10		µg/L	1	3/11/2020 5:48:40 PM	50816

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C96

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-3

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 11:15:00 AM

Lab ID: 2002C96-003

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC	
4-Chloro-3-methylphenol	ND	4.7	10		µg/L	1	3/11/2020 5:48:40 PM	50816
4-Chloroaniline	ND	5.1	10		µg/L	1	3/11/2020 5:48:40 PM	50816
2-Chloronaphthalene	ND	1.9	10		µg/L	1	3/11/2020 5:48:40 PM	50816
2-Chlorophenol	ND	3.3	10		µg/L	1	3/11/2020 5:48:40 PM	50816
4-Chlorophenyl phenyl ether	ND	2.2	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Chrysene	ND	5.6	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Di-n-butyl phthalate	ND	4.4	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Di-n-octyl phthalate	ND	4.2	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Dibenz(a,h)anthracene	ND	3.7	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Dibenzofuran	ND	2.1	10		µg/L	1	3/11/2020 5:48:40 PM	50816
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/11/2020 5:48:40 PM	50816
1,3-Dichlorobenzene	ND	2.7	10		µg/L	1	3/11/2020 5:48:40 PM	50816
1,4-Dichlorobenzene	ND	2.9	10		µg/L	1	3/11/2020 5:48:40 PM	50816
3,3'-Dichlorobenzidine	ND	7.3	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Diethyl phthalate	ND	4.3	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Dimethyl phthalate	ND	5.6	10		µg/L	1	3/11/2020 5:48:40 PM	50816
2,4-Dichlorophenol	ND	4.4	20		µg/L	1	3/11/2020 5:48:40 PM	50816
2,4-Dimethylphenol	ND	5.5	10		µg/L	1	3/11/2020 5:48:40 PM	50816
4,6-Dinitro-2-methylphenol	ND	2.6	20		µg/L	1	3/11/2020 5:48:40 PM	50816
2,4-Dinitrophenol	ND	3.0	20		µg/L	1	3/11/2020 5:48:40 PM	50816
2,4-Dinitrotoluene	ND	3.4	10		µg/L	1	3/11/2020 5:48:40 PM	50816
2,6-Dinitrotoluene	ND	4.6	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Fluoranthene	ND	4.4	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Fluorene	ND	2.6	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Hexachlorobenzene	ND	3.4	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Hexachlorobutadiene	ND	4.2	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Hexachlorocyclopentadiene	ND	5.6	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Hexachloroethane	ND	4.0	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Isophorone	ND	3.4	10		µg/L	1	3/11/2020 5:48:40 PM	50816
1-Methylnaphthalene	13	2.3	10		µg/L	1	3/11/2020 5:48:40 PM	50816
2-Methylnaphthalene	13	2.3	10		µg/L	1	3/11/2020 5:48:40 PM	50816
2-Methylphenol	4.1	3.6	10	J	µg/L	1	3/11/2020 5:48:40 PM	50816
3+4-Methylphenol	78	4.6	10		µg/L	1	3/11/2020 5:48:40 PM	50816
N-Nitrosodi-n-propylamine	ND	4.1	10		µg/L	1	3/11/2020 5:48:40 PM	50816
N-Nitrosodimethylamine	ND	6.1	10		µg/L	1	3/11/2020 5:48:40 PM	50816
N-Nitrosodiphenylamine	ND	4.1	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Naphthalene	17	2.2	10		µg/L	1	3/11/2020 5:48:40 PM	50816
2-Nitroaniline	ND	4.1	10		µg/L	1	3/11/2020 5:48:40 PM	50816

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	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C96

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-3

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 11:15:00 AM

Lab ID: 2002C96-003

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES					Analyst: JDC			
3-Nitroaniline	ND	4.9	10		µg/L	1	3/11/2020 5:48:40 PM	50816
4-Nitroaniline	ND	2.9	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Nitrobenzene	ND	4.0	10		µg/L	1	3/11/2020 5:48:40 PM	50816
2-Nitrophenol	ND	3.8	10		µg/L	1	3/11/2020 5:48:40 PM	50816
4-Nitrophenol	ND	4.2	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Pentachlorophenol	ND	7.6	20		µg/L	1	3/11/2020 5:48:40 PM	50816
Phenanthrene	ND	4.0	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Phenol	120	3.6	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Pyrene	ND	5.6	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Pyridine	ND	3.4	10		µg/L	1	3/11/2020 5:48:40 PM	50816
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/11/2020 5:48:40 PM	50816
2,4,5-Trichlorophenol	ND	4.3	10		µg/L	1	3/11/2020 5:48:40 PM	50816
2,4,6-Trichlorophenol	ND	3.6	10		µg/L	1	3/11/2020 5:48:40 PM	50816
Surr: 2-Fluorophenol	39.5	0	19.1-74.7		%Rec	1	3/11/2020 5:48:40 PM	50816
Surr: Phenol-d5	37.4	0	19.2-57		%Rec	1	3/11/2020 5:48:40 PM	50816
Surr: 2,4,6-Tribromophenol	89.6	0	31-96.4		%Rec	1	3/11/2020 5:48:40 PM	50816
Surr: Nitrobenzene-d5	74.7	0	46.2-101		%Rec	1	3/11/2020 5:48:40 PM	50816
Surr: 2-Fluorobiphenyl	69.9	0	39.7-98.2		%Rec	1	3/11/2020 5:48:40 PM	50816
Surr: 4-Terphenyl-d14	67.4	0	31.1-102		%Rec	1	3/11/2020 5:48:40 PM	50816
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: CCM			
Benzene	30000	230	1000		µg/L	1E+	3/9/2020 2:21:00 PM	SL6714
Toluene	2300	20	100		µg/L	100	3/6/2020 7:19:00 PM	S67083
Ethylbenzene	220	2.1	10		µg/L	10	3/6/2020 7:43:00 PM	S67083
Xylenes, Total	1800	5.5	15		µg/L	10	3/6/2020 7:43:00 PM	S67083
Surr: 1,2-Dichloroethane-d4	110	0	70-130		%Rec	10	3/6/2020 7:43:00 PM	S67083
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	10	3/6/2020 7:43:00 PM	S67083
Surr: Dibromofluoromethane	111	0	70-130		%Rec	10	3/6/2020 7:43:00 PM	S67083
Surr: Toluene-d8	104	0	70-130		%Rec	10	3/6/2020 7:43:00 PM	S67083
SM4500-H+B / 9040C: PH					Analyst: JRR			
pH	8.06			H	pH units	1	3/3/2020 3:28:03 PM	R66986
SM2320B: ALKALINITY					Analyst: JRR			
Bicarbonate (As CaCO3)	1224	50.00	50.00		mg/L Ca	2.5	3/5/2020 9:42:20 PM	R67047
Carbonate (As CaCO3)	76.20	5.000	5.000		mg/L Ca	2.5	3/5/2020 9:42:20 PM	R67047
Total Alkalinity (as CaCO3)	1300	50.00	50.00		mg/L Ca	2.5	3/5/2020 9:42:20 PM	R67047
SM2540C MOD: TOTAL DISSOLVED SOLIDS					Analyst: KS			
Total Dissolved Solids	4230	200	200	*D	mg/L	1	3/9/2020 10:48:00 AM	50911

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C96

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: TRIP BLANK

Project: Wingate Benzene Investigation

Collection Date:

Lab ID: 2002C96-004

Matrix: TRIP BLANK

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: CCM	
Benzene	2.2	0.23	0.50		µg/L	1	3/6/2020 8:07:00 PM	S67083
Toluene	ND	0.20	1.0		µg/L	1	3/6/2020 8:07:00 PM	S67083
Ethylbenzene	ND	0.21	1.0		µg/L	1	3/6/2020 8:07:00 PM	S67083
Xylenes, Total	ND	0.55	1.5		µg/L	1	3/6/2020 8:07:00 PM	S67083
Surr: 1,2-Dichloroethane-d4	96.4	0	70-130		%Rec	1	3/6/2020 8:07:00 PM	S67083
Surr: 4-Bromofluorobenzene	99.8	0	70-130		%Rec	1	3/6/2020 8:07:00 PM	S67083
Surr: Dibromofluoromethane	95.4	0	70-130		%Rec	1	3/6/2020 8:07:00 PM	S67083
Surr: Toluene-d8	101	0	70-130		%Rec	1	3/6/2020 8:07:00 PM	S67083

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
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- PQL Practical Quantitative Limit
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- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2002C96

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A66917	RunNo: 66917								
Prep Date:	Analysis Date: 2/28/2020	SeqNo: 2301367		Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A66917	RunNo: 66917								
Prep Date:	Analysis Date: 2/28/2020	SeqNo: 2301368		Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	102	90	110			
Sulfate	9.9	0.50	10.00	0	99.3	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R66966	RunNo: 66966								
Prep Date:	Analysis Date: 3/2/2020	SeqNo: 2304235		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: R66966	RunNo: 66966								
Prep Date:	Analysis Date: 3/2/2020	SeqNo: 2304236		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	99.3	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R67041	RunNo: 67041								
Prep Date:	Analysis Date: 3/4/2020	SeqNo: 2307355		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: R67041	RunNo: 67041								
Prep Date:	Analysis Date: 3/4/2020	SeqNo: 2307356		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	99.7	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#: 2002C96

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: MB-50834	SampType: MBLK	TestCode: EPA Method 6020: Total Metals								
Client ID: PBW	Batch ID: 50834	RunNo: 67256								
Prep Date: 3/3/2020	Analysis Date: 3/12/2020	SeqNo: 2317424 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								

Sample ID: MSLLCS-50834	SampType: LCSLL	TestCode: EPA Method 6020: Total Metals								
Client ID: BatchQC	Batch ID: 50834	RunNo: 67256								
Prep Date: 3/3/2020	Analysis Date: 3/12/2020	SeqNo: 2317425 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00096	0.0010	0.001000	0	95.6	70	130			J
Lead	0.0011	0.0010	0.001000	0	114	70	130			

Sample ID: MSLCS-50834	SampType: LCS	TestCode: EPA Method 6020: Total Metals								
Client ID: LCSW	Batch ID: 50834	RunNo: 67256								
Prep Date: 3/3/2020	Analysis Date: 3/12/2020	SeqNo: 2317426 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.049	0.0010	0.05000	0	98.8	80	120			
Lead	0.049	0.0010	0.05000	0	98.2	80	120			

Sample ID: MB-50834	SampType: MBLK	TestCode: EPA Method 6020: Total Metals								
Client ID: PBW	Batch ID: 50834	RunNo: 67272								
Prep Date: 3/3/2020	Analysis Date: 3/13/2020	SeqNo: 2318042 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Sample ID: MSLLCS-50834	SampType: LCSLL	TestCode: EPA Method 6020: Total Metals								
Client ID: BatchQC	Batch ID: 50834	RunNo: 67272								
Prep Date: 3/3/2020	Analysis Date: 3/13/2020	SeqNo: 2318043 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.0010	0.0010	0.001000	0	102	70	130			

Sample ID: MSLCS-50834	SampType: LCS	TestCode: EPA Method 6020: Total Metals								
Client ID: LCSW	Batch ID: 50834	RunNo: 67272								
Prep Date: 3/3/2020	Analysis Date: 3/13/2020	SeqNo: 2318044 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.048	0.0010	0.05000	0	95.4	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#: 2002C96

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: 100ng lcs	SampType: LCS		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: LCSW	Batch ID: S67083		RunNo: 67083							
Prep Date:	Analysis Date: 3/6/2020		SeqNo: 2309607		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.0	70	130			
Toluene	22	1.0	20.00	0	109	70	130			
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.4	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.1	70	130			
Surr: Dibromofluoromethane	9.5		10.00		95.0	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: mb	SampType: MBLK		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: PBW	Batch ID: S67083		RunNo: 67083							
Prep Date:	Analysis Date: 3/6/2020		SeqNo: 2309608		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.4		10.00		93.7	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.4	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.6	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: 100ng 8260 lcs	SampType: LCS		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: LCSW	Batch ID: SL67143		RunNo: 67143							
Prep Date:	Analysis Date: 3/9/2020		SeqNo: 2312864		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	97.9	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.7	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.8	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.4	70	130			
Surr: Toluene-d8	10		10.00		99.8	70	130			

Sample ID: MB	SampType: MBLK		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: PBW	Batch ID: SL67143		RunNo: 67143							
Prep Date:	Analysis Date: 3/9/2020		SeqNo: 2312865		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant 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#: 2002C96

19-Mar-20

Client: Marathon
Project: Wingate Benzene Investigation

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 8260: Volatiles Short List								
Client ID: PBW	Batch ID: SL67143	RunNo: 67143								
Prep Date:	Analysis Date: 3/9/2020	SeqNo: 2312865 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.4	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.7	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.3	70	130			
Surr: Toluene-d8	9.9		10.00		99.4	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#: 2002C96

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: mb-50816	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 50816	RunNo: 67204								
Prep Date: 3/4/2020	Analysis Date: 3/11/2020	SeqNo: 2315289	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
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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#: 2002C96

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: mb-50816	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 50816	RunNo: 67204								
Prep Date: 3/4/2020	Analysis Date: 3/11/2020	SeqNo: 2315289	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	83		200.0		41.6	19.1	74.7			
Surr: Phenol-d5	64		200.0		32.0	19.2	57			
Surr: 2,4,6-Tribromophenol	120		200.0		61.8	31	96.4			
Surr: Nitrobenzene-d5	61		100.0		61.4	46.2	101			
Surr: 2-Fluorobiphenyl	58		100.0		57.9	39.7	98.2			
Surr: 4-Terphenyl-d14	55		100.0		55.0	31.1	102			

Qualifiers:

* Value exceeds Maximum Contaminant 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#: 2002C96

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: lcs-50816	SampType: LCS				TestCode: EPA Method 8270C: Semivolatiles					
Client ID: LCSW	Batch ID: 50816				RunNo: 67204					
Prep Date: 3/4/2020	Analysis Date: 3/11/2020				SeqNo: 2315290	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	62	10	100.0	0	61.5	46.3	97.3			
4-Chloro-3-methylphenol	130	10	200.0	0	66.0	46.9	99.1			
2-Chlorophenol	120	10	200.0	0	58.3	39.1	98.2			
1,4-Dichlorobenzene	43	10	100.0	0	43.1	28.6	87.9			
2,4-Dinitrotoluene	57	10	100.0	0	56.6	44	88.3			
N-Nitrosodi-n-propylamine	61	10	100.0	0	60.9	40.3	107			
4-Nitrophenol	85	10	200.0	0	42.3	26.1	60.9			
Pentachlorophenol	120	20	200.0	0	58.4	30.6	83.6			
Phenol	73	10	200.0	0	36.5	22.7	63.7			
Pyrene	58	10	100.0	0	58.5	51.4	90			
1,2,4-Trichlorobenzene	50	10	100.0	0	49.8	35	94.3			
Surr: 2-Fluorophenol	99		200.0		49.6	19.1	74.7			
Surr: Phenol-d5	77		200.0		38.5	19.2	57			
Surr: 2,4,6-Tribromophenol	160		200.0		77.7	31	96.4			
Surr: Nitrobenzene-d5	70		100.0		69.6	46.2	101			
Surr: 2-Fluorobiphenyl	65		100.0		65.4	39.7	98.2			
Surr: 4-Terphenyl-d14	66		100.0		65.9	31.1	102			

Sample ID: mb-50816	SampType: MBLK				TestCode: EPA Method 8270C: Semivolatiles					
Client ID: PBW	Batch ID: 50816				RunNo: 67321					
Prep Date: 3/4/2020	Analysis Date: 3/16/2020				SeqNo: 2320806	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2002C96

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: mb-50816	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 50816	RunNo: 67321								
Prep Date: 3/4/2020	Analysis Date: 3/16/2020	SeqNo: 2320806	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	16	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	7.0	20								J
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2002C96

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: mb-50816	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 50816	RunNo: 67321								
Prep Date: 3/4/2020	Analysis Date: 3/16/2020	SeqNo: 2320806	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	87		200.0		43.6	19.1	74.7			
Surr: Phenol-d5	70		200.0		34.8	19.2	57			
Surr: 2,4,6-Tribromophenol	100		200.0		51.9	31	96.4			
Surr: Nitrobenzene-d5	58		100.0		58.0	46.2	101			
Surr: 2-Fluorobiphenyl	54		100.0		54.5	39.7	98.2			
Surr: 4-Terphenyl-d14	60		100.0		59.9	31.1	102			

Qualifiers:

* Value exceeds Maximum Contaminant 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#: 2002C96

19-Mar-20

Client: Marathon
Project: Wingate Benzene Investigation

Sample ID: MB-50971	SampType: MBLK	TestCode: EPA Method 7470: Mercury								
Client ID: PBW	Batch ID: 50971	RunNo: 67154								
Prep Date: 3/9/2020	Analysis Date: 3/10/2020	SeqNo: 2313417 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: LLCS-50971	SampType: LCSSL	TestCode: EPA Method 7470: Mercury								
Client ID: BatchQC	Batch ID: 50971	RunNo: 67154								
Prep Date: 3/9/2020	Analysis Date: 3/10/2020	SeqNo: 2313418 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00017	0.00020	0.0001500	0	117	50	150			J

Sample ID: LCS-50971	SampType: LCS	TestCode: EPA Method 7470: Mercury								
Client ID: LCSW	Batch ID: 50971	RunNo: 67154								
Prep Date: 3/9/2020	Analysis Date: 3/10/2020	SeqNo: 2313419 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.6	80	120			

Sample ID: LCSD-50971	SampType: LCSD	TestCode: EPA Method 7470: Mercury								
Client ID: LCSS02	Batch ID: 50971	RunNo: 67154								
Prep Date: 3/9/2020	Analysis Date: 3/10/2020	SeqNo: 2313420 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.2	80	120	0.314	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#: 2002C96

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: MB-50834	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 50834	RunNo: 67342								
Prep Date: 3/3/2020	Analysis Date: 3/16/2020	SeqNo: 2321044 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Silver	ND	0.0050								

