Released to Imaging: 8/16/2024 2:26:48 PM

Received by OCD: 3/7/2024 4:58:12 PM

Western Refining Terminals, LLC

212 N. Clark Street
El Paso, TX 79905
505-879-7643

March 8, 2024

Oil Conservation District
EMNRD – Oil Conservation Division
1220 St. Francis Drive
Santa Fe, NM 87505

RE: Benzene Investigation Report
Western Refining Terminals, LLC
Marathon Wingate Facility

To Whom it May Concern:

Attached please find the Benzene Investigation Report summarizing the results from seven phases of investigations conducted to delineate the extent of the dissolved phase benzene plume.

If you have any questions or comments regarding the information contained herein, please do not hesitate to contact Mr. John Moore at (505) 879-7643 or Kateri Luka at (714) 713-1218.

Certification

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

Sincerely,
Western Refining Terminals, LLC

John Moore
Vice President, Western Refining Terminals, LLC

Enclosure

CC: K. Luka, Marathon Petroleum Corporation
H. Jones, Trihydro Corporation

WESTERN REFINING TERMINALS LLC

D/B/A MARATHON WINGATE FACILITY

BENZENE INVESTIGATION REPORT

MARCH 8, 2024

Executive Summary

The Western Refining Terminals LLC, D/B/A Marathon Wingate Facility (Facility) is located in Gallup, New Mexico. The Facility is a former gas fractionator facility that operated until October 2018. The New Mexico Oil Conservation Division (OCD) requested an investigation into the continued benzene exceedances found in WMW-2 in correspondence dated October 17, 2019. WMW-2 was installed in 1991 north of the railroad loadout rack and has had consistent benzene exceedances since that time. Annual groundwater monitoring analytical results indicate benzene contamination in the groundwater at the Facility. Seven phases of investigation have taken place at the Facility to assess the extent of benzene within the groundwater following the letter, "Response to Approval with Conditions WMW-2 Benzene Exceedance Geoprobe Investigation Work Plan" (OCD 2019). The investigations were completed in a step-out approach to identify where benzene had potentially migrated within the groundwater.

The objectives of the investigation phases were to:

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

The seven phases of investigation were performed between February 2020 and October 2023. Groundwater samples were collected from 74 locations and soil samples were collected from 33 locations. Benzene analytical results for groundwater were compared to the United States Environmental Protection Agency's (USEPA) maximum contaminant levels (MCL) for tap water (5 micrograms per Liter) to facilitate locations for the subsequent phases of the investigation. Toluene, ethylbenzene, and total xylenes analytical results for groundwater were also compared to USEPA MCL standards to determine if additional constituents were present.

In addition, three monitoring wells (WMW-09, WMW-10, and WMW-11) were installed to better monitor benzene in the groundwater near the Facility. These additional wells have been added to the Facility's annual groundwater monitoring event and results are included in the annual monitoring report.

Received by OCD: 3/7/2024 4:58:12 PM

This report summarizes the results of the seven investigations and provides results for the evaluation of potential remediation technologies at the Facility. A pilot study work plan is in development and will be submitted to OCD in the first half of 2024.

Released to Imaging: 8/16/2024 2:26:48 PM

Received by OCD: 3/7/2024 4:58:12 PM

Table of Contents

Executive Summary 2
List of Figures 6
List of Tables 7
List of Appendices 8
List of Acronyms 9
1.0 Introduction 10
1.1 Facility Information 10
2.0 Investigation Phases 12
2.1 Phase I Investigation 12
2.2 Phase II Investigation 13
2.3 Phase III Investigation 14
2.4 Phase IV Investigation 14
2.5 Phase V Investigation 15
2.6 Phase VI Investigation 15
2.7 Phase VII Investigation 15
3.0 Investigation Results 17
3.1 Groundwater Analytical Results 17
3.1.1 Phase I Analytical Results 17
3.1.2 Phase II Analytical Results 18
3.1.3 Phase III Analytical Results 18
3.1.4 Phase IV Analytical Results 18
3.1.5 Phase V Analytical Results 18
3.1.6 Phase VI Analytical Results 19
3.1.7 Phase VII Analytical Results 19
3.2 Soil Analytical Results 20
4.0 Recommendations and Conclusions 21
References 22
Figures .....
Tables .....
Appendix A – Boring Logs .....
A-1. Monitoring Well Boring Logs (WMW-09, WMW-10, WMW-11) .....
A-2. Non-Monitoring well Boring Logs .....