Sample ID: LCS-50834	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 50834	RunNo: 67342								
Prep Date: 3/3/2020	Analysis Date: 3/16/2020	SeqNo: 2321046 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	95.9	80	120			
Cadmium	0.48	0.0020	0.5000	0	95.3	80	120			
Chromium	0.48	0.0060	0.5000	0	95.2	80	120			
Silver	0.097	0.0050	0.1000	0	97.0	80	120			

Sample ID: MB-50834	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 50834	RunNo: 67342								
Prep Date: 3/3/2020	Analysis Date: 3/16/2020	SeqNo: 2321145 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Sodium	ND	1.0								

Sample ID: LCS-50834	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 50834	RunNo: 67342								
Prep Date: 3/3/2020	Analysis Date: 3/16/2020	SeqNo: 2321147 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	47	1.0	50.00	0	93.3	80	120			
Magnesium	48	1.0	50.00	0	95.1	80	120			
Sodium	49	1.0	50.00	0	97.7	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical 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#: 2002C96

19-Mar-20

Client: Marathon
Project: Wingate Benzene Investigation

Sample ID: mb-1 alk	SampType: mblk	TestCode: SM2320B: Alkalinity								
Client ID: PBW	Batch ID: R66988	RunNo: 66988								
Prep Date:	Analysis Date: 3/3/2020	SeqNo: 2305403	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: lcs-1 alk	SampType: lcs	TestCode: SM2320B: Alkalinity								
Client ID: LCSW	Batch ID: R66988	RunNo: 66988								
Prep Date:	Analysis Date: 3/3/2020	SeqNo: 2305404	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.32	20.00	80.00	0	97.9	90	110			

Sample ID: mb-1 alk	SampType: mblk	TestCode: SM2320B: Alkalinity								
Client ID: PBW	Batch ID: R67047	RunNo: 67047								
Prep Date:	Analysis Date: 3/5/2020	SeqNo: 2309520	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: lcs-1 alk	SampType: lcs	TestCode: SM2320B: Alkalinity								
Client ID: LCSW	Batch ID: R67047	RunNo: 67047								
Prep Date:	Analysis Date: 3/5/2020	SeqNo: 2309521	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.64	20.00	80.00	0	98.3	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#: 2002C96

19-Mar-20

Client: Marathon
Project: Wingate Benzene Investigation

Sample ID: MB-50911	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: PBW	Batch ID: 50911	RunNo: 67110								
Prep Date: 3/5/2020	Analysis Date: 3/9/2020	SeqNo: 2311039			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: LCS-50911	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: LCSW	Batch ID: 50911	RunNo: 67110								
Prep Date: 3/5/2020	Analysis Date: 3/9/2020	SeqNo: 2311040			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1030	20.0	1000	0	103	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical 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

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **2002C96**

RcptNo: 1

Received By: **Yazmine Garduno**

2/28/2020 3:15:00 PM

Completed By: **Leah Baca**

2/28/2020 4:13:08 PM

Reviewed By: **JR 3/2/20**

unpres: DAD 2/28/20

Chain of Custody

1. Is Chain of Custody sufficiently 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°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 ☒ **my 03/02** 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: **3**
(<2 or >12 unless noted)
Adjusted? **yes**
Checked by: **my 03/02**
unpres: ENH 2/28/20

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:	Brian Mave	Date:	3/2/2020
By Whom:	Leah Baca	Via:	☐ eMail ☒ Phone ☐ Fax ☐ In Person
Regarding:	Sample collect time discrepancy for -001		
Client Instructions:			

16. Additional remarks: **For Total Metal Analysis for -001D, -002D and -003D!
Added 0.5mL HNO₃ for acceptable pH. my 03/02/20**

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.9	Good	Yes			

Chain-of-Custody Record

Client: Mission Petroleum Co.

Mailing Address: 92 Grant Crossing

Jenestown NM

Phone #: 505-726-9245

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☒ NELAP ☐ Other

☒ EDD (Type)

Date Time Matrix Sample Request ID

2/27/20 8:06 GW BH-1

2/27/20 10:34 GW BH-2

2/27/20 11:15 GW BH-3

Tap Blank
1-8 3/4/2020

Date: 19:00

Time: 2/27/20

Relinquished by: [Signature]

Date:

Time:

Relinquished by:

Turn-Around Time:

☐ Standard ☐ Rush

Project Name:

Wingate Benzene Investigation

Project #:

697-072-001

Project Manager:

Paul Haldebrandt

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 5.2-0.3-4.9

Container Type and #

Preservative Type

HEAL No.

20070906

-001

-002

-003

-004

BTEX + MTBE + TMBs (8021)

BTEX + MTBE + TPH (Gas only)

TPH 8015B (GRO / DRO / MRO)

TPH (Method 418.1)

EDB (Method 504.1)

PAH's (8310 or 8270 SIMS)

RCRA 8 Metals

Anions (F, Cl, NO₃, NO₂, PO₄, SO₄)

8081 Pesticides / 8082 PCBs

8260B (VOA) - BTEX

8270 (Semi-VOA)

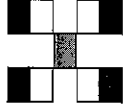
300.CIA (EPA) (Sulfate, Nitrate, Chloride)

310.1 (EPA) - Alkalinity

6010B - As, Ba, Cd, Cr, Cu, Hg, Pb, Mn, Ni, Se, V, Zn

1601 - TDS (EPA)

Art Bacteria (EPA) 150.1-PH



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Remarks:

Received by:

Date

Time

Received by:

Date

Time

WJ Camei 2/28/20 13:15



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

March 19, 2020

Paul Hildebrandt

Marathon

92 Giant Crossing Rd

Gallup, NM 87301

TEL:

FAX

RE: Wingate Benzene Investigation

OrderNo.: 2002C97

Dear Paul Hildebrandt:

Hall Environmental Analysis Laboratory received 5 sample(s) on 2/28/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

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



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

Case Narrative

WO#: 2002C97
Date: 3/19/2020

CLIENT: Marathon

Project: Wingate Benzene Investigation

Analytical Notes Regarding EPA Method 8260:

The trip blank has a low level detection for Benzene. The trip blank was analyzed directly after sample BH-9 which had a Benzene detection of 2,700ug/L. It is believed that the Benzene detection in the Trip Blank is carry over from sample BH-9. Only one VOA vial was provided for the trip blank, so a reanalysis could not be performed.

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C97

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-4

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 3:10:00 PM

Lab ID: 2002C97-001

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS								
							Analyst: MRA	
Chloride	480	12	25	*	mg/L	50	2/29/2020 1:46:37 PM	R66918
Nitrogen, Nitrate (As N)	0.14	0.11	0.50	J	mg/L	5	2/29/2020 1:34:12 PM	R66918
Sulfate	860	12	25	*	mg/L	50	2/29/2020 1:46:37 PM	R66918
EPA METHOD 6020: TOTAL METALS								
							Analyst: DBK	
Arsenic	0.0032	0.0025	0.0050	J	mg/L	5	3/12/2020 5:59:02 PM	50834
Lead	ND	0.0025	0.0050		mg/L	5	3/12/2020 5:59:02 PM	50834
Selenium	ND	0.0025	0.0050		mg/L	5	3/13/2020 10:59:39 AM	50834
EPA METHOD 7470: MERCURY								
							Analyst: pmf	
Mercury	ND	0.00012	0.00020		mg/L	1	3/10/2020 1:50:27 PM	50971
EPA 6010B: TOTAL RECOVERABLE METALS								
							Analyst: rde	
Barium	0.092	0.0011	0.0020		mg/L	1	3/16/2020 12:50:39 PM	50834
Cadmium	ND	0.00090	0.0020		mg/L	1	3/16/2020 12:50:39 PM	50834
Calcium	45	0.036	1.0		mg/L	1	3/16/2020 5:26:51 PM	50834
Chromium	0.0026	0.0014	0.0060	J	mg/L	1	3/16/2020 12:50:39 PM	50834
Magnesium	30	0.022	1.0		mg/L	1	3/16/2020 5:26:51 PM	50834
Silver	ND	0.0013	0.0050		mg/L	1	3/16/2020 12:50:39 PM	50834
Sodium	1100	61	100		mg/L	100	3/16/2020 6:06:54 PM	50834
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: JDC	
Acenaphthene	ND	2.3	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Acenaphthylene	ND	2.4	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Aniline	ND	4.5	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Anthracene	ND	3.9	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Azobenzene	ND	3.4	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Benz(a)anthracene	ND	3.3	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Benzo(a)pyrene	ND	3.4	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Benzo(b)fluoranthene	ND	3.6	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Benzo(k)fluoranthene	ND	4.9	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Benzoic acid	9.5	9.3	20	J	µg/L	1	3/11/2020 6:17:52 PM	50816
Benzyl alcohol	ND	4.7	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Bis(2-chloroethoxy)methane	ND	4.4	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Bis(2-chloroisopropyl)ether	ND	4.0	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Bis(2-ethylhexyl)phthalate	ND	6.0	10		µg/L	1	3/11/2020 6:17:52 PM	50816
4-Bromophenyl phenyl ether	ND	2.0	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Butyl benzyl phthalate	ND	3.9	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Carbazole	ND	3.7	10		µg/L	1	3/11/2020 6:17:52 PM	50816

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C97

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-4

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 3:10:00 PM

Lab ID: 2002C97-001

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC	
4-Chloro-3-methylphenol	ND	4.7	10		µg/L	1	3/11/2020 6:17:52 PM	50816
4-Chloroaniline	ND	5.1	10		µg/L	1	3/11/2020 6:17:52 PM	50816
2-Chloronaphthalene	ND	1.9	10		µg/L	1	3/11/2020 6:17:52 PM	50816
2-Chlorophenol	ND	3.3	10		µg/L	1	3/11/2020 6:17:52 PM	50816
4-Chlorophenyl phenyl ether	ND	2.2	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Chrysene	ND	5.6	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Di-n-butyl phthalate	ND	4.4	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Di-n-octyl phthalate	ND	4.2	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Dibenz(a,h)anthracene	ND	3.7	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Dibenzofuran	ND	2.1	10		µg/L	1	3/11/2020 6:17:52 PM	50816
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/11/2020 6:17:52 PM	50816
1,3-Dichlorobenzene	ND	2.7	10		µg/L	1	3/11/2020 6:17:52 PM	50816
1,4-Dichlorobenzene	ND	2.9	10		µg/L	1	3/11/2020 6:17:52 PM	50816
3,3'-Dichlorobenzidine	ND	7.3	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Diethyl phthalate	ND	4.3	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Dimethyl phthalate	ND	5.6	10		µg/L	1	3/11/2020 6:17:52 PM	50816
2,4-Dichlorophenol	ND	4.4	20		µg/L	1	3/11/2020 6:17:52 PM	50816
2,4-Dimethylphenol	ND	5.5	10		µg/L	1	3/11/2020 6:17:52 PM	50816
4,6-Dinitro-2-methylphenol	ND	2.6	20		µg/L	1	3/11/2020 6:17:52 PM	50816
2,4-Dinitrophenol	ND	3.0	20		µg/L	1	3/11/2020 6:17:52 PM	50816
2,4-Dinitrotoluene	ND	3.4	10		µg/L	1	3/11/2020 6:17:52 PM	50816
2,6-Dinitrotoluene	ND	4.6	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Fluoranthene	ND	4.4	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Fluorene	ND	2.6	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Hexachlorobenzene	ND	3.4	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Hexachlorobutadiene	ND	4.2	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Hexachlorocyclopentadiene	ND	5.6	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Hexachloroethane	ND	4.0	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Isophorone	ND	3.4	10		µg/L	1	3/11/2020 6:17:52 PM	50816
1-Methylnaphthalene	ND	2.3	10		µg/L	1	3/11/2020 6:17:52 PM	50816
2-Methylnaphthalene	ND	2.3	10		µg/L	1	3/11/2020 6:17:52 PM	50816
2-Methylphenol	ND	3.6	10		µg/L	1	3/11/2020 6:17:52 PM	50816
3+4-Methylphenol	ND	4.6	10		µg/L	1	3/11/2020 6:17:52 PM	50816
N-Nitrosodi-n-propylamine	ND	4.1	10		µg/L	1	3/11/2020 6:17:52 PM	50816
N-Nitrosodimethylamine	ND	6.1	10		µg/L	1	3/11/2020 6:17:52 PM	50816
N-Nitrosodiphenylamine	ND	4.1	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Naphthalene	ND	2.2	10		µg/L	1	3/11/2020 6:17:52 PM	50816
2-Nitroaniline	ND	4.1	10		µg/L	1	3/11/2020 6:17:52 PM	50816

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	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C97

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-4

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 3:10:00 PM

Lab ID: 2002C97-001

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC	
3-Nitroaniline	ND	4.9	10		µg/L	1	3/11/2020 6:17:52 PM	50816
4-Nitroaniline	ND	2.9	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Nitrobenzene	ND	4.0	10		µg/L	1	3/11/2020 6:17:52 PM	50816
2-Nitrophenol	ND	3.8	10		µg/L	1	3/11/2020 6:17:52 PM	50816
4-Nitrophenol	ND	4.2	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Pentachlorophenol	ND	7.6	20		µg/L	1	3/11/2020 6:17:52 PM	50816
Phenanthrene	ND	4.0	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Phenol	ND	3.6	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Pyrene	ND	5.6	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Pyridine	ND	3.4	10		µg/L	1	3/11/2020 6:17:52 PM	50816
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/11/2020 6:17:52 PM	50816
2,4,5-Trichlorophenol	ND	4.3	10		µg/L	1	3/11/2020 6:17:52 PM	50816
2,4,6-Trichlorophenol	ND	3.6	10		µg/L	1	3/11/2020 6:17:52 PM	50816
Surr: 2-Fluorophenol	40.1	0	19.1-74.7		%Rec	1	3/11/2020 6:17:52 PM	50816
Surr: Phenol-d5	32.8	0	19.2-57		%Rec	1	3/11/2020 6:17:52 PM	50816
Surr: 2,4,6-Tribromophenol	77.8	0	31-96.4		%Rec	1	3/11/2020 6:17:52 PM	50816
Surr: Nitrobenzene-d5	59.9	0	46.2-101		%Rec	1	3/11/2020 6:17:52 PM	50816
Surr: 2-Fluorobiphenyl	63.4	0	39.7-98.2		%Rec	1	3/11/2020 6:17:52 PM	50816
Surr: 4-Terphenyl-d14	64.5	0	31.1-102		%Rec	1	3/11/2020 6:17:52 PM	50816
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: CCM	
Benzene	63	0.23	0.50		µg/L	1	3/6/2020 2:58:00 PM	S67083
Toluene	3.0	0.20	1.0		µg/L	1	3/6/2020 2:58:00 PM	S67083
Ethylbenzene	1.8	0.21	1.0		µg/L	1	3/6/2020 2:58:00 PM	S67083
Xylenes, Total	7.9	0.55	1.5		µg/L	1	3/6/2020 2:58:00 PM	S67083
Surr: 1,2-Dichloroethane-d4	96.3	0	70-130		%Rec	1	3/6/2020 2:58:00 PM	S67083
Surr: 4-Bromofluorobenzene	98.1	0	70-130		%Rec	1	3/6/2020 2:58:00 PM	S67083
Surr: Dibromofluoromethane	97.6	0	70-130		%Rec	1	3/6/2020 2:58:00 PM	S67083
Surr: Toluene-d8	101	0	70-130		%Rec	1	3/6/2020 2:58:00 PM	S67083
SM4500-H+B / 9040C: PH							Analyst: JRR	
pH	7.89			H	pH units	1	3/3/2020 4:01:16 PM	R66988
SM2320B: ALKALINITY							Analyst: JRR	
Bicarbonate (As CaCO3)	1039	20.00	20.00		mg/L Ca	1	3/3/2020 4:01:16 PM	R66988
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	3/3/2020 4:01:16 PM	R66988
Total Alkalinity (as CaCO3)	1039	20.00	20.00		mg/L Ca	1	3/3/2020 4:01:16 PM	R66988
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS	
Total Dissolved Solids	3090	40.0	40.0	*D	mg/L	1	3/9/2020 10:48:00 AM	50911

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C97

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-5

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 3:35:00 PM

Lab ID: 2002C97-002

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS								
							Analyst: MRA	
Chloride	290	5.0	10	*	mg/L	20	2/29/2020 2:11:25 PM	R66918
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	2/29/2020 1:59:00 PM	R66918
Sulfate	810	5.0	10	*	mg/L	20	2/29/2020 2:11:25 PM	R66918
EPA METHOD 6020: TOTAL METALS								
							Analyst: DBK	
Arsenic	0.16	0.010	0.020	D	mg/L	10	3/12/2020 6:09:28 PM	50834
Lead	0.42	0.010	0.020	D	mg/L	10	3/12/2020 6:09:28 PM	50834
Selenium	0.056	0.010	0.020	D	mg/L	10	3/13/2020 11:01:21 AM	50834
EPA METHOD 7470: MERCURY								
							Analyst: pmf	
Mercury	ND	0.00012	0.00020		mg/L	1	3/10/2020 7:15:44 PM	50971
EPA 6010B: TOTAL RECOVERABLE METALS								
							Analyst: rde	
Barium	4.4	0.011	0.020		mg/L	5	3/16/2020 1:09:13 PM	50834
Cadmium	ND	0.0090	0.020		mg/L	5	3/16/2020 1:09:13 PM	50834
Calcium	710	0.72	20		mg/L	10	3/16/2020 5:56:03 PM	50834
Chromium	0.37	0.014	0.060		mg/L	5	3/16/2020 1:09:13 PM	50834
Magnesium	270	0.44	20		mg/L	10	3/16/2020 5:56:03 PM	50834
Silver	ND	0.013	0.050		mg/L	5	3/16/2020 1:09:13 PM	50834
Sodium	980	12	20		mg/L	10	3/16/2020 5:56:03 PM	50834
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: JDC	
Acenaphthene	ND	3.4	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Acenaphthylene	ND	3.6	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Aniline	ND	6.7	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Anthracene	ND	5.8	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Azobenzene	ND	5.1	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Benz(a)anthracene	ND	5.0	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Benzo(a)pyrene	ND	5.1	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Benzo(b)fluoranthene	ND	5.4	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Benzo(g,h,i)perylene	ND	5.9	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Benzo(k)fluoranthene	ND	7.4	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Benzoic acid	19	14	30	JD	µg/L	1	3/11/2020 6:46:58 PM	50816
Benzyl alcohol	ND	7.0	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Bis(2-chloroethoxy)methane	ND	6.6	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Bis(2-chloroethyl)ether	ND	4.0	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Bis(2-chloroisopropyl)ether	ND	6.0	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Bis(2-ethylhexyl)phthalate	ND	8.9	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
4-Bromophenyl phenyl ether	ND	2.9	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Butyl benzyl phthalate	ND	5.9	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Carbazole	ND	5.6	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C97