Released to Imaging: 8/16/2024 2:26:48 PM

Received by OCD: 3/7/2024 4:58:12 PM

Appendix B – Benzene Analytical Results For Monitoring Wells .....
Appendix C – Laboratory Analytical Reports .....
C-1. – Phase I Laboratory Analytical Reports .....
C-2. – Phase II Laboratory Analytical Report .....
C-3. – Phase III Laboratory Analytical Report .....
C-4. – Phase IV Laboratory Analytical Reports .....
C-5. – Phase V Laboratory Analytical Reports .....
C-6. – Phase VI Laboratory Analytical Reports .....
C-7. – Phase VII Laboratory Analytical Reports .....

Released to Imaging: 8/16/2024 2:26:48 PM

Received by OCD: 3/7/2024 4:58:12 PM

List of Figures

1-1. Site Location and Topographical Features, Benzene Investigation Report, Western Refining Terminals LLC, D/B/A Marathon Wingate Facility, Gallup, New Mexico

1-2. 2023 Potentiometric Surface Map, Benzene Investigation Report, Western Refining Terminals LLC, D/B/A Marathon Wingate Facility, Gallup, New Mexico

2-1. Phase I Through VII Borehole Locations, Benzene Investigation Report, Western Refining Terminals LLC, D/B/A Marathon Wingate Facility, Gallup, New Mexico

3-1. Phase I Through Phase VII Investigation Results, Benzene Investigation Report, Western Refining Terminals LLC, D/B/A Marathon Wingate Facility, Gallup, New Mexico

3-2. Proposed Extent of Delineation, Benzene Investigation Report, Western Refining Terminals LLC, D/B/A Marathon Wingate Facility, Gallup, New Mexico

Released to Imaging: 8/16/2024 2:26:48 PM

List of Tables

3-1A. Data Summary, Benzene Analytical Results, Benzene Investigation Report, Western Refining Terminals LLC, D/B/A Marathon Wingate Facility, Gallup, New Mexico

3-1B. Data Summary, BTEX Groundwater Analytical Results, Benzene Investigation Report, Western Refining Terminals LLC, D/B/A Marathon Wingate Facility, Gallup, New Mexico

3-2. Data Summary, BTEX Soil Analytical Results, Benzene Investigation Report, Western Refining Terminals LLC, D/B/A Marathon Wingate Facility, Gallup, New Mexico

Received by OCD: 3/7/2024 4:58:12 PM

List of Appendices

A. BORING LOGS

A-1. MONITORING WELL BORING LOGS (WMW-09, WMW-10, and WMW-11)

A-2. NON-MONITORING WELL BORING LOGS

B. HISTORICAL BENZENE ANALYTICAL RESULTS FOR MONITORING WELLS

C. LABORATORY ANALYTICAL REPORTS

C-1. PHASE I LABORATORY ANALYTICAL REPORTS

C-2. PHASE II LABORATORY ANALYTICAL REPORT

C-3. PHASE III LABORATORY ANALYTICAL REPORT

C-4. PHASE IV LABORATORY ANALYTICAL REPORTS

C-5. PHASE V LABORATORY ANALYTICAL REPORTS

C-6. PHASE VI LABORATORY ANALYTICAL REPORTS

C-7. PHASE VII LABORATORY ANALYTICAL REPORTS

Released to Imaging: 8/16/2024 2:26:48 PM

Received by OCD: 3/7/2024 4:58:12 PM

List of Acronyms

bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and total xylenes
Facility	Western Refining Terminals LLC D/B/A Marathon Wingate Facility
ft	feet or foot
HQ	Hazard Quotient
in.	inches
MCL	maximum contaminant level
NM	New Mexico
OCD	Oil Conservation Division
PVC	polyvinylchloride
RSL	Regional Screening Level
SVOC	semi volatile organic compound
µg/L	micrograms per Liter
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound

Released to Imaging: 8/16/2024 2:26:48 PM

Received by OCD: 3/7/2024 4:58:12 PM

1.0 Introduction

Western Refining Terminals LLC, D/B/A Marathon Wingate Facility (Facility) is located in Gallup, New Mexico (NM). The 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 1-1). The Facility is a former gas fractionator facility that operated until October 2018. Historically, the Facility fractionated a mixed liquefied petroleum-gas stream into usable products. Its feedstock was received via pipelines from four natural gas facilities. The Facility historically produced propane, butane, isobutane, natural gas liquid (light gasoline), and mixed butane.

The New Mexico Oil Conservation Department (OCD) requested an investigation into the benzene exceedances found in WMW-2 at the Facility in correspondence dated October 17, 2019. WMW-2 was installed in 1991 and has had consistent elevated levels of benzene since that time. WMW-2 is located north of the railroad loadout rack in the central portion of the Facility (Figure 1-2).