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-5

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 3:35:00 PM

Lab ID: 2002C97-002

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC	
4-Chloro-3-methylphenol	ND	7.1	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
4-Chloroaniline	ND	7.6	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
2-Chloronaphthalene	ND	2.8	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
2-Chlorophenol	ND	4.9	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
4-Chlorophenyl phenyl ether	ND	3.3	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Chrysene	ND	8.4	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Di-n-butyl phthalate	ND	6.6	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Di-n-octyl phthalate	ND	6.3	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Dibenz(a,h)anthracene	ND	5.5	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Dibenzofuran	ND	3.1	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
1,2-Dichlorobenzene	ND	3.4	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
1,3-Dichlorobenzene	ND	4.1	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
1,4-Dichlorobenzene	ND	4.3	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
3,3'-Dichlorobenzidine	ND	11	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Diethyl phthalate	ND	6.4	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Dimethyl phthalate	ND	8.4	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
2,4-Dichlorophenol	ND	6.6	30	D	µg/L	1	3/11/2020 6:46:58 PM	50816
2,4-Dimethylphenol	ND	8.1	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
4,6-Dinitro-2-methylphenol	ND	3.9	30	D	µg/L	1	3/11/2020 6:46:58 PM	50816
2,4-Dinitrophenol	ND	4.4	30	D	µg/L	1	3/11/2020 6:46:58 PM	50816
2,4-Dinitrotoluene	ND	5.1	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
2,6-Dinitrotoluene	ND	6.9	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Fluoranthene	ND	6.5	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Fluorene	ND	3.9	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Hexachlorobenzene	ND	5.1	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Hexachlorobutadiene	ND	6.2	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Hexachlorocyclopentadiene	ND	8.4	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Hexachloroethane	ND	5.9	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Indeno(1,2,3-cd)pyrene	ND	4.1	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Isophorone	ND	5.0	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
1-Methylnaphthalene	ND	3.5	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
2-Methylnaphthalene	ND	3.4	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
2-Methylphenol	ND	5.4	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
3+4-Methylphenol	ND	6.8	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
N-Nitrosodi-n-propylamine	ND	6.2	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
N-Nitrosodimethylamine	ND	9.0	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
N-Nitrosodiphenylamine	ND	6.2	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Naphthalene	ND	3.3	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
2-Nitroaniline	ND	6.1	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C97

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-5

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 3:35:00 PM

Lab ID: 2002C97-002

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC	
3-Nitroaniline	ND	7.2	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
4-Nitroaniline	ND	4.4	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Nitrobenzene	ND	5.9	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
2-Nitrophenol	ND	5.6	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
4-Nitrophenol	ND	6.3	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Pentachlorophenol	ND	11	30	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Phenanthrene	ND	5.9	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Phenol	ND	5.4	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Pyrene	ND	8.4	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Pyridine	ND	5.1	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
1,2,4-Trichlorobenzene	ND	3.9	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
2,4,5-Trichlorophenol	ND	6.4	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
2,4,6-Trichlorophenol	ND	5.4	15	D	µg/L	1	3/11/2020 6:46:58 PM	50816
Surr: 2-Fluorophenol	36.9	0	19.1-74.7	D	%Rec	1	3/11/2020 6:46:58 PM	50816
Surr: Phenol-d5	29.8	0	19.2-57	D	%Rec	1	3/11/2020 6:46:58 PM	50816
Surr: 2,4,6-Tribromophenol	43.9	0	31-96.4	D	%Rec	1	3/11/2020 6:46:58 PM	50816
Surr: Nitrobenzene-d5	42.9	0	46.2-101	SD	%Rec	1	3/11/2020 6:46:58 PM	50816
Surr: 2-Fluorobiphenyl	28.2	0	39.7-98.2	SD	%Rec	1	3/11/2020 6:46:58 PM	50816
Surr: 4-Terphenyl-d14	36.4	0	31.1-102	D	%Rec	1	3/11/2020 6:46:58 PM	50816
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: CCM	
Benzene	29	0.23	0.50		µg/L	1	3/6/2020 8:30:00 PM	S67083
Toluene	5.5	0.20	1.0		µg/L	1	3/6/2020 8:30:00 PM	S67083
Ethylbenzene	3.0	0.21	1.0		µg/L	1	3/6/2020 8:30:00 PM	S67083
Xylenes, Total	26	0.55	1.5		µg/L	1	3/6/2020 8:30:00 PM	S67083
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	3/6/2020 8:30:00 PM	S67083
Surr: 4-Bromofluorobenzene	97.7	0	70-130		%Rec	1	3/6/2020 8:30:00 PM	S67083
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	3/6/2020 8:30:00 PM	S67083
Surr: Toluene-d8	102	0	70-130		%Rec	1	3/6/2020 8:30:00 PM	S67083
SM4500-H+B / 9040C: PH							Analyst: JRR	
pH	8.21			H	pH units	1	3/3/2020 4:37:05 PM	R66988
SM2320B: ALKALINITY							Analyst: JRR	
Bicarbonate (As CaCO3)	947.2	20.00	20.00		mg/L Ca	1	3/3/2020 4:37:05 PM	R66988
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	3/3/2020 4:37:05 PM	R66988
Total Alkalinity (as CaCO3)	947.2	20.00	20.00		mg/L Ca	1	3/3/2020 4:37:05 PM	R66988
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS	
Total Dissolved Solids	6180	200	200	*D	mg/L	1	3/9/2020 10:48:00 AM	50911

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C97

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-8

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 1:29:00 PM

Lab ID: 2002C97-003

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS								
							Analyst: MRA	
Chloride	430	12	25	*	mg/L	50	2/29/2020 12:56:58 PM	R66918
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	2/29/2020 12:44:34 PM	R66918
Sulfate	560	12	25	*	mg/L	50	2/29/2020 12:56:58 PM	R66918
EPA METHOD 6020: TOTAL METALS								
							Analyst: DBK	
Arsenic	ND	0.0050	0.010		mg/L	10	3/12/2020 6:20:59 PM	50834
Lead	0.010	0.0050	0.010		mg/L	10	3/12/2020 6:20:59 PM	50834
Selenium	0.0032	0.0025	0.0050	J	mg/L	5	3/13/2020 11:17:35 AM	50834
EPA METHOD 7470: MERCURY								
							Analyst: pmf	
Mercury	ND	0.00012	0.00020		mg/L	1	3/10/2020 2:01:38 PM	50971
EPA 6010B: TOTAL RECOVERABLE METALS								
							Analyst: rde	
Barium	0.79	0.0011	0.0020		mg/L	1	3/16/2020 1:01:23 PM	50834
Cadmium	ND	0.00090	0.0020		mg/L	1	3/16/2020 1:01:23 PM	50834
Calcium	34	0.036	1.0		mg/L	1	3/16/2020 5:32:07 PM	50834
Chromium	0.0076	0.0014	0.0060		mg/L	1	3/16/2020 1:01:23 PM	50834
Magnesium	22	0.022	1.0		mg/L	1	3/16/2020 5:32:07 PM	50834
Silver	ND	0.0013	0.0050		mg/L	1	3/16/2020 1:01:23 PM	50834
Sodium	990	61	100		mg/L	100	3/16/2020 6:08:08 PM	50834
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: JDC	
Acenaphthene	ND	2.3	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Acenaphthylene	ND	2.4	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Aniline	ND	4.5	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Anthracene	ND	3.9	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Azobenzene	ND	3.4	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Benz(a)anthracene	ND	3.3	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Benzo(a)pyrene	ND	3.4	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Benzo(b)fluoranthene	ND	3.6	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Benzo(k)fluoranthene	ND	4.9	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Benzoic acid	10	9.3	20	J	µg/L	1	3/11/2020 7:16:03 PM	50816
Benzyl alcohol	ND	4.7	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Bis(2-chloroethoxy)methane	ND	4.4	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Bis(2-chloroisopropyl)ether	ND	4.0	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Bis(2-ethylhexyl)phthalate	ND	6.0	10		µg/L	1	3/11/2020 7:16:03 PM	50816
4-Bromophenyl phenyl ether	ND	2.0	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Butyl benzyl phthalate	ND	3.9	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Carbazole	ND	3.7	10		µg/L	1	3/11/2020 7:16:03 PM	50816

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C97

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-8

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 1:29:00 PM

Lab ID: 2002C97-003

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC	
4-Chloro-3-methylphenol	ND	4.7	10		µg/L	1	3/11/2020 7:16:03 PM	50816
4-Chloroaniline	ND	5.1	10		µg/L	1	3/11/2020 7:16:03 PM	50816
2-Chloronaphthalene	ND	1.9	10		µg/L	1	3/11/2020 7:16:03 PM	50816
2-Chlorophenol	ND	3.3	10		µg/L	1	3/11/2020 7:16:03 PM	50816
4-Chlorophenyl phenyl ether	ND	2.2	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Chrysene	ND	5.6	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Di-n-butyl phthalate	ND	4.4	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Di-n-octyl phthalate	ND	4.2	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Dibenz(a,h)anthracene	ND	3.7	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Dibenzofuran	ND	2.1	10		µg/L	1	3/11/2020 7:16:03 PM	50816
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/11/2020 7:16:03 PM	50816
1,3-Dichlorobenzene	ND	2.7	10		µg/L	1	3/11/2020 7:16:03 PM	50816
1,4-Dichlorobenzene	ND	2.9	10		µg/L	1	3/11/2020 7:16:03 PM	50816
3,3'-Dichlorobenzidine	ND	7.3	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Diethyl phthalate	ND	4.3	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Dimethyl phthalate	ND	5.6	10		µg/L	1	3/11/2020 7:16:03 PM	50816
2,4-Dichlorophenol	ND	4.4	20		µg/L	1	3/11/2020 7:16:03 PM	50816
2,4-Dimethylphenol	ND	5.5	10		µg/L	1	3/11/2020 7:16:03 PM	50816
4,6-Dinitro-2-methylphenol	ND	2.6	20		µg/L	1	3/11/2020 7:16:03 PM	50816
2,4-Dinitrophenol	ND	3.0	20		µg/L	1	3/11/2020 7:16:03 PM	50816
2,4-Dinitrotoluene	ND	3.4	10		µg/L	1	3/11/2020 7:16:03 PM	50816
2,6-Dinitrotoluene	ND	4.6	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Fluoranthene	ND	4.4	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Fluorene	ND	2.6	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Hexachlorobenzene	ND	3.4	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Hexachlorobutadiene	ND	4.2	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Hexachlorocyclopentadiene	ND	5.6	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Hexachloroethane	ND	4.0	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Isophorone	ND	3.4	10		µg/L	1	3/11/2020 7:16:03 PM	50816
1-Methylnaphthalene	4.1	2.3	10	J	µg/L	1	3/11/2020 7:16:03 PM	50816
2-Methylnaphthalene	4.0	2.3	10	J	µg/L	1	3/11/2020 7:16:03 PM	50816
2-Methylphenol	ND	3.6	10		µg/L	1	3/11/2020 7:16:03 PM	50816
3+4-Methylphenol	ND	4.6	10		µg/L	1	3/11/2020 7:16:03 PM	50816
N-Nitrosodi-n-propylamine	ND	4.1	10		µg/L	1	3/11/2020 7:16:03 PM	50816
N-Nitrosodimethylamine	ND	6.1	10		µg/L	1	3/11/2020 7:16:03 PM	50816
N-Nitrosodiphenylamine	ND	4.1	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Naphthalene	2.7	2.2	10	J	µg/L	1	3/11/2020 7:16:03 PM	50816
2-Nitroaniline	ND	4.1	10		µg/L	1	3/11/2020 7:16:03 PM	50816

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C97

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-8

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 1:29:00 PM

Lab ID: 2002C97-003

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES					Analyst: JDC			
3-Nitroaniline	ND	4.9	10		µg/L	1	3/11/2020 7:16:03 PM	50816
4-Nitroaniline	ND	2.9	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Nitrobenzene	ND	4.0	10		µg/L	1	3/11/2020 7:16:03 PM	50816
2-Nitrophenol	ND	3.8	10		µg/L	1	3/11/2020 7:16:03 PM	50816
4-Nitrophenol	ND	4.2	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Pentachlorophenol	ND	7.6	20		µg/L	1	3/11/2020 7:16:03 PM	50816
Phenanthrene	ND	4.0	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Phenol	ND	3.6	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Pyrene	ND	5.6	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Pyridine	ND	3.4	10		µg/L	1	3/11/2020 7:16:03 PM	50816
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/11/2020 7:16:03 PM	50816
2,4,5-Trichlorophenol	ND	4.3	10		µg/L	1	3/11/2020 7:16:03 PM	50816
2,4,6-Trichlorophenol	ND	3.6	10		µg/L	1	3/11/2020 7:16:03 PM	50816
Surr: 2-Fluorophenol	37.4	0	19.1-74.7		%Rec	1	3/11/2020 7:16:03 PM	50816
Surr: Phenol-d5	31.8	0	19.2-57		%Rec	1	3/11/2020 7:16:03 PM	50816
Surr: 2,4,6-Tribromophenol	62.9	0	31-96.4		%Rec	1	3/11/2020 7:16:03 PM	50816
Surr: Nitrobenzene-d5	61.0	0	46.2-101		%Rec	1	3/11/2020 7:16:03 PM	50816
Surr: 2-Fluorobiphenyl	59.3	0	39.7-98.2		%Rec	1	3/11/2020 7:16:03 PM	50816
Surr: 4-Terphenyl-d14	61.2	0	31.1-102		%Rec	1	3/11/2020 7:16:03 PM	50816
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: CCM			
Benzene	160	2.3	5.0		µg/L	10	3/6/2020 4:57:00 PM	S67083
Toluene	72	2.0	10		µg/L	10	3/6/2020 4:57:00 PM	S67083
Ethylbenzene	56	2.1	10		µg/L	10	3/6/2020 4:57:00 PM	S67083
Xylenes, Total	560	5.5	15		µg/L	10	3/6/2020 4:57:00 PM	S67083
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	10	3/6/2020 4:57:00 PM	S67083
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	10	3/6/2020 4:57:00 PM	S67083
Surr: Dibromofluoromethane	105	0	70-130		%Rec	10	3/6/2020 4:57:00 PM	S67083
Surr: Toluene-d8	105	0	70-130		%Rec	10	3/6/2020 4:57:00 PM	S67083
SM4500-H+B / 9040C: PH					Analyst: JRR			
pH	8.43			H	pH units	1	3/3/2020 5:09:49 PM	R66988
SM2320B: ALKALINITY					Analyst: JRR			
Bicarbonate (As CaCO3)	1080	50.00	50.00		mg/L Ca	2.5	3/5/2020 10:05:21 PM	R67047
Carbonate (As CaCO3)	89.40	5.000	5.000		mg/L Ca	2.5	3/5/2020 10:05:21 PM	R67047
Total Alkalinity (as CaCO3)	1169	50.00	50.00		mg/L Ca	2.5	3/5/2020 10:05:21 PM	R67047
SM2540C MOD: TOTAL DISSOLVED SOLIDS					Analyst: KS			
Total Dissolved Solids	3030	200	200	*D	mg/L	1	3/9/2020 10:48:00 AM	50911

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C97

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-9

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 2:30:00 PM

Lab ID: 2002C97-004

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS								
							Analyst: MRA	
Chloride	430	12	25	*	mg/L	50	2/29/2020 1:21:47 PM	R66918
Nitrogen, Nitrate (As N)	0.17	0.11	0.50	J	mg/L	5	2/29/2020 1:09:22 PM	R66918
Sulfate	92	1.2	2.5		mg/L	5	2/29/2020 1:09:22 PM	R66918
EPA METHOD 6020: TOTAL METALS								
							Analyst: DBK	
Arsenic	0.0080	0.0050	0.010	J	mg/L	10	3/12/2020 6:31:23 PM	50834
Lead	0.023	0.0050	0.010		mg/L	10	3/12/2020 6:31:23 PM	50834
Selenium	ND	0.0025	0.0050		mg/L	5	3/13/2020 11:19:17 AM	50834
EPA METHOD 7470: MERCURY								
							Analyst: pmf	
Mercury	ND	0.00012	0.00020		mg/L	1	3/10/2020 2:04:24 PM	50971
EPA 6010B: TOTAL RECOVERABLE METALS								
							Analyst: rde	
Barium	1.9	0.0021	0.0040		mg/L	2	3/16/2020 1:07:42 PM	50834
Cadmium	ND	0.00090	0.0020		mg/L	1	3/16/2020 1:02:54 PM	50834
Calcium	83	0.036	1.0		mg/L	1	3/16/2020 5:33:26 PM	50834
Chromium	0.017	0.0014	0.0060		mg/L	1	3/16/2020 1:02:54 PM	50834
Magnesium	28	0.022	1.0		mg/L	1	3/16/2020 5:33:26 PM	50834
Silver	ND	0.0013	0.0050		mg/L	1	3/16/2020 1:02:54 PM	50834
Sodium	970	6.1	10		mg/L	10	3/16/2020 5:58:32 PM	50834
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: JDC	
Acenaphthene	ND	2.3	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Acenaphthylene	ND	2.4	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Aniline	ND	4.5	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Anthracene	ND	3.9	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Azobenzene	ND	3.4	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Benz(a)anthracene	ND	3.3	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Benzo(a)pyrene	ND	3.4	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Benzo(b)fluoranthene	ND	3.6	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Benzo(k)fluoranthene	ND	4.9	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Benzoic acid	ND	9.3	20		µg/L	1	3/11/2020 7:45:05 PM	50816
Benzyl alcohol	ND	4.7	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Bis(2-chloroethoxy)methane	ND	4.4	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Bis(2-chloroisopropyl)ether	ND	4.0	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Bis(2-ethylhexyl)phthalate	ND	6.0	10		µg/L	1	3/11/2020 7:45:05 PM	50816
4-Bromophenyl phenyl ether	ND	2.0	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Butyl benzyl phthalate	ND	3.9	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Carbazole	ND	3.7	10		µg/L	1	3/11/2020 7:45:05 PM	50816