Following discussions with OCD, a phased approach was proposed to determine the extent of dissolved phase benzene. Seven phases (Phase I through Phase VII) were conducted to collect groundwater and soil samples at the Facility and off-property. In addition, three new monitoring wells (WMW-9, WMW-10, and WMW-11) were installed to continue monitoring benzene concentrations and potential off-site migration. Boring logs for the new monitoring wells are included as Appendix A-1. Non-monitoring well boring logs are also included in Appendix A-2. The phased investigations took place from February 2020 (Phase I) – October 2023 (Phase VII). The results from each previous investigation were used to guide the next phase of investigation and will be used for implementation of the remediation system.

1.1 Facility Information

Groundwater monitoring takes place at the Facility annually in July. Historical analytical groundwater data from monitoring wells is provided in Appendix B. Groundwater flow at the facility is primarily west as shown in Figure 1-2.

WMW-2 was installed near the railroad loading rack in 1991. It was first sampled in July 1991 with a benzene concentration of 16,000 micrograms per Liter (µg/L) and has had readings as high as 37,000 µg/L in 1993. WMW-2 has exceeded the United State Environmental Protection Agency's (USEPA) maximum contaminant level (MCL) for benzene (5 µg/L) every year since 2003, ranging from 5,200 µg/L to 29,000 µg/L. Benzene has been recorded above 20,000 µg/L for the last nine consecutive

Released to Imaging: 8/16/2024 2:26:48 PM

years (2015 – 2023), with the most recent reading of 28,000 µg/L in July 2023. WMW-9, installed during 2021, has exceeded the MCL with detections of 4,400 µg/L (August 2023), 5,200 µg/L (July 2022) and 21,000 µg/L (July 2021). WMW-10, installed during 2023, exceeds the MCL with a detection of 2,900 µg/L (August 2023). No other monitoring wells have historically had exceedances of benzene at the Facility or at the off-site monitoring well WMW-11 located on private property (Vernon Hamilton Construction) south of the railroad tracks.

This report summarizes the results of the Phase I through Phase VII investigations.

2.0 Investigation Phases

Seven investigation phases were performed at the Facility to complete a step out approach to evaluate the extent of groundwater impacts. The investigation sampling locations were driven by the previous sampling results to help determine the extent of the dissolved phase benzene contamination. A summary of the sampling activities from the investigations are discussed below. A figure showing the borehole locations for each phase is provided as Figure 2-1.

A timeline of the investigations is presented below, and a summary of each phase is presented in the following subsections:

- Phase I: February 2020
- Phase II: December 2020
- Phase III: April 2021
- Phase IV: August 2021
- Phase V: January 2022
- Phase VI: June 2022 and February 2023
- Phase VII: October 2023

Before each field activity commenced, a private utility locator surveyed the area with ground penetrating radar and marked underground utilities that may not have been identified by NM One Call, including the Facility's private electric lines, water lines, process lines, and storm sewer lines. NM One Call was contacted to locate and mark underground public utilities in and around the Facility. Prior to advancing soil sampling equipment, a subcontractor used a hand auger to clear boreholes to a minimum depth of 5 feet (ft) or used air-knife-excavation equipment to excavate V-shaped trenches to a depth of 5 ft with limbs approximately 2 to 3 ft in length around potential sampling locations as a utility protection measure. BH-74 and BH-75 were cleared to a depth of 10 ft using a hand auger to avoid deeper public utilities that were located off site.

2.1 Phase I Investigation

Phase I of the Wingate benzene investigation was performed in February 2020 and included completion of the following field activities:

- Installation of nine borehole locations.
- Collecting a soil sample above the saturated zone from each borehole location. Groundwater was encountered in the boreholes at depths ranging from 10 to 25 ft below ground surface (bgs).

Received by OCD: 3/7/2024 4:58:12 PM

- Installation and groundwater sample collection from nine temporary monitoring wells.
- Removal of nine temporary wells and abandonment and plugging of boreholes.

Hollow stem augers were used to advance the boreholes below the water table. A 5 ft continuous sample barrel was used to collect soil sample cores. 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 ft section of 2-inch (in.) polyvinylchloride (PVC) screen and 2-in. PVC riser pipe. A sand filter pack was placed to 2 ft above the top of the screened interval. The temporary wells were given approximately 24 hours to stabilize before groundwater samples were collected. The temporary wells were then plugged and abandoned.

Samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and total metals. Additionally, groundwater samples were also analyzed for general chemistry parameters (Appendix C).

2.2 Phase II Investigation

Following the Phase I investigation, the Facility recommended the use of Hydropunch™ sampling with direct push methods. This technology uses point-in-time sampling methods with sealed-screen samplers mounted on a Geoprobe™ drill rig to collect groundwater from a desired depth. Hydropunch™ sample collection can be used for one-time sampling events, eliminates soil wastes, and minimizes environmental impacts.

The Facility submitted a summary report following the Phase I investigation and proposed the removal of soil analysis. This proposal was based on analytical results indicating that the benzene impacts were limited to the groundwater. Phase II of the benzene investigation was performed in December 2020 and included completion of the following field activities:

- Installation of 20 boreholes.
- Collection of 20 groundwater samples. Boreholes were advanced to depths ranging from 10 to 30 ft bgs for collection of groundwater samples.
- Plugging of boreholes after collection of groundwater samples.

Released to Imaging: 8/16/2024 2:26:48 PM

The collected samples were analyzed for benzene, toluene, and total xylenes as driven by results from the first phase of investigation.

2.3 Phase III Investigation

Phase III of the Wingate benzene investigation was performed in April 2021. The investigation included completion of the following field activities:

- Installation of 13 borehole locations.
- Installing a new permanent monitoring well (WMW-9) and collection of a groundwater sample from the well.
- Collection of 13 groundwater samples. Boreholes were advanced to depths ranging from 15 to 20 ft bgs for collection of the groundwater samples.
- Collection of soil samples from the monitoring well boring.
- Plugging of boreholes after collection of the groundwater samples.

The new monitoring well, WMW-9, was installed outside the fence line of the Facility to monitor for potential off-site migration. Based on discussion with OCD, ethylbenzene was added back into the analysis of the groundwater and soil samples. The soil and groundwater samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX).

2.4 Phase IV Investigation

Phase IV of the benzene investigation was performed in August 2021. The investigation included off-site sampling on property owned by Rose Larson Enterprises, operated as Vernon Hamilton Construction. The property is located south of the Facility. OCD also requested that soil samples be collected from the borehole locations. The investigation included the completion of the following field activities:

- Installation of 10 boreholes.
- Collection of 10 soil samples above the saturated zone.
- Collection of 10 groundwater samples. Groundwater was encountered at depths ranging from 6 to 24 ft bgs.
- Plugging of boreholes after completion of sampling activities.

The collected samples were analyzed for BTEX.

2.5 Phase V Investigation

Phase V of the investigation was performed in January 2022. The completed field work included:

- Installation of six boreholes.
- Collection of six soil samples above the saturated zone.
- Collection of six groundwater samples. Groundwater was encountered at depths ranging from 18 to 32 ft bgs.
- Plugging of boreholes after completion of sampling activities.

The collected samples were analyzed for BTEX.

2.6 Phase VI Investigation

Phase VI of the investigation was performed in June 2022 and February 2023. The June investigation included the installation and sampling of borehole locations. The completed field work included:

- Installation of five boreholes.
- Collection of five soil samples above the saturated zone.
- Collection of five groundwater samples. Groundwater was encountered at depths ranging from 10 to 16 ft bgs.
- Installation of two permanent monitoring wells (WMW-10 and WMW-11).
- Collection of soil and groundwater samples from monitoring well borings.
- Plugging of boreholes after completion of sampling activities.

The new monitoring wells WMW-10 and WMW-11 were installed outside the fence line of the Facility to monitor for potential off-site migration. The collected samples were analyzed for BTEX.

2.7 Phase VII Investigation

Phase VII of the investigation was performed in October 2023. The investigation included installation and sampling of 11 boreholes. The completed field work included:

- Installation of 11 boreholes.
- Collection of two soil samples above the saturated zone (BH-74 and BH-75).

- Collection of 11 groundwater samples. Groundwater was encountered at depths ranging from 10 to 16 ft bgs.
- Plugging of boreholes after completion of sampling activities.

3.0 Investigation Results

Using the phased approach for the investigation guided the subsequent phases sample locations. Each investigation considered the groundwater benzene analytical results compared against the USEPA MCL. Sampling locations were chosen based on exceedances from the previous phased event in a step out approach. A discussion of each phase is provided below.

Phase I soil samples were analyzed for VOCs. Phase I groundwater samples were analyzed for BTEX, SVOCs, total metals, and general chemistry parameters. Phase II groundwater samples were analyzed for benzene, toluene, and total xylenes. Phase III through Phase VII soil and groundwater samples were analyzed for BTEX.

The soil results were compared with USEPA Regional Screening Levels (RSLs) for Industrial soil Hazard Quotient (HQ) 1.0 (November 2023), and the groundwater results were compared to USEPA MCL for tap water, HQ 1.0.

3.1 Groundwater Analytical Results

Groundwater samples were analyzed for BTEX, SVOCs, total metals, and general chemistry parameters only in Phase I. There were total metals exceedances identified at boreholes BH-01, BH-02, BH-03, BH-05, BH-06, and BH-07 during Phase I and discussed in the Benzene Investigation Report (MPC 2020) submitted after completion of Phase I. The results indicated that total metal exceedances were not related to the elevated benzene concentration observed in WMW-2 and therefore it was proposed to exclude metals analysis from further investigations. Toluene exceeded the MCL at two locations (BH-03 and BH-22) which correlate to benzene exceedances. No other exceedances were identified and therefore only benzene results are discussed below and presented in Table 3-1A. Groundwater analytical results for BTEX are provided in Table 3-1B. Benzene groundwater analytical results and their borehole locations can be seen in Figure 3-1. Laboratory analytical reports are provided in Appendix C.