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C97

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-9

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 2:30:00 PM

Lab ID: 2002C97-004

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC	
4-Chloro-3-methylphenol	ND	4.7	10		µg/L	1	3/11/2020 7:45:05 PM	50816
4-Chloroaniline	ND	5.1	10		µg/L	1	3/11/2020 7:45:05 PM	50816
2-Chloronaphthalene	ND	1.9	10		µg/L	1	3/11/2020 7:45:05 PM	50816
2-Chlorophenol	ND	3.3	10		µg/L	1	3/11/2020 7:45:05 PM	50816
4-Chlorophenyl phenyl ether	ND	2.2	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Chrysene	ND	5.6	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Di-n-butyl phthalate	ND	4.4	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Di-n-octyl phthalate	ND	4.2	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Dibenz(a,h)anthracene	ND	3.7	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Dibenzofuran	ND	2.1	10		µg/L	1	3/11/2020 7:45:05 PM	50816
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/11/2020 7:45:05 PM	50816
1,3-Dichlorobenzene	ND	2.7	10		µg/L	1	3/11/2020 7:45:05 PM	50816
1,4-Dichlorobenzene	ND	2.9	10		µg/L	1	3/11/2020 7:45:05 PM	50816
3,3'-Dichlorobenzidine	ND	7.3	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Diethyl phthalate	ND	4.3	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Dimethyl phthalate	ND	5.6	10		µg/L	1	3/11/2020 7:45:05 PM	50816
2,4-Dichlorophenol	ND	4.4	20		µg/L	1	3/11/2020 7:45:05 PM	50816
2,4-Dimethylphenol	ND	5.5	10		µg/L	1	3/11/2020 7:45:05 PM	50816
4,6-Dinitro-2-methylphenol	ND	2.6	20		µg/L	1	3/11/2020 7:45:05 PM	50816
2,4-Dinitrophenol	ND	3.0	20		µg/L	1	3/11/2020 7:45:05 PM	50816
2,4-Dinitrotoluene	ND	3.4	10		µg/L	1	3/11/2020 7:45:05 PM	50816
2,6-Dinitrotoluene	ND	4.6	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Fluoranthene	ND	4.4	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Fluorene	ND	2.6	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Hexachlorobenzene	ND	3.4	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Hexachlorobutadiene	ND	4.2	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Hexachlorocyclopentadiene	ND	5.6	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Hexachloroethane	ND	4.0	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Isophorone	ND	3.4	10		µg/L	1	3/11/2020 7:45:05 PM	50816
1-Methylnaphthalene	ND	2.3	10		µg/L	1	3/11/2020 7:45:05 PM	50816
2-Methylnaphthalene	ND	2.3	10		µg/L	1	3/11/2020 7:45:05 PM	50816
2-Methylphenol	ND	3.6	10		µg/L	1	3/11/2020 7:45:05 PM	50816
3+4-Methylphenol	ND	4.6	10		µg/L	1	3/11/2020 7:45:05 PM	50816
N-Nitrosodi-n-propylamine	ND	4.1	10		µg/L	1	3/11/2020 7:45:05 PM	50816
N-Nitrosodimethylamine	ND	6.1	10		µg/L	1	3/11/2020 7:45:05 PM	50816
N-Nitrosodiphenylamine	ND	4.1	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Naphthalene	ND	2.2	10		µg/L	1	3/11/2020 7:45:05 PM	50816
2-Nitroaniline	ND	4.1	10		µg/L	1	3/11/2020 7:45:05 PM	50816

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	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C97

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: BH-9

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 2:30:00 PM

Lab ID: 2002C97-004

Matrix: GROUNDWA

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES					Analyst: JDC			
3-Nitroaniline	ND	4.9	10		µg/L	1	3/11/2020 7:45:05 PM	50816
4-Nitroaniline	ND	2.9	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Nitrobenzene	ND	4.0	10		µg/L	1	3/11/2020 7:45:05 PM	50816
2-Nitrophenol	ND	3.8	10		µg/L	1	3/11/2020 7:45:05 PM	50816
4-Nitrophenol	ND	4.2	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Pentachlorophenol	ND	7.6	20		µg/L	1	3/11/2020 7:45:05 PM	50816
Phenanthrene	ND	4.0	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Phenol	46	3.6	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Pyrene	ND	5.6	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Pyridine	ND	3.4	10		µg/L	1	3/11/2020 7:45:05 PM	50816
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/11/2020 7:45:05 PM	50816
2,4,5-Trichlorophenol	ND	4.3	10		µg/L	1	3/11/2020 7:45:05 PM	50816
2,4,6-Trichlorophenol	ND	3.6	10		µg/L	1	3/11/2020 7:45:05 PM	50816
Surr: 2-Fluorophenol	36.5	0	19.1-74.7		%Rec	1	3/11/2020 7:45:05 PM	50816
Surr: Phenol-d5	31.5	0	19.2-57		%Rec	1	3/11/2020 7:45:05 PM	50816
Surr: 2,4,6-Tribromophenol	73.8	0	31-96.4		%Rec	1	3/11/2020 7:45:05 PM	50816
Surr: Nitrobenzene-d5	60.8	0	46.2-101		%Rec	1	3/11/2020 7:45:05 PM	50816
Surr: 2-Fluorobiphenyl	61.3	0	39.7-98.2		%Rec	1	3/11/2020 7:45:05 PM	50816
Surr: 4-Terphenyl-d14	58.4	0	31.1-102		%Rec	1	3/11/2020 7:45:05 PM	50816
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: CCM			
Benzene	2700	23	100		µg/L	100	3/9/2020 12:45:00 PM	SL6714
Toluene	9.2	0.20	1.0		µg/L	1	3/6/2020 5:21:00 PM	S67083
Ethylbenzene	48	0.21	1.0		µg/L	1	3/6/2020 5:21:00 PM	S67083
Xylenes, Total	290	0.55	1.5		µg/L	1	3/6/2020 5:21:00 PM	S67083
Surr: 1,2-Dichloroethane-d4	112	0	70-130		%Rec	1	3/6/2020 5:21:00 PM	S67083
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	3/6/2020 5:21:00 PM	S67083
Surr: Dibromofluoromethane	112	0	70-130		%Rec	1	3/6/2020 5:21:00 PM	S67083
Surr: Toluene-d8	102	0	70-130		%Rec	1	3/6/2020 5:21:00 PM	S67083
SM4500-H+B / 9040C: PH					Analyst: JRR			
pH	8.23			H	pH units	1	3/3/2020 5:49:46 PM	R66988
SM2320B: ALKALINITY					Analyst: JRR			
Bicarbonate (As CaCO3)	1407	50.00	50.00		mg/L Ca	2.5	3/5/2020 10:26:21 PM	R67047
Carbonate (As CaCO3)	82.20	5.000	5.000		mg/L Ca	2.5	3/5/2020 10:26:21 PM	R67047
Total Alkalinity (as CaCO3)	1489	50.00	50.00		mg/L Ca	2.5	3/5/2020 10:26:21 PM	R67047
SM2540C MOD: TOTAL DISSOLVED SOLIDS					Analyst: KS			
Total Dissolved Solids	2950	200	200	*D	mg/L	1	3/9/2020 10:48:00 AM	50911

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C97

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: TRIP BLANK

Project: Wingate Benzene Investigation

Collection Date:

Lab ID: 2002C97-005

Matrix: TRIP BLANK

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Benzene	1.0	0.23	0.50		µg/L	1	3/6/2020 5:45:00 PM	R67083
Toluene	ND	0.20	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Ethylbenzene	ND	0.21	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
1,2,4-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
1,2-Dichloroethane (EDC)	ND	0.22	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Naphthalene	ND	0.28	2.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
2-Methylnaphthalene	ND	0.69	4.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Acetone	ND	2.3	10		µg/L	1	3/6/2020 5:45:00 PM	R67083
Bromobenzene	ND	0.28	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Bromodichloromethane	ND	0.20	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Bromoform	ND	0.31	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Bromomethane	ND	1.6	3.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
2-Butanone	ND	1.1	10		µg/L	1	3/6/2020 5:45:00 PM	R67083
Carbon disulfide	ND	0.44	10		µg/L	1	3/6/2020 5:45:00 PM	R67083
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Chlorobenzene	ND	0.14	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Chloroethane	ND	0.38	2.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Chloroform	ND	0.13	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Chloromethane	ND	0.40	3.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
4-Chlorotoluene	ND	0.51	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
cis-1,3-Dichloropropene	ND	0.36	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Dibromochloromethane	ND	0.28	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Dibromomethane	ND	0.31	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
1,4-Dichlorobenzene	ND	0.21	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Dichlorodifluoromethane	ND	0.44	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
1,1-Dichloroethane	ND	0.27	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
1,1-Dichloroethene	ND	0.13	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
1,2-Dichloropropane	ND	0.13	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	3/6/2020 5:45:00 PM	R67083

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002C97

Date Reported: 3/19/2020

CLIENT: Marathon

Client Sample ID: TRIP BLANK

Project: Wingate Benzene Investigation

Collection Date:

Lab ID: 2002C97-005

Matrix: TRIP BLANK

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
1,1-Dichloropropene	ND	0.18	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Hexachlorobutadiene	ND	0.33	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
2-Hexanone	ND	1.8	10		µg/L	1	3/6/2020 5:45:00 PM	R67083
Isopropylbenzene	ND	0.18	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
4-Methyl-2-pentanone	ND	1.1	10		µg/L	1	3/6/2020 5:45:00 PM	R67083
Methylene Chloride	ND	0.40	3.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
n-Butylbenzene	ND	0.25	3.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
n-Propylbenzene	ND	0.18	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
sec-Butylbenzene	ND	0.61	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Styrene	ND	0.13	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Tetrachloroethene (PCE)	ND	0.36	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
trans-1,2-DCE	ND	0.49	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
1,2,3-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
1,1,1-Trichloroethane	ND	0.30	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
1,1,2-Trichloroethane	ND	0.19	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Trichloroethene (TCE)	ND	0.20	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Trichlorofluoromethane	ND	0.092	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
1,2,3-Trichloropropane	ND	0.44	2.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Vinyl chloride	ND	0.20	1.0		µg/L	1	3/6/2020 5:45:00 PM	R67083
Xylenes, Total	ND	0.55	1.5		µg/L	1	3/6/2020 5:45:00 PM	R67083
Surr: 1,2-Dichloroethane-d4	95.8	0	70-130		%Rec	1	3/6/2020 5:45:00 PM	R67083
Surr: 4-Bromofluorobenzene	98.8	0	70-130		%Rec	1	3/6/2020 5:45:00 PM	R67083
Surr: Dibromofluoromethane	95.8	0	70-130		%Rec	1	3/6/2020 5:45:00 PM	R67083
Surr: Toluene-d8	99.2	0	70-130		%Rec	1	3/6/2020 5:45:00 PM	R67083

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2002C97

19-Mar-20

Client: Marathon
Project: Wingate Benzene Investigation

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R66918	RunNo: 66918								
Prep Date:	Analysis Date: 2/29/2020	SeqNo: 2301480		Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R66918	RunNo: 66918								
Prep Date:	Analysis Date: 2/29/2020	SeqNo: 2301481		Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	98.5	90	110			
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	102	90	110			
Sulfate	10	0.50	10.00	0	99.8	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#: 2002C97

19-Mar-20

Client: Marathon
Project: Wingate Benzene Investigation

Sample ID: MB-50834	SampType: MBLK	TestCode: EPA Method 6020: Total Metals								
Client ID: PBW	Batch ID: 50834	RunNo: 67256								
Prep Date: 3/3/2020	Analysis Date: 3/12/2020	SeqNo: 2317424 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								

Sample ID: MSLLCS-50834	SampType: LCSLL	TestCode: EPA Method 6020: Total Metals								
Client ID: BatchQC	Batch ID: 50834	RunNo: 67256								
Prep Date: 3/3/2020	Analysis Date: 3/12/2020	SeqNo: 2317425 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00096	0.0010	0.001000	0	95.6	70	130			J
Lead	0.0011	0.0010	0.001000	0	114	70	130			

Sample ID: MSLCS-50834	SampType: LCS	TestCode: EPA Method 6020: Total Metals								
Client ID: LCSW	Batch ID: 50834	RunNo: 67256								
Prep Date: 3/3/2020	Analysis Date: 3/12/2020	SeqNo: 2317426 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.049	0.0010	0.05000	0	98.8	80	120			
Lead	0.049	0.0010	0.05000	0	98.2	80	120			

Sample ID: MB-50834	SampType: MBLK	TestCode: EPA Method 6020: Total Metals								
Client ID: PBW	Batch ID: 50834	RunNo: 67272								
Prep Date: 3/3/2020	Analysis Date: 3/13/2020	SeqNo: 2318042 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Sample ID: MSLLCS-50834	SampType: LCSLL	TestCode: EPA Method 6020: Total Metals								
Client ID: BatchQC	Batch ID: 50834	RunNo: 67272								
Prep Date: 3/3/2020	Analysis Date: 3/13/2020	SeqNo: 2318043 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.0010	0.0010	0.001000	0	102	70	130			

Sample ID: MSLCS-50834	SampType: LCS	TestCode: EPA Method 6020: Total Metals								
Client ID: LCSW	Batch ID: 50834	RunNo: 67272								
Prep Date: 3/3/2020	Analysis Date: 3/13/2020	SeqNo: 2318044 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.048	0.0010	0.05000	0	95.4	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#: 2002C97

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: 100ng lcs		SampType: LCS		TestCode: EPA Method 8260: Volatiles Short List						
Client ID: LCSW		Batch ID: S67083		RunNo: 67083						
Prep Date:		Analysis Date: 3/6/2020		SeqNo: 2309607		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.0	70	130			
Toluene	22	1.0	20.00	0	109	70	130			
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.4	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.1	70	130			
Surr: Dibromofluoromethane	9.5		10.00		95.0	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: mb	SampType: MBLK			TestCode: EPA Method 8260: Volatiles Short List						
Client ID: PBW	Batch ID: S67083			RunNo: 67083						
Prep Date:	Analysis Date: 3/6/2020			SeqNo: 2309608			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.4		10.00		93.7	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.4	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.6	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: 2002C97-001ams		SampType: MS		TestCode: EPA Method 8260: Volatiles Short List						
Client ID: BH-4		Batch ID: S67083		RunNo: 67083						
Prep Date:		Analysis Date: 3/6/2020		SeqNo: 2309635			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	85	0.50	20.00	62.62	110	70	130			
Toluene	24	1.0	20.00	3.032	104	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.3	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.5	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.4	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: 2002C97-001amsd		SampType: MSD		TestCode: EPA Method 8260: Volatiles Short List						
Client ID: BH-4		Batch ID: S67083		RunNo: 67083						
Prep Date:		Analysis Date: 3/6/2020		SeqNo: 2309636		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	82	0.50	20.00	62.62	98.7	70	130	2.74	20	
Toluene	23	1.0	20.00	3.032	101	70	130	2.60	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#: 2002C97

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: 2002C97-001amsd		SampType: MSD		TestCode: EPA Method 8260: Volatiles Short List						
Client ID: BH-4		Batch ID: S67083		RunNo: 67083						
Prep Date:		Analysis Date: 3/6/2020		SeqNo: 2309636		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.4	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.8		10.00		98.4	70	130	0	0	
Surr: Dibromofluoromethane	9.5		10.00		94.6	70	130	0	0	
Surr: Toluene-d8	10		10.00		100	70	130	0	0	

Sample ID: 100ng 8260 lcs		SampType: LCS			TestCode: EPA Method 8260: Volatiles Short List					
Client ID: LCSW		Batch ID: SL67143			RunNo: 67143					
Prep Date:		Analysis Date: 3/9/2020			SeqNo: 2312864		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	97.9	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.7	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.8	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.4	70	130			
Surr: Toluene-d8	10		10.00		99.8	70	130			

Sample ID: MB		SampType: MBLK		TestCode: EPA Method 8260: Volatiles Short List						
Client ID: PBW		Batch ID: SL67143		RunNo: 67143						
Prep Date:		Analysis Date: 3/9/2020		SeqNo: 2312865		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.4	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.7	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.3	70	130			
Surr: Toluene-d8	9.9		10.00		99.4	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#: 2002C97

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: 100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch ID: R67083			RunNo: 67083						
Prep Date:	Analysis Date: 3/6/2020			SeqNo: 2309605		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.0	70	130			
Toluene	22	1.0	20.00	0	109	70	130			
Chlorobenzene	22	1.0	20.00	0	111	70	130			
1,1-Dichloroethene	16	1.0	20.00	0	80.1	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	95.7	70	130			
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.4	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.1	70	130			
Surr: Dibromofluoromethane	9.5		10.00		95.0	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: mb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R67083			RunNo: 67083						
Prep Date:	Analysis Date: 3/6/2020			SeqNo: 2309606		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	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								

Qualifiers:

* Value exceeds Maximum Contaminant 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#: 2002C97

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: mb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R67083	RunNo: 67083								
Prep Date:	Analysis Date: 3/6/2020	SeqNo: 2309606	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
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#: 2002C97

19-Mar-20

Client: Marathon
Project: Wingate Benzene Investigation

Sample ID: mb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R67083	RunNo: 67083								
Prep Date:	Analysis Date: 3/6/2020	SeqNo: 2309606		Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.4		10.00		93.7	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.4	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.6	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical 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#: 2002C97

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: mb-50816	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 50816	RunNo: 67204								
Prep Date: 3/4/2020	Analysis Date: 3/11/2020	SeqNo: 2315289	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	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#: 2002C97