3.1.1 Phase I Analytical Results

Benzene analytical results exceeded the MCL in all locations (BH-01 through BH-09) during the first phase of the investigation. Concentrations ranged from 24 µg/L to 30,000 µg/L. The highest concentrations of benzene were to the north of WMW-2. Because all locations exceeded the screening level for benzene, it was recommended for the step out approach (Phase II) to collect groundwater samples from locations surrounding the original nine borehole locations.

3.1.2 Phase II Analytical Results

Groundwater samples were collected from 20 boreholes (BH-10 through BH-29) during the second phase of the investigation. The second phase investigation benzene analytical results ranging from non-detect to 19,300 µg/L, with nine of the twenty samples having benzene detections and 8 exceeding the MCL. The non-detect results were generally to the north and south of WMW-2 (Figure 3-1). The highest concentration during Phase II was located to the west of WMW-2 in borehole BH-22. Groundwater flow is generally to the west, indicating that benzene is likely migrating to the west of WMW-2.

Phase II validated the step out approach for the Facility. Each subsequent Phase was driven by results from the previous investigation.

3.1.3 Phase III Analytical Results

The Phase III sample locations were chosen around the detected results from the second phase. Groundwater samples were collected from 13 boreholes (BH-30 through BH-42) and one groundwater monitoring well was installed (WMW-9). Of the detected results, concentrations ranged from 1 µg/L to 7,100 µg/L, with five of the twelve samples having detected benzene concentrations and four of the five exceeding the MCL. WMW-9 has continued to exceed the benzene MCL since installation in 2021.

3.1.4 Phase IV Analytical Results

The fourth phase of the investigation proposed to collect a minimum of ten samples including locations outside the Facility property. It was proposed to sample groundwater around the arroyo (to the west of the Facility) in a field driven step-out approach based on the presence or absence of hydrocarbons in field observations as determined by qualified field personnel. Based on the field observations, there was no indication of contamination and only one sample was collected within the arroyo (BH-52). Samples collected off property were collected south of the Facility across the railroad tracks to confirm that benzene was not migrating off property. Samples collected south of the railroad tracks and the sample collected within the arroyo were all reported as not-detected.

3.1.5 Phase V Analytical Results

The fifth phase of the investigation was focused primarily on the east and southeast sides of the Facility. One sample was also collected to the west between the arroyo and railroad tracks that was reported as

not detected. The samples to the east and southeast ranged from 0.305 µg/L (BH-55) to 4,330 µg/L (BH-53). The highest concentrations were located to the east within the Facility fence line.

3.1.6 Phase VI Analytical Results

The sixth phase of the investigation was focused to the east of the Phase V sample locations. In addition, a sample was proposed south of BH-56 across the railroad tracks. During the time of the investigation, the proposed borehole was inaccessible and not sampled. Samples collected during the sixth phase ranged from 0.49 µg/L (BH-61) to 7,800 µg/L (BH-60).

Phase VI also included the installation of two new monitoring wells, WMW-10 and WMW-11. WMW-10 is located just south of WMW-9. WMW-11 was installed south of the railroad tracks, off-property (Vernon Hamilton Construction), to continue monitoring groundwater and to confirm that benzene is not migrating off-site. Samples were collected at WMW-10 and WMW-11 during the 2023 Annual Groundwater Monitoring Event with benzene results of 2,900 µg/L, and 0.35 µg/L, respectively.

3.1.7 Phase VII Analytical Results

The most recent investigation was focused on the collection of groundwater in the eastern and southern portions of the Facility and south of the railroad tracks off-property (Vernon Hamilton Construction). A total of twelve boreholes were proposed, but one borehole (BH-66) was not attempted due to the amount of underground utilities present. Groundwater samples were analyzed for BTEX in a step out approach. If benzene was not detected or detected below the USEPA MCL standard for the sample closest to the current approximate benzene contour shown on Figure 3-1, then the sample further out from the approximate benzene contour along the same direction as the first well was not analyzed and disposed of by the laboratory. Samples collected during the seventh phase ranged from not detected (BH-65) to 7300 µg/L (BH-70).

The Phase VII results indicated additional impacts to the east in the Facility. To reduce the chance of ongoing phased investigations, the Facility is proposing to assume impacts exist between the most eastern borehole (BH-69) and monitoring well WMW-6 (Figure 3-2). Further evaluation of the benzene plume results are discussed in Section 4.0.

Received by OCD: 3/7/2024 4:58:12 PM

3.2 Soil Analytical Results

The soil results for BTEX are compared against the 2023 USEPA RSLs for Industrial Soil HQ 1.0 and are presented in Table 3-2. There was one industrial RSL exceedance for benzene at location BH-03 at 15 ft bgs which correlates with a high concentration of benzene in the groundwater sample as shown in Table 3-1A. Laboratory analytical reports for soil samples are included in Appendix C.

Released to Imaging: 8/16/2024 2:26:48 PM

Received by OCD: 3/7/2024 4:58:12 PM

4.0 Recommendations and Conclusions

The groundwater impacts at the Facility will require a system to remediate the impacts. The phased approach of this investigation has determined northern, southern, and western extent of the dissolved phase benzene plume in the area of the railroad loadout rack (Figure 3-1) and provided the results for drafting a pilot test work plan to finalize selection of a final remediation system.

A pilot study work plan is being developed based on results from the seven phases of investigation. The pilot study will be used to evaluate the feasibility of an active remediation system to treat the benzene plume. The Facility is evaluating the installation of test soil vapor extraction and air sparge points to determine if the subsurface soil conditions are amenable to extraction of contaminant vapors from the subsurface. In addition, the Facility recommends that during the pilot study additional boreholes will be completed between BH-69 and WMW-6 to better understand the extent of impacts. The work plan is anticipated to be submitted to OCD for review during the first half of 2024.

Released to Imaging: 8/16/2024 2:26:48 PM

Received by OCD: 3/7/2024 4:58:12 PM

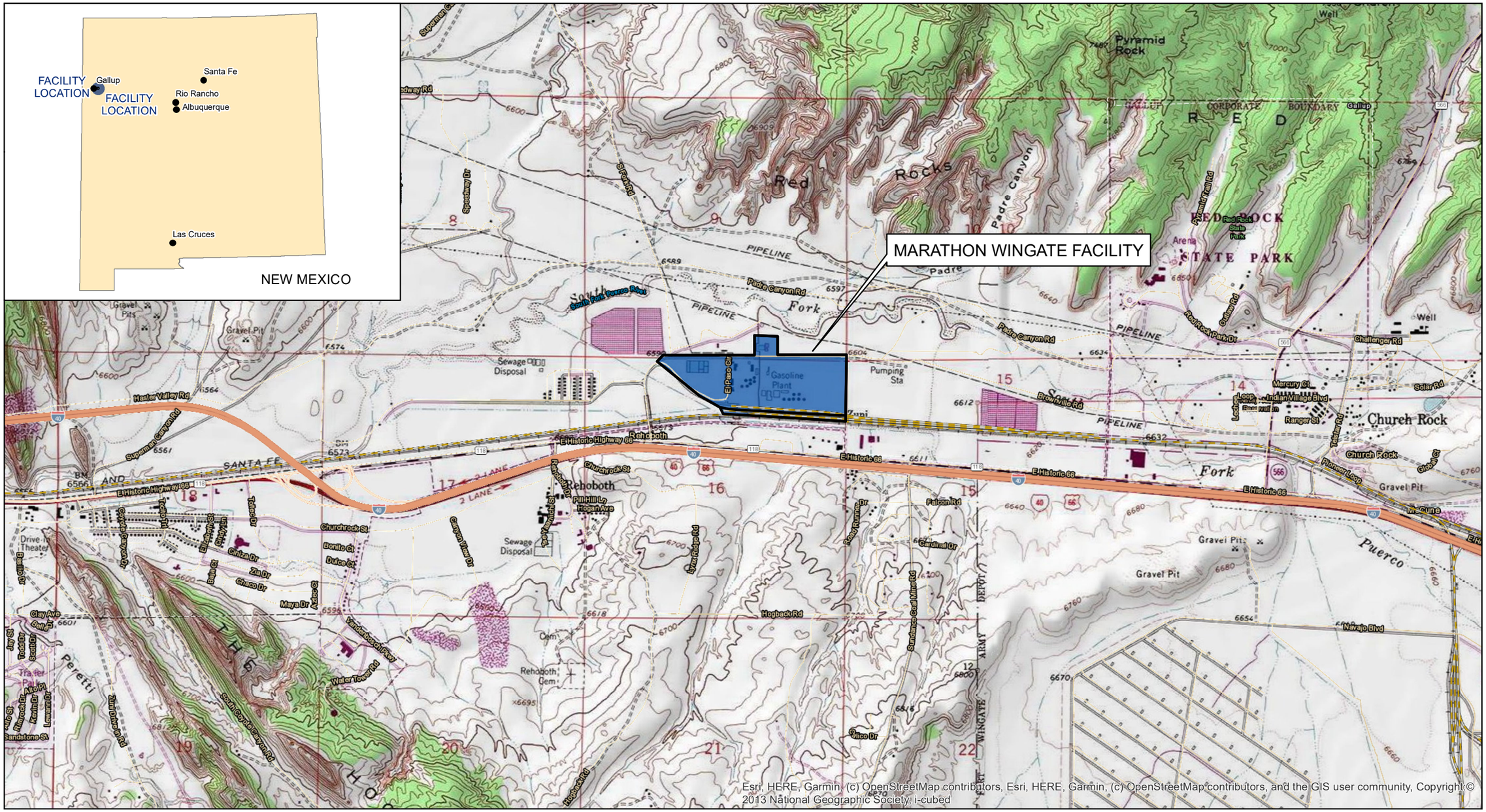
References

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.