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: mb-50816	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 50816	RunNo: 67204								
Prep Date: 3/4/2020	Analysis Date: 3/11/2020	SeqNo: 2315289	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	83		200.0		41.6	19.1	74.7			
Surr: Phenol-d5	64		200.0		32.0	19.2	57			
Surr: 2,4,6-Tribromophenol	120		200.0		61.8	31	96.4			
Surr: Nitrobenzene-d5	61		100.0		61.4	46.2	101			
Surr: 2-Fluorobiphenyl	58		100.0		57.9	39.7	98.2			
Surr: 4-Terphenyl-d14	55		100.0		55.0	31.1	102			

Qualifiers:

* Value exceeds Maximum Contaminant 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#: 2002C97

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: lcs-50816	SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles						
Client ID: LCSW	Batch ID: 50816			RunNo: 67204						
Prep Date: 3/4/2020	Analysis Date: 3/11/2020			SeqNo: 2315290		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	62	10	100.0	0	61.5	46.3	97.3			
4-Chloro-3-methylphenol	130	10	200.0	0	66.0	46.9	99.1			
2-Chlorophenol	120	10	200.0	0	58.3	39.1	98.2			
1,4-Dichlorobenzene	43	10	100.0	0	43.1	28.6	87.9			
2,4-Dinitrotoluene	57	10	100.0	0	56.6	44	88.3			
N-Nitrosodi-n-propylamine	61	10	100.0	0	60.9	40.3	107			
4-Nitrophenol	85	10	200.0	0	42.3	26.1	60.9			
Pentachlorophenol	120	20	200.0	0	58.4	30.6	83.6			
Phenol	73	10	200.0	0	36.5	22.7	63.7			
Pyrene	58	10	100.0	0	58.5	51.4	90			
1,2,4-Trichlorobenzene	50	10	100.0	0	49.8	35	94.3			
Surr: 2-Fluorophenol	99		200.0		49.6	19.1	74.7			
Surr: Phenol-d5	77		200.0		38.5	19.2	57			
Surr: 2,4,6-Tribromophenol	160		200.0		77.7	31	96.4			
Surr: Nitrobenzene-d5	70		100.0		69.6	46.2	101			
Surr: 2-Fluorobiphenyl	65		100.0		65.4	39.7	98.2			
Surr: 4-Terphenyl-d14	66		100.0		65.9	31.1	102			

Sample ID: mb-50816	SampType: MBLK			TestCode: EPA Method 8270C: Semivolatiles						
Client ID: PBW	Batch ID: 50816			RunNo: 67321						
Prep Date: 3/4/2020	Analysis Date: 3/16/2020			SeqNo: 2320806		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2002C97

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: mb-50816	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 50816	RunNo: 67321								
Prep Date: 3/4/2020	Analysis Date: 3/16/2020	SeqNo: 2320806	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	16	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	7.0	20								J
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2002C97

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: mb-50816	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 50816	RunNo: 67321								
Prep Date: 3/4/2020	Analysis Date: 3/16/2020	SeqNo: 2320806	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	87		200.0		43.6	19.1	74.7			
Surr: Phenol-d5	70		200.0		34.8	19.2	57			
Surr: 2,4,6-Tribromophenol	100		200.0		51.9	31	96.4			
Surr: Nitrobenzene-d5	58		100.0		58.0	46.2	101			
Surr: 2-Fluorobiphenyl	54		100.0		54.5	39.7	98.2			
Surr: 4-Terphenyl-d14	60		100.0		59.9	31.1	102			

Qualifiers:

* Value exceeds Maximum Contaminant 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#: 2002C97

19-Mar-20

Client: Marathon
Project: Wingate Benzene Investigation

Sample ID: MB-50971	SampType: MBLK	TestCode: EPA Method 7470: Mercury
Client ID: PBW	Batch ID: 50971	RunNo: 67154
Prep Date: 3/9/2020	Analysis Date: 3/10/2020	SeqNo: 2313417 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND	0.00020

Sample ID: LLCS-50971	SampType: LCSSL	TestCode: EPA Method 7470: Mercury
Client ID: BatchQC	Batch ID: 50971	RunNo: 67154
Prep Date: 3/9/2020	Analysis Date: 3/10/2020	SeqNo: 2313418 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.00017	0.00020 0.0001500 0 117 50 150 J

Sample ID: LCS-50971	SampType: LCS	TestCode: EPA Method 7470: Mercury
Client ID: LCSW	Batch ID: 50971	RunNo: 67154
Prep Date: 3/9/2020	Analysis Date: 3/10/2020	SeqNo: 2313419 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0050	0.00020 0.005000 0 99.6 80 120

Sample ID: LCSD-50971	SampType: LCSD	TestCode: EPA Method 7470: Mercury
Client ID: LCSS02	Batch ID: 50971	RunNo: 67154
Prep Date: 3/9/2020	Analysis Date: 3/10/2020	SeqNo: 2313420 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0050	0.00020 0.005000 0 99.2 80 120 0.314 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#: 2002C97

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: MB-50834		SampType: MBLK		TestCode: EPA 6010B: Total Recoverable Metals						
Client ID: PBW		Batch ID: 50834		RunNo: 67342						
Prep Date: 3/3/2020		Analysis Date: 3/16/2020		SeqNo: 2321044			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Silver	ND	0.0050								

Sample ID: LCS-50834		SampType: LCS		TestCode: EPA 6010B: Total Recoverable Metals						
Client ID: LCSW		Batch ID: 50834		RunNo: 67342						
Prep Date: 3/3/2020		Analysis Date: 3/16/2020		SeqNo: 2321046			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	95.9	80	120			
Cadmium	0.48	0.0020	0.5000	0	95.3	80	120			
Chromium	0.48	0.0060	0.5000	0	95.2	80	120			
Silver	0.097	0.0050	0.1000	0	97.0	80	120			

Sample ID: 2002C97-001DMS		SampType: MS		TestCode: EPA 6010B: Total Recoverable Metals						
Client ID: BH-4		Batch ID: 50834			RunNo: 67342					
Prep Date: 3/3/2020		Analysis Date: 3/16/2020			SeqNo: 2321062		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.61	0.0020	0.5000	0.09172	105	75	125			
Cadmium	0.50	0.0020	0.5000	0	99.2	75	125			
Chromium	0.47	0.0060	0.5000	0.002579	94.1	75	125			
Silver	0.11	0.0050	0.1000	0	108	75	125			

Sample ID: 2002C97-001DMSD		SampType: MSD		TestCode: EPA 6010B: Total Recoverable Metals						
Client ID: BH-4		Batch ID: 50834		RunNo: 67342						
Prep Date: 3/3/2020		Analysis Date: 3/16/2020		SeqNo: 2321063		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.59	0.0020	0.5000	0.09172	98.7	75	125	4.98	20	
Cadmium	0.49	0.0020	0.5000	0	98.0	75	125	1.22	20	
Chromium	0.47	0.0060	0.5000	0.002579	92.5	75	125	1.64	20	
Silver	0.11	0.0050	0.1000	0	107	75	125	0.911	20	

Sample ID: MB-50834		SampType: MBLK		TestCode: EPA 6010B: Total Recoverable Metals						
Client ID: PBW		Batch ID: 50834		RunNo: 67342						
Prep Date: 3/3/2020		Analysis Date: 3/16/2020		SeqNo: 2321145		Units: mg/L				
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#: 2002C97

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: MB-50834	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 50834	RunNo: 67342								
Prep Date: 3/3/2020	Analysis Date: 3/16/2020	SeqNo: 2321145 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Sodium	ND	1.0								

Sample ID: LCS-50834	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 50834	RunNo: 67342								
Prep Date: 3/3/2020	Analysis Date: 3/16/2020	SeqNo: 2321147 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	47	1.0	50.00	0	93.3	80	120			
Magnesium	48	1.0	50.00	0	95.1	80	120			
Sodium	49	1.0	50.00	0	97.7	80	120			

Sample ID: 2002C97-001DMS	SampType: MS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: BH-4	Batch ID: 50834	RunNo: 67342								
Prep Date: 3/3/2020	Analysis Date: 3/16/2020	SeqNo: 2321157 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	95	1.0	50.00	45.01	100	75	125			
Magnesium	79	1.0	50.00	29.87	97.4	75	125			

Sample ID: 2002C97-001DMSD	SampType: MSD	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: BH-4	Batch ID: 50834	RunNo: 67342								
Prep Date: 3/3/2020	Analysis Date: 3/16/2020	SeqNo: 2321158 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	93	1.0	50.00	45.01	95.8	75	125	2.36	20	
Magnesium	78	1.0	50.00	29.87	95.4	75	125	1.26	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#: 2002C97

19-Mar-20

Client: Marathon
Project: Wingate Benzene Investigation

Sample ID: mb-1 alk	SampType: mblk	TestCode: SM2320B: Alkalinity								
Client ID: PBW	Batch ID: R66988	RunNo: 66988								
Prep Date:	Analysis Date: 3/3/2020	SeqNo: 2305403	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: lcs-1 alk	SampType: lcs	TestCode: SM2320B: Alkalinity								
Client ID: LCSW	Batch ID: R66988	RunNo: 66988								
Prep Date:	Analysis Date: 3/3/2020	SeqNo: 2305404	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.32	20.00	80.00	0	97.9	90	110			

Sample ID: mb-1 alk	SampType: mblk	TestCode: SM2320B: Alkalinity								
Client ID: PBW	Batch ID: R67047	RunNo: 67047								
Prep Date:	Analysis Date: 3/5/2020	SeqNo: 2309520	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: lcs-1 alk	SampType: lcs	TestCode: SM2320B: Alkalinity								
Client ID: LCSW	Batch ID: R67047	RunNo: 67047								
Prep Date:	Analysis Date: 3/5/2020	SeqNo: 2309521	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.64	20.00	80.00	0	98.3	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#: 2002C97

19-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: MB-50911	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: PBW	Batch ID: 50911	RunNo: 67110								
Prep Date: 3/5/2020	Analysis Date: 3/9/2020	SeqNo: 2311039 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: LCS-50911	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: LCSW	Batch ID: 50911	RunNo: 67110								
Prep Date: 3/5/2020	Analysis Date: 3/9/2020	SeqNo: 2311040 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1030	20.0	1000	0	103	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical 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

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **2002C97**

RcptNo: 1

Received By: **Yazmine Garduno** **2/28/2020 3:15:00 PM**

Completed By: **Leah Baca** **2/28/2020 4:16:58 PM**

Reviewed By: **DAD 2/28/20: Unpres**

SR 3/2/20

Chain of Custody

1. Is Chain of Custody sufficiently 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°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: 4
(2 or >12 unless noted)

Adjusted? YDS

Checked by: Mjh 03/02/20

Unpres.: ENH 2/28/20

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: For metal analysis: Added 0.5 mL HNO₃ to -001D and -004D. Added 2 mL HNO₃ to -002D. Added 1 mL HNO₃ to -003D for acceptable pH. Mjh 03/02

17. Cooler Information

Cooler No.	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.9	Good	Yes			

www.hallenvironmental.com

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Chain-of-Custody Record				Turn-Around Time:		
Client: <u>Marathon Petroleum Company</u>				☒ Standard ☐ Rush		
Mailing Address: <u>72 Great Crossing Rd</u>				Project Name: <u>Wingset Borex Inventory</u>		
<u>Tonawanda NM</u>				Project #: <u>697-072-001</u>		
Phone #: <u>505-726-9745</u>				Project Manager: <u>Paul Hildebrandt</u>		
email or Fax#:				Sampler: <u>On Ice: ☒ Yes ☐ No</u>		
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)				Sample Temperature: <u>4.1 - 0.2 - 3.9</u>		
Accreditation: ☒ NELAP ☐ Other _____						
☒ EDD (Type) _____						
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No
<u>2/27/20</u>	<u>15:10</u>	<u>GW</u>	<u>BH-4</u>	<u>bottles</u>		<u>2002097</u>
<u>2/27/20</u>	<u>15:35</u>	<u>GW</u>	<u>BH-5</u>	<u>bottles</u>		<u>-001</u>
<u>2/27/20</u>	<u>13:29</u>	<u>GW</u>	<u>BH-8</u>	<u>bottles</u>		<u>-003</u>
<u>2/27/20</u>	<u>14:30</u>	<u>GW</u>	<u>BH-9</u>	<u>bottles</u>		<u>-004</u>
			<u>Trip Blank</u>			<u>-005</u>
Relinquished by: <u>[Signature]</u>				Received by: _____		
Date: <u>2/27/20</u> Time: <u>18:50</u>				Date: _____ Time: _____		
Relinquished by: _____				Received by: <u>[Signature]</u>		
Date: _____ Time: _____				Date: <u>2/28/20</u> Time: <u>15:15</u>		

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: www.hallenvironmental.com

March 06, 2020

Paul Hildebrandt

Marathon

92 Giant Crossing Rd

Gallup, NM 87301

TEL:

FAX:

RE: Wingate Benzene Investigation

OrderNo.: 2003014

Dear Paul Hildebrandt:

Hall Environmental Analysis Laboratory received 11 sample(s) on 2/28/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: BH-1 23'

Project: Wingate Benzene Investigation

Collection Date: 2/24/2020 5:30:00 PM

Lab ID: 2003014-001

Matrix: SOIL

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	1.3	0.013		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Toluene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Ethylbenzene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Methyl tert-butyl ether (MTBE)	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
1,2,4-Trimethylbenzene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
1,3,5-Trimethylbenzene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
1,2-Dichloroethane (EDC)	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
1,2-Dibromoethane (EDB)	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Naphthalene	ND	0.051		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
1-Methylnaphthalene	ND	0.10		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
2-Methylnaphthalene	ND	0.10		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Acetone	ND	0.38		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Bromobenzene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Bromodichloromethane	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Bromoform	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Bromomethane	ND	0.076		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
2-Butanone	ND	0.25		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Carbon disulfide	ND	0.25		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Carbon tetrachloride	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Chlorobenzene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Chloroethane	ND	0.051		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Chloroform	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Chloromethane	ND	0.076		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
2-Chlorotoluene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
4-Chlorotoluene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
cis-1,2-DCE	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
cis-1,3-Dichloropropene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
1,2-Dibromo-3-chloropropane	ND	0.051		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Dibromochloromethane	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Dibromomethane	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
1,2-Dichlorobenzene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
1,3-Dichlorobenzene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
1,4-Dichlorobenzene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Dichlorodifluoromethane	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
1,1-Dichloroethane	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
1,1-Dichloroethene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
1,2-Dichloropropane	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
1,3-Dichloropropane	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
2,2-Dichloropropane	ND	0.051		mg/Kg	1	3/4/2020 3:36:28 AM	D66978

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: BH-1 23'

Project: Wingate Benzene Investigation

Collection Date: 2/24/2020 5:30:00 PM

Lab ID: 2003014-001

Matrix: SOIL

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
1,1-Dichloropropene	ND	0.051		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Hexachlorobutadiene	ND	0.051		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
2-Hexanone	ND	0.25		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Isopropylbenzene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
4-Isopropyltoluene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
4-Methyl-2-pentanone	ND	0.25		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Methylene chloride	ND	0.076		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
n-Butylbenzene	ND	0.076		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
n-Propylbenzene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
sec-Butylbenzene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Styrene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
tert-Butylbenzene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
1,1,1,2-Tetrachloroethane	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
1,1,2,2-Tetrachloroethane	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Tetrachloroethene (PCE)	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
trans-1,2-DCE	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
trans-1,3-Dichloropropene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
1,2,3-Trichlorobenzene	ND	0.051		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
1,2,4-Trichlorobenzene	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
1,1,1-Trichloroethane	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
1,1,2-Trichloroethane	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Trichloroethene (TCE)	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Trichlorofluoromethane	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
1,2,3-Trichloropropane	ND	0.051		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Vinyl chloride	ND	0.025		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Xylenes, Total	0.089	0.051		mg/Kg	1	3/4/2020 3:36:28 AM	D66978
Surr: Dibromofluoromethane	102	70-130		%Rec	1	3/4/2020 3:36:28 AM	D66978
Surr: 1,2-Dichloroethane-d4	89.4	70-130		%Rec	1	3/4/2020 3:36:28 AM	D66978
Surr: Toluene-d8	96.7	70-130		%Rec	1	3/4/2020 3:36:28 AM	D66978
Surr: 4-Bromofluorobenzene	99.2	70-130		%Rec	1	3/4/2020 3:36:28 AM	D66978

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: BH-2 13'

Project: Wingate Benzene Investigation

Collection Date: 2/25/2020 10:30:00 AM

Lab ID: 2003014-002

Matrix: SOIL

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	0.027	0.014		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Toluene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Ethylbenzene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Methyl tert-butyl ether (MTBE)	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
1,2,4-Trimethylbenzene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
1,3,5-Trimethylbenzene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
1,2-Dichloroethane (EDC)	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
1,2-Dibromoethane (EDB)	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Naphthalene	ND	0.055		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
1-Methylnaphthalene	ND	0.11		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
2-Methylnaphthalene	ND	0.11		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Acetone	ND	0.41		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Bromobenzene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Bromodichloromethane	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Bromoform	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Bromomethane	ND	0.083		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
2-Butanone	ND	0.28		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Carbon disulfide	ND	0.28		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Carbon tetrachloride	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Chlorobenzene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Chloroethane	ND	0.055		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Chloroform	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Chloromethane	ND	0.083		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
2-Chlorotoluene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
4-Chlorotoluene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
cis-1,2-DCE	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
cis-1,3-Dichloropropene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
1,2-Dibromo-3-chloropropane	ND	0.055		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Dibromochloromethane	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Dibromomethane	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
1,2-Dichlorobenzene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
1,3-Dichlorobenzene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
1,4-Dichlorobenzene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Dichlorodifluoromethane	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
1,1-Dichloroethane	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
1,1-Dichloroethene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
1,2-Dichloropropane	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
1,3-Dichloropropane	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
2,2-Dichloropropane	ND	0.055		mg/Kg	1	3/4/2020 5:03:18 AM	D66978

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: BH-2 13'

Project: Wingate Benzene Investigation

Collection Date: 2/25/2020 10:30:00 AM

Lab ID: 2003014-002

Matrix: SOIL

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
1,1-Dichloropropene	ND	0.055		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Hexachlorobutadiene	ND	0.055		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
2-Hexanone	ND	0.28		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Isopropylbenzene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
4-Isopropyltoluene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
4-Methyl-2-pentanone	ND	0.28		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Methylene chloride	ND	0.083		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
n-Butylbenzene	ND	0.083		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
n-Propylbenzene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
sec-Butylbenzene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Styrene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
tert-Butylbenzene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
1,1,1,2-Tetrachloroethane	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
1,1,2,2-Tetrachloroethane	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Tetrachloroethene (PCE)	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
trans-1,2-DCE	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
trans-1,3-Dichloropropene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
1,2,3-Trichlorobenzene	ND	0.055		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
1,2,4-Trichlorobenzene	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
1,1,1-Trichloroethane	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
1,1,2-Trichloroethane	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Trichloroethene (TCE)	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Trichlorofluoromethane	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
1,2,3-Trichloropropane	ND	0.055		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Vinyl chloride	ND	0.028		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Xylenes, Total	ND	0.055		mg/Kg	1	3/4/2020 5:03:18 AM	D66978
Surr: Dibromofluoromethane	107	70-130		%Rec	1	3/4/2020 5:03:18 AM	D66978
Surr: 1,2-Dichloroethane-d4	88.2	70-130		%Rec	1	3/4/2020 5:03:18 AM	D66978
Surr: Toluene-d8	93.8	70-130		%Rec	1	3/4/2020 5:03:18 AM	D66978
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	3/4/2020 5:03:18 AM	D66978

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: BH-3 15'

Project: Wingate Benzene Investigation

Collection Date: 2/25/2020 1:30:00 PM

Lab ID: 2003014-003

Matrix: SOIL

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	9.5	0.073		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Toluene	2.1	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Ethylbenzene	0.70	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Methyl tert-butyl ether (MTBE)	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
1,2,4-Trimethylbenzene	1.0	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
1,3,5-Trimethylbenzene	0.53	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
1,2-Dichloroethane (EDC)	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
1,2-Dibromoethane (EDB)	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Naphthalene	ND	0.29		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
1-Methylnaphthalene	ND	0.58		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
2-Methylnaphthalene	ND	0.58		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Acetone	ND	2.2		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Bromobenzene	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Bromodichloromethane	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Bromoform	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Bromomethane	ND	0.44		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
2-Butanone	ND	1.5		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Carbon disulfide	ND	1.5		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Carbon tetrachloride	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Chlorobenzene	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Chloroethane	ND	0.29		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Chloroform	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Chloromethane	ND	0.44		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
2-Chlorotoluene	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
4-Chlorotoluene	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
cis-1,2-DCE	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
cis-1,3-Dichloropropene	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
1,2-Dibromo-3-chloropropane	ND	0.29		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Dibromochloromethane	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Dibromomethane	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
1,2-Dichlorobenzene	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
1,3-Dichlorobenzene	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
1,4-Dichlorobenzene	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Dichlorodifluoromethane	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
1,1-Dichloroethane	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
1,1-Dichloroethene	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
1,2-Dichloropropane	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
1,3-Dichloropropane	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
2,2-Dichloropropane	ND	0.29		mg/Kg	5	3/4/2020 11:56:45 AM	B67030

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: BH-3 15'

Project: Wingate Benzene Investigation

Collection Date: 2/25/2020 1:30:00 PM

Lab ID: 2003014-003

Matrix: SOIL

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
1,1-Dichloropropene	ND	0.29		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Hexachlorobutadiene	ND	0.29		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
2-Hexanone	ND	1.5		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Isopropylbenzene	0.17	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
4-Isopropyltoluene	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
4-Methyl-2-pentanone	ND	1.5		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Methylene chloride	ND	0.44		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
n-Butylbenzene	ND	0.44		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
n-Propylbenzene	0.17	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
sec-Butylbenzene	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Styrene	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
tert-Butylbenzene	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
1,1,1,2-Tetrachloroethane	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
1,1,2,2-Tetrachloroethane	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Tetrachloroethene (PCE)	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
trans-1,2-DCE	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
trans-1,3-Dichloropropene	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
1,2,3-Trichlorobenzene	ND	0.29		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
1,2,4-Trichlorobenzene	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
1,1,1-Trichloroethane	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
1,1,2-Trichloroethane	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Trichloroethene (TCE)	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Trichlorofluoromethane	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
1,2,3-Trichloropropane	ND	0.29		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Vinyl chloride	ND	0.15		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Xylenes, Total	7.8	0.29		mg/Kg	5	3/4/2020 11:56:45 AM	B67030
Surr: Dibromofluoromethane	80.7	70-130		%Rec	5	3/4/2020 11:56:45 AM	B67030
Surr: 1,2-Dichloroethane-d4	71.4	70-130		%Rec	5	3/4/2020 11:56:45 AM	B67030
Surr: Toluene-d8	99.2	70-130		%Rec	5	3/4/2020 11:56:45 AM	B67030
Surr: 4-Bromofluorobenzene	87.2	70-130		%Rec	5	3/4/2020 11:56:45 AM	B67030

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: BH-4 19'

Project: Wingate Benzene Investigation

Collection Date: 2/26/2020 1:20:00 PM

Lab ID: 2003014-004

Matrix: SOIL

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	ND	0.013		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Toluene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Ethylbenzene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Methyl tert-butyl ether (MTBE)	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
1,2,4-Trimethylbenzene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
1,3,5-Trimethylbenzene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
1,2-Dichloroethane (EDC)	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
1,2-Dibromoethane (EDB)	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Naphthalene	ND	0.052		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
1-Methylnaphthalene	ND	0.10		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
2-Methylnaphthalene	ND	0.10		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Acetone	ND	0.39		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Bromobenzene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Bromodichloromethane	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Bromoform	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Bromomethane	ND	0.078		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
2-Butanone	ND	0.26		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Carbon disulfide	ND	0.26		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Carbon tetrachloride	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Chlorobenzene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Chloroethane	ND	0.052		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Chloroform	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Chloromethane	ND	0.078		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
2-Chlorotoluene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
4-Chlorotoluene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
cis-1,2-DCE	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
cis-1,3-Dichloropropene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
1,2-Dibromo-3-chloropropane	ND	0.052		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Dibromochloromethane	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Dibromomethane	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
1,2-Dichlorobenzene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
1,3-Dichlorobenzene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
1,4-Dichlorobenzene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Dichlorodifluoromethane	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
1,1-Dichloroethane	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
1,1-Dichloroethene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
1,2-Dichloropropane	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
1,3-Dichloropropane	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
2,2-Dichloropropane	ND	0.052		mg/Kg	1	3/4/2020 10:57:40 AM	B67030

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: BH-4 19'

Project: Wingate Benzene Investigation

Collection Date: 2/26/2020 1:20:00 PM

Lab ID: 2003014-004

Matrix: SOIL

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
1,1-Dichloropropene	ND	0.052		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Hexachlorobutadiene	ND	0.052		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
2-Hexanone	ND	0.26		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Isopropylbenzene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
4-Isopropyltoluene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
4-Methyl-2-pentanone	ND	0.26		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Methylene chloride	ND	0.078		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
n-Butylbenzene	ND	0.078		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
n-Propylbenzene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
sec-Butylbenzene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Styrene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
tert-Butylbenzene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
1,1,1,2-Tetrachloroethane	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
1,1,2,2-Tetrachloroethane	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Tetrachloroethene (PCE)	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
trans-1,2-DCE	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
trans-1,3-Dichloropropene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
1,2,3-Trichlorobenzene	ND	0.052		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
1,2,4-Trichlorobenzene	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
1,1,1-Trichloroethane	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
1,1,2-Trichloroethane	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Trichloroethene (TCE)	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Trichlorofluoromethane	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
1,2,3-Trichloropropane	ND	0.052		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Vinyl chloride	ND	0.026		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Xylenes, Total	ND	0.052		mg/Kg	1	3/4/2020 10:57:40 AM	B67030
Surr: Dibromofluoromethane	98.2	70-130		%Rec	1	3/4/2020 10:57:40 AM	B67030
Surr: 1,2-Dichloroethane-d4	89.4	70-130		%Rec	1	3/4/2020 10:57:40 AM	B67030
Surr: Toluene-d8	92.2	70-130		%Rec	1	3/4/2020 10:57:40 AM	B67030
Surr: 4-Bromofluorobenzene	98.3	70-130		%Rec	1	3/4/2020 10:57:40 AM	B67030

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: BH-5 14'

Project: Wingate Benzene Investigation

Collection Date: 2/26/2020 9:55:00 AM

Lab ID: 2003014-005

Matrix: SOIL

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	ND	0.013		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Toluene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Ethylbenzene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Methyl tert-butyl ether (MTBE)	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
1,2,4-Trimethylbenzene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
1,3,5-Trimethylbenzene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
1,2-Dichloroethane (EDC)	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
1,2-Dibromoethane (EDB)	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Naphthalene	ND	0.052		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
1-Methylnaphthalene	ND	0.10		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
2-Methylnaphthalene	ND	0.10		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Acetone	ND	0.39		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Bromobenzene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Bromodichloromethane	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Bromoform	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Bromomethane	ND	0.078		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
2-Butanone	ND	0.26		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Carbon disulfide	ND	0.26		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Carbon tetrachloride	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Chlorobenzene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Chloroethane	ND	0.052		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Chloroform	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Chloromethane	ND	0.078		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
2-Chlorotoluene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
4-Chlorotoluene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
cis-1,2-DCE	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
cis-1,3-Dichloropropene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
1,2-Dibromo-3-chloropropane	ND	0.052		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Dibromochloromethane	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Dibromomethane	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
1,2-Dichlorobenzene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
1,3-Dichlorobenzene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
1,4-Dichlorobenzene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Dichlorodifluoromethane	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
1,1-Dichloroethane	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
1,1-Dichloroethene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
1,2-Dichloropropane	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
1,3-Dichloropropane	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
2,2-Dichloropropane	ND	0.052		mg/Kg	1	3/4/2020 6:30:12 AM	D66978

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: BH-5 14'

Project: Wingate Benzene Investigation

Collection Date: 2/26/2020 9:55:00 AM

Lab ID: 2003014-005

Matrix: SOIL

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
1,1-Dichloropropene	ND	0.052		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Hexachlorobutadiene	ND	0.052		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
2-Hexanone	ND	0.26		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Isopropylbenzene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
4-Isopropyltoluene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
4-Methyl-2-pentanone	ND	0.26		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Methylene chloride	ND	0.078		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
n-Butylbenzene	ND	0.078		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
n-Propylbenzene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
sec-Butylbenzene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Styrene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
tert-Butylbenzene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
1,1,1,2-Tetrachloroethane	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
1,1,2,2-Tetrachloroethane	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Tetrachloroethene (PCE)	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
trans-1,2-DCE	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
trans-1,3-Dichloropropene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
1,2,3-Trichlorobenzene	ND	0.052		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
1,2,4-Trichlorobenzene	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
1,1,1-Trichloroethane	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
1,1,2-Trichloroethane	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Trichloroethene (TCE)	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Trichlorofluoromethane	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
1,2,3-Trichloropropane	ND	0.052		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Vinyl chloride	ND	0.026		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Xylenes, Total	ND	0.052		mg/Kg	1	3/4/2020 6:30:12 AM	D66978
Surr: Dibromofluoromethane	104	70-130		%Rec	1	3/4/2020 6:30:12 AM	D66978
Surr: 1,2-Dichloroethane-d4	91.3	70-130		%Rec	1	3/4/2020 6:30:12 AM	D66978
Surr: Toluene-d8	95.3	70-130		%Rec	1	3/4/2020 6:30:12 AM	D66978
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	1	3/4/2020 6:30:12 AM	D66978

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: BH-6 11'

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 11:38:00 AM

Lab ID: 2003014-006

Matrix: SOIL

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	ND	0.014		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Toluene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Ethylbenzene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Methyl tert-butyl ether (MTBE)	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
1,2,4-Trimethylbenzene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
1,3,5-Trimethylbenzene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
1,2-Dichloroethane (EDC)	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
1,2-Dibromoethane (EDB)	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Naphthalene	ND	0.054		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
1-Methylnaphthalene	ND	0.11		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
2-Methylnaphthalene	ND	0.11		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Acetone	ND	0.41		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Bromobenzene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Bromodichloromethane	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Bromoform	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Bromomethane	ND	0.081		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
2-Butanone	ND	0.27		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Carbon disulfide	ND	0.27		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Carbon tetrachloride	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Chlorobenzene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Chloroethane	ND	0.054		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Chloroform	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Chloromethane	ND	0.081		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
2-Chlorotoluene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
4-Chlorotoluene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
cis-1,2-DCE	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
cis-1,3-Dichloropropene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
1,2-Dibromo-3-chloropropane	ND	0.054		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Dibromochloromethane	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Dibromomethane	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
1,2-Dichlorobenzene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
1,3-Dichlorobenzene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
1,4-Dichlorobenzene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Dichlorodifluoromethane	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
1,1-Dichloroethane	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
1,1-Dichloroethene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
1,2-Dichloropropane	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
1,3-Dichloropropane	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
2,2-Dichloropropane	ND	0.054		mg/Kg	1	3/4/2020 7:00:25 AM	D66978

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: BH-6 11'

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 11:38:00 AM

Lab ID: 2003014-006

Matrix: SOIL

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
1,1-Dichloropropene	ND	0.054		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Hexachlorobutadiene	ND	0.054		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
2-Hexanone	ND	0.27		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Isopropylbenzene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
4-Isopropyltoluene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
4-Methyl-2-pentanone	ND	0.27		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Methylene chloride	ND	0.081		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
n-Butylbenzene	ND	0.081		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
n-Propylbenzene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
sec-Butylbenzene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Styrene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
tert-Butylbenzene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
1,1,1,2-Tetrachloroethane	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
1,1,2,2-Tetrachloroethane	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Tetrachloroethene (PCE)	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
trans-1,2-DCE	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
trans-1,3-Dichloropropene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
1,2,3-Trichlorobenzene	ND	0.054		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
1,2,4-Trichlorobenzene	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
1,1,1-Trichloroethane	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
1,1,2-Trichloroethane	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Trichloroethene (TCE)	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Trichlorofluoromethane	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
1,2,3-Trichloropropane	ND	0.054		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Vinyl chloride	ND	0.027		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Xylenes, Total	ND	0.054		mg/Kg	1	3/4/2020 7:00:25 AM	D66978
Surr: Dibromofluoromethane	99.9	70-130		%Rec	1	3/4/2020 7:00:25 AM	D66978
Surr: 1,2-Dichloroethane-d4	88.9	70-130		%Rec	1	3/4/2020 7:00:25 AM	D66978
Surr: Toluene-d8	94.4	70-130		%Rec	1	3/4/2020 7:00:25 AM	D66978
Surr: 4-Bromofluorobenzene	96.5	70-130		%Rec	1	3/4/2020 7:00:25 AM	D66978

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: BH-7 14'

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 9:43:00 AM

Lab ID: 2003014-007

Matrix: SOIL

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	ND	0.013		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Toluene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Ethylbenzene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Methyl tert-butyl ether (MTBE)	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
1,2,4-Trimethylbenzene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
1,3,5-Trimethylbenzene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
1,2-Dichloroethane (EDC)	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
1,2-Dibromoethane (EDB)	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Naphthalene	ND	0.053		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
1-Methylnaphthalene	ND	0.11		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
2-Methylnaphthalene	ND	0.11		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Acetone	ND	0.40		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Bromobenzene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Bromodichloromethane	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Bromoform	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Bromomethane	ND	0.080		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
2-Butanone	ND	0.27		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Carbon disulfide	ND	0.27		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Carbon tetrachloride	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Chlorobenzene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Chloroethane	ND	0.053		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Chloroform	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Chloromethane	ND	0.080		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
2-Chlorotoluene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
4-Chlorotoluene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
cis-1,2-DCE	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
cis-1,3-Dichloropropene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
1,2-Dibromo-3-chloropropane	ND	0.053		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Dibromochloromethane	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Dibromomethane	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
1,2-Dichlorobenzene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
1,3-Dichlorobenzene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
1,4-Dichlorobenzene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Dichlorodifluoromethane	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
1,1-Dichloroethane	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
1,1-Dichloroethene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
1,2-Dichloropropane	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
1,3-Dichloropropane	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
2,2-Dichloropropane	ND	0.053		mg/Kg	1	3/4/2020 8:16:05 PM	B67030

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: BH-7 14'

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020 9:43:00 AM

Lab ID: 2003014-007

Matrix: SOIL

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
1,1-Dichloropropene	ND	0.053		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Hexachlorobutadiene	ND	0.053		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
2-Hexanone	ND	0.27		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Isopropylbenzene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
4-Isopropyltoluene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
4-Methyl-2-pentanone	ND	0.27		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Methylene chloride	ND	0.080		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
n-Butylbenzene	ND	0.080		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
n-Propylbenzene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
sec-Butylbenzene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Styrene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
tert-Butylbenzene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
1,1,1,2-Tetrachloroethane	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
1,1,2,2-Tetrachloroethane	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Tetrachloroethene (PCE)	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
trans-1,2-DCE	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
trans-1,3-Dichloropropene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
1,2,3-Trichlorobenzene	ND	0.053		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
1,2,4-Trichlorobenzene	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
1,1,1-Trichloroethane	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
1,1,2-Trichloroethane	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Trichloroethene (TCE)	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Trichlorofluoromethane	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
1,2,3-Trichloropropane	ND	0.053		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Vinyl chloride	ND	0.027		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Xylenes, Total	ND	0.053		mg/Kg	1	3/4/2020 8:16:05 PM	B67030
Surr: Dibromofluoromethane	97.9	70-130		%Rec	1	3/4/2020 8:16:05 PM	B67030
Surr: 1,2-Dichloroethane-d4	90.1	70-130		%Rec	1	3/4/2020 8:16:05 PM	B67030
Surr: Toluene-d8	93.7	70-130		%Rec	1	3/4/2020 8:16:05 PM	B67030
Surr: 4-Bromofluorobenzene	91.8	70-130		%Rec	1	3/4/2020 8:16:05 PM	B67030