Marathon Petroleum Corporation (MPC). 2020. Benzene Investigation Report, Marathon Wingate Facility, July 17.

Released to Imaging: 8/16/2024 2:26:48 PM

Figures



EXPLANATION

FACILITY LOCATION

N

0 2,000'

M:\TIDN\MARATHON\GIS\WINGATE\MAPPING\BENZENE_INVESTIGATION\2020\1_FACILITYLOC_FIG1.MXD

Trihydro CORPORATION
1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 1-1

SITE LOCATION AND TOPOGRAPHICAL FEATURES BENZENE INVESTIGATION REPORT

WESTERN REFINING TERMINALS LLC D/B/A MARATHON WINGATE FACILITY GALLUP, NEW MEXICO

Drawn By: BS	Checked By: AW	Scale: 1 " = 2,000 '	Date: 1/9/24	File: 1_FacilityLoc_Fig1.mxd

Page 26 of 477

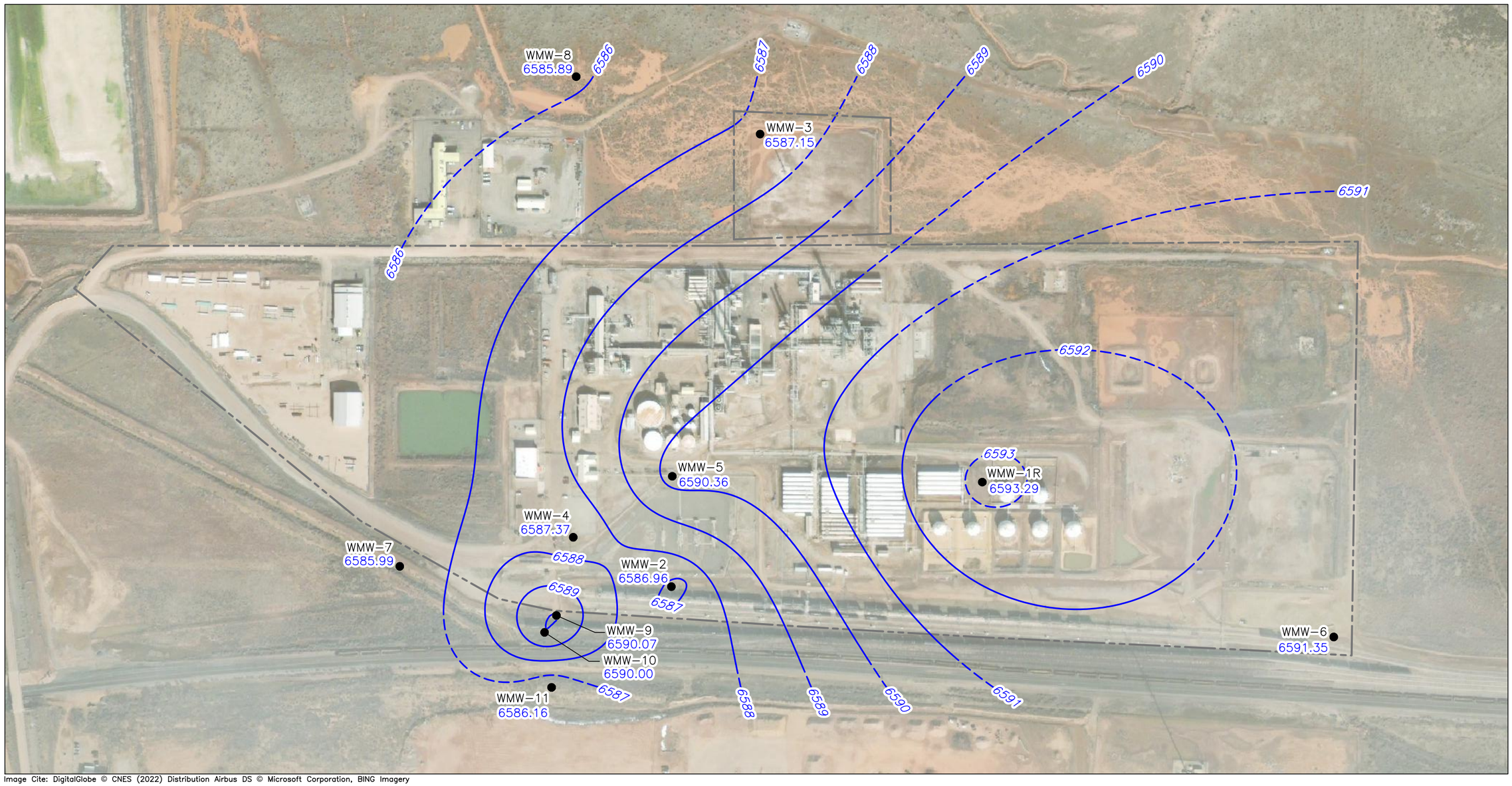


Image Cite: DigitalGlobe © CNES (2022) Distribution Airbus DS © Microsoft Corporation, BING Imagery

EXPLANATION

NOTE:

WMW-2 CONTOUR ENLARGED TO SHOW DETAIL.

WMW–11 6586.16 — MONITORING WELL AND DESIGNATION SHOWING GROUNDWATER ELEVATION IN FT AMSL

6587 — LINE OF EQUAL ELEVATION OF POTENTIOMETRIC SURFACE (FT AMSL, CONTOUR INTERVAL 1 FT., DASHED WHERE INFERRED)

APPROXIMATE PROPERTY BOUNDARY

FT AMSL — FEET ABOVE MEAN SEA LEVEL

N

0 300'

Trihydro CORPORATION
1252 Commerce Drive
Laramie, Wyoming 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 1-2

2023 POTENTIOMETRIC SURFACE MAP
BENZENE INVESTIGATION REPORT

WESTERN REFINING TERMINALS LLC
D/B/A MARATHON WINGATE FACILITY
GALLUP, NEW MEXICO

Drawn By: REP	Checked By: AW	Scale: 1" = 300'	Date: 11/29/23	File: 697-WIN_PSMAP-2023

M:\TON\MARATHON\CAD\S WINGATE_REPORTS\202310_PHASE7_RPT\697-WIN_PSMAP-2023

Received by OCD: 3/7/2024 4:58:12 PM

Released to Imaging: 8/16/2024 2:26:48 PM