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: BH-8 8'

Project: Wingate Benzene Investigation

Collection Date: 2/25/2020 4:20:00 PM

Lab ID: 2003014-008

Matrix: SOIL

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	1.8	0.14	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Toluene	0.36	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Ethylbenzene	2.5	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Methyl tert-butyl ether (MTBE)	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
1,2,4-Trimethylbenzene	1.8	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
1,3,5-Trimethylbenzene	1.1	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
1,2-Dichloroethane (EDC)	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
1,2-Dibromoethane (EDB)	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Naphthalene	ND	0.56	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
1-Methylnaphthalene	ND	1.1	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
2-Methylnaphthalene	ND	1.1	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Acetone	ND	4.2	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Bromobenzene	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Bromodichloromethane	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Bromoform	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Bromomethane	ND	0.84	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
2-Butanone	ND	2.8	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Carbon disulfide	ND	2.8	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Carbon tetrachloride	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Chlorobenzene	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Chloroethane	ND	0.56	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Chloroform	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Chloromethane	ND	0.84	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
2-Chlorotoluene	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
4-Chlorotoluene	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
cis-1,2-DCE	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
cis-1,3-Dichloropropene	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
1,2-Dibromo-3-chloropropane	ND	0.56	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Dibromochloromethane	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Dibromomethane	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
1,2-Dichlorobenzene	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
1,3-Dichlorobenzene	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
1,4-Dichlorobenzene	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Dichlorodifluoromethane	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
1,1-Dichloroethane	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
1,1-Dichloroethene	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
1,2-Dichloropropane	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
1,3-Dichloropropane	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
2,2-Dichloropropane	ND	0.56	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: BH-8 8'

Project: Wingate Benzene Investigation

Collection Date: 2/25/2020 4:20:00 PM

Lab ID: 2003014-008

Matrix: SOIL

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
1,1-Dichloropropene	ND	0.56	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Hexachlorobutadiene	ND	0.56	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
2-Hexanone	ND	2.8	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Isopropylbenzene	0.56	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
4-Isopropyltoluene	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
4-Methyl-2-pentanone	ND	2.8	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Methylene chloride	ND	0.84	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
n-Butylbenzene	ND	0.84	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
n-Propylbenzene	0.56	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
sec-Butylbenzene	0.28	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Styrene	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
tert-Butylbenzene	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
1,1,1,2-Tetrachloroethane	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
1,1,2,2-Tetrachloroethane	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Tetrachloroethene (PCE)	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
trans-1,2-DCE	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
trans-1,3-Dichloropropene	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
1,2,3-Trichlorobenzene	ND	0.56	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
1,2,4-Trichlorobenzene	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
1,1,1-Trichloroethane	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
1,1,2-Trichloroethane	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Trichloroethene (TCE)	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Trichlorofluoromethane	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
1,2,3-Trichloropropane	ND	0.56	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Vinyl chloride	ND	0.28	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Xylenes, Total	21	0.56	D	mg/Kg	10	3/5/2020 6:29:34 PM	50890
Surr: Dibromofluoromethane	91.0	70-130	D	%Rec	10	3/5/2020 6:29:34 PM	50890
Surr: 1,2-Dichloroethane-d4	68.6	70-130	SD	%Rec	10	3/5/2020 6:29:34 PM	50890
Surr: Toluene-d8	100	70-130	D	%Rec	10	3/5/2020 6:29:34 PM	50890
Surr: 4-Bromofluorobenzene	74.5	70-130	D	%Rec	10	3/5/2020 6:29:34 PM	50890

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: BH-9 19'

Project: Wingate Benzene Investigation

Collection Date: 2/26/2020 3:33:00 PM

Lab ID: 2003014-009

Matrix: SOIL

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	0.52	0.014		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Toluene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Ethylbenzene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Methyl tert-butyl ether (MTBE)	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
1,2,4-Trimethylbenzene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
1,3,5-Trimethylbenzene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
1,2-Dichloroethane (EDC)	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
1,2-Dibromoethane (EDB)	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Naphthalene	ND	0.058		mg/Kg	1	3/5/2020 6:59:04 PM	50890
1-Methylnaphthalene	ND	0.12		mg/Kg	1	3/5/2020 6:59:04 PM	50890
2-Methylnaphthalene	ND	0.12		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Acetone	ND	0.43		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Bromobenzene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Bromodichloromethane	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Bromoform	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Bromomethane	ND	0.087		mg/Kg	1	3/5/2020 6:59:04 PM	50890
2-Butanone	ND	0.29		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Carbon disulfide	ND	0.29		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Carbon tetrachloride	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Chlorobenzene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Chloroethane	ND	0.058		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Chloroform	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Chloromethane	ND	0.087		mg/Kg	1	3/5/2020 6:59:04 PM	50890
2-Chlorotoluene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
4-Chlorotoluene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
cis-1,2-DCE	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
cis-1,3-Dichloropropene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
1,2-Dibromo-3-chloropropane	ND	0.058		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Dibromochloromethane	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Dibromomethane	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
1,2-Dichlorobenzene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
1,3-Dichlorobenzene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
1,4-Dichlorobenzene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Dichlorodifluoromethane	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
1,1-Dichloroethane	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
1,1-Dichloroethene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
1,2-Dichloropropane	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
1,3-Dichloropropane	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
2,2-Dichloropropane	ND	0.058		mg/Kg	1	3/5/2020 6:59:04 PM	50890

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: BH-9 19'

Project: Wingate Benzene Investigation

Collection Date: 2/26/2020 3:33:00 PM

Lab ID: 2003014-009

Matrix: SOIL

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
1,1-Dichloropropene	ND	0.058		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Hexachlorobutadiene	ND	0.058		mg/Kg	1	3/5/2020 6:59:04 PM	50890
2-Hexanone	ND	0.29		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Isopropylbenzene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
4-Isopropyltoluene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
4-Methyl-2-pentanone	ND	0.29		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Methylene chloride	ND	0.087		mg/Kg	1	3/5/2020 6:59:04 PM	50890
n-Butylbenzene	ND	0.087		mg/Kg	1	3/5/2020 6:59:04 PM	50890
n-Propylbenzene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
sec-Butylbenzene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Styrene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
tert-Butylbenzene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
1,1,1,2-Tetrachloroethane	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
1,1,2,2-Tetrachloroethane	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Tetrachloroethene (PCE)	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
trans-1,2-DCE	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
trans-1,3-Dichloropropene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
1,2,3-Trichlorobenzene	ND	0.058		mg/Kg	1	3/5/2020 6:59:04 PM	50890
1,2,4-Trichlorobenzene	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
1,1,1-Trichloroethane	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
1,1,2-Trichloroethane	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Trichloroethene (TCE)	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Trichlorofluoromethane	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
1,2,3-Trichloropropane	ND	0.058		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Vinyl chloride	ND	0.029		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Xylenes, Total	ND	0.058		mg/Kg	1	3/5/2020 6:59:04 PM	50890
Surr: Dibromofluoromethane	102	70-130		%Rec	1	3/5/2020 6:59:04 PM	50890
Surr: 1,2-Dichloroethane-d4	94.0	70-130		%Rec	1	3/5/2020 6:59:04 PM	50890
Surr: Toluene-d8	96.2	70-130		%Rec	1	3/5/2020 6:59:04 PM	50890
Surr: 4-Bromofluorobenzene	95.2	70-130		%Rec	1	3/5/2020 6:59:04 PM	50890

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: Dup 1

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020

Lab ID: 2003014-010

Matrix: SOIL

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	ND	0.014		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Toluene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Ethylbenzene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Methyl tert-butyl ether (MTBE)	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
1,2,4-Trimethylbenzene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
1,3,5-Trimethylbenzene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
1,2-Dichloroethane (EDC)	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
1,2-Dibromoethane (EDB)	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Naphthalene	ND	0.056		mg/Kg	1	3/5/2020 7:28:01 PM	50890
1-Methylnaphthalene	ND	0.11		mg/Kg	1	3/5/2020 7:28:01 PM	50890
2-Methylnaphthalene	ND	0.11		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Acetone	ND	0.42		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Bromobenzene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Bromodichloromethane	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Bromoform	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Bromomethane	ND	0.084		mg/Kg	1	3/5/2020 7:28:01 PM	50890
2-Butanone	ND	0.28		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Carbon disulfide	ND	0.28		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Carbon tetrachloride	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Chlorobenzene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Chloroethane	ND	0.056		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Chloroform	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Chloromethane	ND	0.084		mg/Kg	1	3/5/2020 7:28:01 PM	50890
2-Chlorotoluene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
4-Chlorotoluene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
cis-1,2-DCE	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
cis-1,3-Dichloropropene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
1,2-Dibromo-3-chloropropane	ND	0.056		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Dibromochloromethane	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Dibromomethane	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
1,2-Dichlorobenzene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
1,3-Dichlorobenzene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
1,4-Dichlorobenzene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Dichlorodifluoromethane	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
1,1-Dichloroethane	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
1,1-Dichloroethene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
1,2-Dichloropropane	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
1,3-Dichloropropane	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
2,2-Dichloropropane	ND	0.056		mg/Kg	1	3/5/2020 7:28:01 PM	50890

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: Dup 1

Project: Wingate Benzene Investigation

Collection Date: 2/27/2020

Lab ID: 2003014-010

Matrix: SOIL

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
1,1-Dichloropropene	ND	0.056		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Hexachlorobutadiene	ND	0.056		mg/Kg	1	3/5/2020 7:28:01 PM	50890
2-Hexanone	ND	0.28		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Isopropylbenzene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
4-Isopropyltoluene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
4-Methyl-2-pentanone	ND	0.28		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Methylene chloride	ND	0.084		mg/Kg	1	3/5/2020 7:28:01 PM	50890
n-Butylbenzene	ND	0.084		mg/Kg	1	3/5/2020 7:28:01 PM	50890
n-Propylbenzene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
sec-Butylbenzene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Styrene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
tert-Butylbenzene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
1,1,1,2-Tetrachloroethane	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
1,1,2,2-Tetrachloroethane	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Tetrachloroethene (PCE)	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
trans-1,2-DCE	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
trans-1,3-Dichloropropene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
1,2,3-Trichlorobenzene	ND	0.056		mg/Kg	1	3/5/2020 7:28:01 PM	50890
1,2,4-Trichlorobenzene	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
1,1,1-Trichloroethane	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
1,1,2-Trichloroethane	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Trichloroethene (TCE)	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Trichlorofluoromethane	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
1,2,3-Trichloropropane	ND	0.056		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Vinyl chloride	ND	0.028		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Xylenes, Total	ND	0.056		mg/Kg	1	3/5/2020 7:28:01 PM	50890
Surr: Dibromofluoromethane	101	70-130		%Rec	1	3/5/2020 7:28:01 PM	50890
Surr: 1,2-Dichloroethane-d4	96.4	70-130		%Rec	1	3/5/2020 7:28:01 PM	50890
Surr: Toluene-d8	99.3	70-130		%Rec	1	3/5/2020 7:28:01 PM	50890
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	1	3/5/2020 7:28:01 PM	50890

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: MeOH Blank

Project: Wingate Benzene Investigation

Collection Date:

Lab ID: 2003014-011

Matrix: MEOH BLAN

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	ND	0.025		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Toluene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Ethylbenzene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Naphthalene	ND	0.10		mg/Kg	1	3/5/2020 7:57:25 PM	50890
1-Methylnaphthalene	ND	0.20		mg/Kg	1	3/5/2020 7:57:25 PM	50890
2-Methylnaphthalene	ND	0.20		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Acetone	ND	0.75		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Bromobenzene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Bromodichloromethane	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Bromoform	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Bromomethane	ND	0.15		mg/Kg	1	3/5/2020 7:57:25 PM	50890
2-Butanone	ND	0.50		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Carbon disulfide	ND	0.50		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Carbon tetrachloride	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Chlorobenzene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Chloroethane	ND	0.10		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Chloroform	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Chloromethane	ND	0.15		mg/Kg	1	3/5/2020 7:57:25 PM	50890
2-Chlorotoluene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
4-Chlorotoluene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
cis-1,2-DCE	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Dibromochloromethane	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Dibromomethane	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
1,1-Dichloroethane	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
1,1-Dichloroethene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
1,2-Dichloropropane	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
1,3-Dichloropropane	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
2,2-Dichloropropane	ND	0.10		mg/Kg	1	3/5/2020 7:57:25 PM	50890

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003014

Date Reported: 3/6/2020

CLIENT: Marathon

Client Sample ID: MeOH Blank

Project: Wingate Benzene Investigation

Collection Date:

Lab ID: 2003014-011

Matrix: MEOH BLAN

Received Date: 2/28/2020 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
1,1-Dichloropropene	ND	0.10		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Hexachlorobutadiene	ND	0.10		mg/Kg	1	3/5/2020 7:57:25 PM	50890
2-Hexanone	ND	0.50		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Isopropylbenzene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
4-Isopropyltoluene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Methylene chloride	ND	0.15		mg/Kg	1	3/5/2020 7:57:25 PM	50890
n-Butylbenzene	ND	0.15		mg/Kg	1	3/5/2020 7:57:25 PM	50890
n-Propylbenzene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
sec-Butylbenzene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Styrene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
tert-Butylbenzene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
trans-1,2-DCE	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	3/5/2020 7:57:25 PM	50890
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Trichlorofluoromethane	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Vinyl chloride	ND	0.050		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Xylenes, Total	ND	0.10		mg/Kg	1	3/5/2020 7:57:25 PM	50890
Surr: Dibromofluoromethane	99.7	70-130		%Rec	1	3/5/2020 7:57:25 PM	50890
Surr: 1,2-Dichloroethane-d4	91.4	70-130		%Rec	1	3/5/2020 7:57:25 PM	50890
Surr: Toluene-d8	99.4	70-130		%Rec	1	3/5/2020 7:57:25 PM	50890
Surr: 4-Bromofluorobenzene	92.1	70-130		%Rec	1	3/5/2020 7:57:25 PM	50890

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2003014

06-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: mb2	SampType: MBLK			TestCode: EPA Method 8260B: Volatiles						
Client ID: PBS	Batch ID: D66978			RunNo: 66978						
Prep Date:	Analysis Date: 3/4/2020			SeqNo: 2305120		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
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								

Qualifiers:

* Value exceeds Maximum Contaminant 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#: 2003014

06-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: mb2	SampType: MBLK			TestCode: EPA Method 8260B: Volatiles						
Client ID: PBS	Batch ID: D66978			RunNo: 66978						
Prep Date:	Analysis Date: 3/4/2020			SeqNo: 2305120		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.56		0.5000		112	70	130			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		102	70	130			
Surr: Toluene-d8	0.48		0.5000		96.2	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		96.1	70	130			

Sample ID: 100ng lcs2	SampType: LCS			TestCode: EPA Method 8260B: Volatiles						
Client ID: LCSS	Batch ID: D66978			RunNo: 66978						
Prep Date:	Analysis Date: 3/3/2020			SeqNo: 2305121		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	98.5	70	130			
Toluene	0.94	0.050	1.000	0	94.2	70	130			
Chlorobenzene	0.90	0.050	1.000	0	89.9	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2003014

06-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: 100ng lcs2		SampType: LCS		TestCode: EPA Method 8260B: Volatiles						
Client ID: LCSS		Batch ID: D66978		RunNo: 66978						
Prep Date:		Analysis Date: 3/3/2020		SeqNo: 2305121			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.83	0.050	1.000	0	83.3	70	130			
Trichloroethene (TCE)	0.91	0.050	1.000	0	90.8	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		103	70	130			
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		92.0	70	130			
Surr: Toluene-d8	0.48		0.5000		96.4	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.4	70	130			

Sample ID: 2003014-001ams		SampType: MS		TestCode: EPA Method 8260B: Volatiles						
Client ID: BH-1 23'		Batch ID: D66978		RunNo: 66978						
Prep Date:		Analysis Date: 3/4/2020		SeqNo: 2305126			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.7	0.013	0.5079	1.281	83.0	70	130			
Toluene	0.47	0.025	0.5079	0	92.7	70	130			
Chlorobenzene	0.45	0.025	0.5079	0	88.8	70	130			
1,1-Dichloroethene	0.43	0.025	0.5079	0	83.8	70	130			
Trichloroethene (TCE)	0.42	0.025	0.5079	0	82.9	70	130			
Surr: Dibromofluoromethane	0.24		0.2540		93.7	70	130			
Surr: 1,2-Dichloroethane-d4	0.22		0.2540		86.4	70	130			
Surr: Toluene-d8	0.25		0.2540		99.7	70	130			
Surr: 4-Bromofluorobenzene	0.25		0.2540		99.6	70	130			

Sample ID: 2003014-001amsd		SampType: MSD		TestCode: EPA Method 8260B: Volatiles						
Client ID: BH-1 23'		Batch ID: D66978		RunNo: 66978						
Prep Date:		Analysis Date: 3/4/2020		SeqNo: 2305127		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.7	0.013	0.5079	1.281	78.1	70	130	1.49	20	
Toluene	0.44	0.025	0.5079	0	87.6	70	130	5.69	20	
Chlorobenzene	0.44	0.025	0.5079	0	87.4	70	130	1.57	20	
1,1-Dichloroethene	0.42	0.025	0.5079	0	81.8	70	130	2.52	20	
Trichloroethene (TCE)	0.41	0.025	0.5079	0	80.7	70	130	2.60	20	
Surr: Dibromofluoromethane	0.24		0.2540		93.7	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	0.22		0.2540		87.7	70	130	0	0	
Surr: Toluene-d8	0.24		0.2540		94.4	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.25		0.2540		97.0	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#: 2003014

06-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: mb1	SampType: MBLK			TestCode: EPA Method 8260B: Volatiles						
Client ID: PBS	Batch ID: B67030			RunNo: 67030						
Prep Date:	Analysis Date: 3/4/2020			SeqNo: 2306841		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
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								

Qualifiers:

* Value exceeds Maximum Contaminant 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#: 2003014

06-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: mb1	SampType: MBLK			TestCode: EPA Method 8260B: Volatiles						
Client ID: PBS	Batch ID: B67030			RunNo: 67030						
Prep Date:	Analysis Date: 3/4/2020			SeqNo: 2306841		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.55		0.5000		110	70	130			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		102	70	130			
Surr: Toluene-d8	0.48		0.5000		95.3	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		95.6	70	130			

Sample ID: 100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: Volatiles						
Client ID: LCSS	Batch ID: B67030			RunNo: 67030						
Prep Date:	Analysis Date: 3/4/2020			SeqNo: 2306842		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	100	70	130			
Toluene	0.97	0.050	1.000	0	97.4	70	130			
Chlorobenzene	0.93	0.050	1.000	0	92.6	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#: 2003014

06-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: Volatiles								
Client ID: LCSS	Batch ID: B67030	RunNo: 67030								
Prep Date:	Analysis Date: 3/4/2020	SeqNo: 2306842	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.88	0.050	1.000	0	87.9	70	130			
Trichloroethene (TCE)	0.99	0.050	1.000	0	99.3	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		108	70	130			
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		99.3	70	130			
Surr: Toluene-d8	0.48		0.5000		96.4	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		96.9	70	130			

Sample ID: 2003014-007ams	SampType: MS	TestCode: EPA Method 8260B: Volatiles								
Client ID: BH-7 14'	Batch ID: B67030	RunNo: 67030								
Prep Date:	Analysis Date: 3/4/2020	SeqNo: 2306846	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.49	0.013	0.5311	0.002772	92.7	70	130			
Toluene	0.48	0.027	0.5311	0	90.0	70	130			
Chlorobenzene	0.48	0.027	0.5311	0	90.0	70	130			
1,1-Dichloroethene	0.46	0.027	0.5311	0	86.2	70	130			
Trichloroethene (TCE)	0.47	0.027	0.5311	0	88.8	70	130			
Surr: Dibromofluoromethane	0.26		0.2656		98.0	70	130			
Surr: 1,2-Dichloroethane-d4	0.24		0.2656		91.6	70	130			
Surr: Toluene-d8	0.25		0.2656		93.0	70	130			
Surr: 4-Bromofluorobenzene	0.25		0.2656		95.5	70	130			

Sample ID: 2003014-007amsd	SampType: MSD	TestCode: EPA Method 8260B: Volatiles								
Client ID: BH-7 14'	Batch ID: B67030	RunNo: 67030								
Prep Date:	Analysis Date: 3/4/2020	SeqNo: 2306847	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.48	0.013	0.5311	0.002772	89.2	70	130	3.84	20	
Toluene	0.47	0.027	0.5311	0	87.8	70	130	2.46	20	
Chlorobenzene	0.45	0.027	0.5311	0	84.0	70	130	6.93	20	
1,1-Dichloroethene	0.42	0.027	0.5311	0	79.8	70	130	7.73	20	
Trichloroethene (TCE)	0.44	0.027	0.5311	0	82.7	70	130	7.07	20	
Surr: Dibromofluoromethane	0.25		0.2656		94.1	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	0.23		0.2656		87.8	70	130	0	0	
Surr: Toluene-d8	0.25		0.2656		93.7	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.26		0.2656		96.3	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#: 2003014

06-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: mb-50890		SampType: MBLK		TestCode: EPA Method 8260B: Volatiles						
Client ID: PBS		Batch ID: 50890		RunNo: 67060						
Prep Date: 3/4/2020		Analysis Date: 3/5/2020		SeqNo: 2308438			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
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								

Qualifiers:

* Value exceeds Maximum Contaminant 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#: 2003014

06-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: mb-50890	SampType: MBLK			TestCode: EPA Method 8260B: Volatiles						
Client ID: PBS	Batch ID: 50890			RunNo: 67060						
Prep Date: 3/4/2020	Analysis Date: 3/5/2020			SeqNo: 2308438	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.49		0.5000		97.9	70	130			
Surr: 1,2-Dichloroethane-d4	0.45		0.5000		89.7	70	130			
Surr: Toluene-d8	0.50		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		96.9	70	130			

Sample ID: lcs-50890	SampType: LCS			TestCode: EPA Method 8260B: Volatiles						
Client ID: LCSS	Batch ID: 50890			RunNo: 67060						
Prep Date: 3/4/2020	Analysis Date: 3/5/2020			SeqNo: 2308439	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	1.000	0	84.9	70	130			
Toluene	0.97	0.050	1.000	0	96.9	70	130			
Chlorobenzene	0.91	0.050	1.000	0	90.9	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2003014

06-Mar-20

Client: Marathon

Project: Wingate Benzene Investigation

Sample ID: Ics-50890	SampType: LCS		TestCode: EPA Method 8260B: Volatiles							
Client ID: LCSS	Batch ID: 50890		RunNo: 67060							
Prep Date: 3/4/2020	Analysis Date: 3/5/2020		SeqNo: 2308439		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.78	0.050	1.000	0	77.6	70	130			
Trichloroethene (TCE)	0.79	0.050	1.000	0	78.8	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		92.1	70	130			
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		87.4	70	130			
Surr: Toluene-d8	0.51		0.5000		102	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.2	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

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **2003014**

RcptNo: **1**

Received By: **Yazmine Garduno**
2/28/2020 3:15:00 PM
Yazmine Garduno

Completed By: **Leah Baca**
3/2/2020 10:25:23 AM
Leah Baca

Reviewed By: **SR 3/2/20**

Chain of Custody

1. Is Chain of Custody sufficiently complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Client

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°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:

mg 3/2/20

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	4.3	Good				

Chain-of-Custody Record			
Client: <u>Marathon Petroleum Co.</u>			
Mailing Address: <u>92 G. Kent Crossing Rd</u>			
<u>Tamworth NM</u>			
Phone #: <u>505-726-9745</u>			
email or Fax#:			
QA/QC Package: ☐ Standard ☐ Level 4 (Full Validation)			
Accreditation ☒ NELAP ☐ Other _____			
LEDD (Type) _____			
Date	Time	Matrix	Sample Request ID
1/24/20	17:30	Soil	BH-1 23"
1/25/20	10:30	Soil	BH-2 13"
1/25/20	13:30	Soil	BH-3 15"
1/26/20	13:20	Soil	BH-4 19"
1/26/20	09:55	Soil	BH-5 14"
1/27/20	11:38	Soil	BH-6 11"
1/27/20	09:43	Soil	BH-7 14"
1/25/20	16:20	Soil	BH-8 8"
1/24/20	15:33	Soil	BH-9 19"
1/24/20	0:00	Soil	DUP 1
			MeOH Blank
Date: <u>1/27/20</u>		Time: <u>18:30</u>	
Date: _____		Time: _____	
Relinquished by: <u>[Signature]</u>		Relinquished by: _____	
Date: _____		Time: _____	
Received by: _____		Date: _____	
Date: _____		Time: _____	
Turn-Around Time: ☐ Standard ☐ Rush		Project Name: <u>Wingate Benzene Investigation</u>	
Project #: <u>677-072-001</u>		Project Manager: <u>Paul H. Debrant</u>	
Sampler: _____		On Ice: ☒ Yes ☐ No	
Sample Temperature: <u>40-43-43</u>		HEAL No. <u>2003014</u>	
Container Type and #	Preservative Type	HEAL No.	
Bottles/Sec		-001	
Bottles/Sec		-002	
"		-003	
"		-004	
"		-005	
"		-006	
"		-007	
"		-008	
"		-009	
"		-010	
"		-011	

Turn-Around Time: ☐ Standard ☐ Rush

Project Name: Wingate Benzene Investigation

Project #: 687-072-001

Project Manager: *Paul H. Hubbard*

Sampler: _____

On Ice: ☒ Yes ☐ No

Sample Temperature: $44 - 0.3 = 43.7$

Container Type and #	Preservative Type	HEAL No. 2003014
-------------------------	----------------------	---------------------

bottoms/fer	-001
-------------	------

		-007
bottle/fer		

11	72	000
11	72	000

400 -		11
400 -		

9	-002	001
---	------	-----

005		
006		"
		"

105		
106		

200		11
-007		11

000		12
000		12

4		110
11		110

112		2
110		

11			
----	--	--	--

Received by:	Date	Time	P
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1

Received by:	Date	Time
--------------	------	------

155
2/28/20
155

attracted to other accredited laboratories. This serves as notice of this p

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

[illegible]

Remarks:

Received by:	Date	Time
--------------	------	------

Received by:	Date	Time
--------------	------	------

WV (Anne 2/28/20) 155

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.

Appendix C. Data Validation Forms



Tier I Data Verification Report Summary

PROJECT INFORMATION	
Project:	Laboratory Name: Hall Environmental Analysis Laboratory, Inc
SDG: 2002C93	Budgeted Hours:
Job Number: 697-072-001	Due By:
Task Number: 0001	Client & Project: Western Refining Southwest, Inc.
Tier Type: Tier I	Trihydro Contact: Brian McLoughlin
Timesheet Comment:	
Validation Instructions	

DATA INFORMATION	
Sample Matrix: Groundwater	Sample Start Date: 2/28/2020
	Sample End Date: 2/28/2020

BLIND DUPLICATES	
Duplicate ID = Location ID	
[Dup 2=BH-7]	

	Question	Answer	Comment
1	Were any non-conformances noted by the laboratory that may affect the quality and usability of the data? (The PM should be notified of any major non-conformances before proceeding).	No	
2	Were the CoC forms and sample receipt logs complete?	Yes	
3	Were samples received in good condition, within temperature requirements, and properly preserved?	Yes	





Tier I Data Verification Report Summary

4	Did you receive the samples and analyses that you requested on the Chain-of-Custody? Specify if any analytes were reported by more than one method. Specify if both total and dissolved metals were reported for this data set.	Yes	
5	Will the reporting limits meet your project requirements? If not, explain.	Yes	
6	Is the data consistent with previous sample events?	N/A	
7	Are any project-specific data validation objectives or information required in the validation process or in the addition of qualifiers?	No	
8	Were the correct concentration units reported? Specify if wet or dry units were used for soil.	Yes	
9	Were blind duplicates collected?	Yes	
9a.	Were the blind duplicates correctly recorded on the field log?	Yes	
10	Were sample holding times met?	No	pH was out of holding
11	Was a quality control section included with the lab report?	Yes	
11a.	Did the quality control section include method blanks, matrix spike/matrix spike duplicates, and laboratory control samples/laboratory control sample duplicates?	Yes	
12	Were compounds detected in the field blanks, equipment blanks, or trip blanks?	N/A	
13	For Air Samples Only: Was the Helium (or other tracer gas) under the shroud compared to the Helium (or other tracer gas) measure at the laboratory? If so, were the differences between the field tracer gas and the laboratory result of that tracer gas in accordance with project standards?	N/A	



Tier I Data Verification Report Summary

14	For Air Samples Only: Were canister pressure variances between the field and laboratory calculated? If so, were the differences in accordance with project standards?	N/A	
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GENERAL COMMENTS





Tier I Data Verification Report Summary

PROJECT INFORMATION	
Project:	Laboratory Name: Hall Environmental Analysis Laboratory, Inc
SDG: 2002C96	Budgeted Hours:
Job Number: 697-072-001	Due By:
Task Number: 0001	Client & Project: Western Refining Southwest, Inc.
Tier Type: Tier I	Trihydro Contact: Brian McLoughlin
Timesheet Comment:	
Validation Instructions	

DATA INFORMATION	
Sample Matrix: Groundwater	Sample Start Date: 2/27/2020
	Sample End Date: 2/27/2020

BLIND DUPLICATES	
Duplicate ID = Location ID	

	Question	Answer	Comment
1	Were any non-conformances noted by the laboratory that may affect the quality and usability of the data? (The PM should be notified of any major non-conformances before proceeding).	No	
2	Were the CoC forms and sample receipt logs complete?	Yes	
3	Were samples received in good condition, within temperature requirements, and properly preserved?	Yes	





Tier I Data Verification Report Summary

4	Did you receive the samples and analyses that you requested on the Chain-of-Custody? Specify if any analytes were reported by more than one method. Specify if both total and dissolved metals were reported for this data set.	Yes	
5	Will the reporting limits meet your project requirements? If not, explain.	Yes	
6	Is the data consistent with previous sample events?	N/A	
7	Are any project-specific data validation objectives or information required in the validation process or in the addition of qualifiers?	No	
8	Were the correct concentration units reported? Specify if wet or dry units were used for soil.	Yes	
9	Were blind duplicates collected?	No	
10	Were sample holding times met?	Yes	
11	Was a quality control section included with the lab report?	Yes	
11a.	Did the quality control section include method blanks, matrix spike/matrix spike duplicates, and laboratory control samples/laboratory control sample duplicates?	Yes	
12	Were compounds detected in the field blanks, equipment blanks, or trip blanks?	Yes	Benzene was detected in the trip blank
12a.	Were the same compounds detected in the samples at concentrations less than 10X times the blank concentrations?	Yes	
13	For Air Samples Only: Was the Helium (or other tracer gas) under the shroud compared to the Helium (or other tracer gas) measure at the laboratory? If so, were the differences between the field tracer gas and the laboratory result of that tracer gas in accordance with project standards?	N/A	





Tier I Data Verification Report Summary

14	For Air Samples Only: Were canister pressure variances between the field and laboratory calculated? If so, were the differences in accordance with project standards?	N/A	
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GENERAL COMMENTS





Tier I Data Verification Report Summary

PROJECT INFORMATION	
Project:	Laboratory Name: Hall Environmental Analysis Laboratory, Inc
SDG: 2002C97	Budgeted Hours:
Job Number: 697-072-001	Due By:
Task Number: 0001	Client & Project: Western Refining Southwest, Inc.
Tier Type: Tier I	Trihydro Contact: Brian McLoughlin
Timesheet Comment:	
Validation Instructions	

DATA INFORMATION	
Sample Matrix: Groundwater	Sample Start Date: 2/27/2020
	Sample End Date: 2/27/2020

BLIND DUPLICATES	
Duplicate ID = Location ID	

	Question	Answer	Comment
1	Were any non-conformances noted by the laboratory that may affect the quality and usability of the data? (The PM should be notified of any major non-conformances before proceeding).	No	
2	Were the CoC forms and sample receipt logs complete?	Yes	
3	Were samples received in good condition, within temperature requirements, and properly preserved?	Yes	





Tier I Data Verification Report Summary

4	Did you receive the samples and analyses that you requested on the Chain-of-Custody? Specify if any analytes were reported by more than one method. Specify if both total and dissolved metals were reported for this data set.	Yes	
5	Will the reporting limits meet your project requirements? If not, explain.	Yes	
6	Is the data consistent with previous sample events?	N/A	
7	Are any project-specific data validation objectives or information required in the validation process or in the addition of qualifiers?	No	
8	Were the correct concentration units reported? Specify if wet or dry units were used for soil.	Yes	
9	Were blind duplicates collected?	No	
10	Were sample holding times met?	No	pH was out of holding
11	Was a quality control section included with the lab report?	Yes	
11a.	Did the quality control section include method blanks, matrix spike/matrix spike duplicates, and laboratory control samples/laboratory control sample duplicates?	Yes	
12	Were compounds detected in the field blanks, equipment blanks, or trip blanks?	N/A	
13	For Air Samples Only: Was the Helium (or other tracer gas) under the shroud compared to the Helium (or other tracer gas) measure at the laboratory? If so, were the differences between the field tracer gas and the laboratory result of that tracer gas in accordance with project standards?	N/A	
14	For Air Samples Only: Were canister pressure variances between the field and laboratory calculated? If so, were the differences in accordance with project standards?	N/A	





Tier I Data Verification Report Summary

GENERAL COMMENTS





Tier I Data Verification Report Summary

PROJECT INFORMATION	
Project:	Laboratory Name: Hall Environmental Analysis Laboratory, Inc
SDG: 2003014	Budgeted Hours:
Job Number: 697-072-001	Due By:
Task Number: 0001	Client & Project: Western Refining Southwest, Inc.
Tier Type: Tier I	Trihydro Contact: Brian McLoughlin
Timesheet Comment:	
Validation Instructions	

DATA INFORMATION	
Sample Matrix: Soil	Sample Start Date: 2/24/2020
	Sample End Date: 2/27/2020

BLIND DUPLICATES	
Duplicate ID = Location ID	
[Dup 1=BH-6 11']	

	Question	Answer	Comment
1	Were any non-conformances noted by the laboratory that may affect the quality and usability of the data? (The PM should be notified of any major non-conformances before proceeding).	No	
2	Were the CoC forms and sample receipt logs complete?	Yes	
3	Were samples received in good condition, within temperature requirements, and properly preserved?	Yes	





Tier I Data Verification Report Summary

4	Did you receive the samples and analyses that you requested on the Chain-of-Custody? Specify if any analytes were reported by more than one method. Specify if both total and dissolved metals were reported for this data set.	Yes
5	Will the reporting limits meet your project requirements? If not, explain.	Yes
6	Is the data consistent with previous sample events?	N/A
7	Are any project-specific data validation objectives or information required in the validation process or in the addition of qualifiers?	No
8	Were the correct concentration units reported? Specify if wet or dry units were used for soil.	Yes
9	Were blind duplicates collected?	Yes
9a.	Were the blind duplicates correctly recorded on the field log?	Yes
10	Were sample holding times met?	Yes
11	Was a quality control section included with the lab report?	Yes
11a.	Did the quality control section include method blanks, matrix spike/matrix spike duplicates, and laboratory control samples/laboratory control sample duplicates?	Yes
12	Were compounds detected in the field blanks, equipment blanks, or trip blanks?	No
13	For Air Samples Only: Was the Helium (or other tracer gas) under the shroud compared to the Helium (or other tracer gas) measure at the laboratory? If so, were the differences between the field tracer gas and the laboratory result of that tracer gas in accordance with project standards?	N/A



Tier I Data Verification Report Summary

14	For Air Samples Only: Were canister pressure variances between the field and laboratory calculated? If so, were the differences in accordance with project standards?	N/A	
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GENERAL COMMENTS