EXPLANATION

- A — MONITORING WELL
- PHASE I (FEBRUARY 2020) BOREHOLE LOCATION
- PHASE II (DECEMBER 2020) BOREHOLE LOCATION
- PHASE III (APRIL 2021) BOREHOLE LOCATION
- PHASE IV (AUGUST 2021) BOREHOLE LOCATION
- PHASE V (JANUARY 2022) BOREHOLE LOCATION
- PHASE VI (JUNE 2022) BOREHOLE LOCATION
- PHASE VII (OCTOBER 2023) BOREHOLE LOCATION
- APPROXIMATE PROPERTY BOUNDARY

0 120'

Trihydro CORPORATION
1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 2-1

PHASE I THROUGH VII BOREHOLE LOCTIONS
BENZENE INVESTIGATION REPORT

WESTERN REFINING TERMINALS LLC
D/B/A MARATHON WINGATE FACILITY
GALLUP, NEW MEXICO

Drawn By: BS	Checked By: CF	Scale: 1" = 120'	Date: 2/20/24	File: 2-1_Phase1-VII_Investigation

\\TRIHYDRO.COM\CLIENTSITION\MARATHON\GIS\WINGATE\MAPPING\BENZENE INVESTIGATION\2022\20220203_PHASEIIIWINGATE_BENZENEPHASES.APRX



NOTES:

1) NA=NOT ANALYZED
2) ND=NOT DETECTED
3) µg/L=MICROGRAMS PER LITER
4) 5 µg/L IS THE EPA MCL

EXPLANATION

- A — MONITORING WELL
- PHASE I (FEBRUARY 2020) BOREHOLE LOCATION (FOLLOWED BY BENZENE CONCENTRATION)
- PHASE II (DECEMBER 2020) BOREHOLE LOCATION (FOLLOWED BY BENZENE CONCENTRATION)
- PHASE III (APRIL 2021) BOREHOLE LOCATION (FOLLOWED BY BENZENE CONCENTRATION)
- PHASE IV (AUGUST 2021) BOREHOLE LOCATION (FOLLOWED BY BENZENE CONCENTRATION)
- PHASE V (JANUARY 2022) BOREHOLE LOCATION (FOLLOWED BY BENZENE CONCENTRATION)
- PHASE VI (JUNE 2022) BOREHOLE LOCATION (FOLLOWED BY BENZENE CONCENTRATION)
- PHASE VII (OCTOBER 2023) BOREHOLE LOCATION (FOLLOWED BY BENZENE CONCENTRATION)
- APPROXIMATE 5 µg/L BENZENE CONTOUR
- APPROXIMATE PROPERTY BOUNDARY

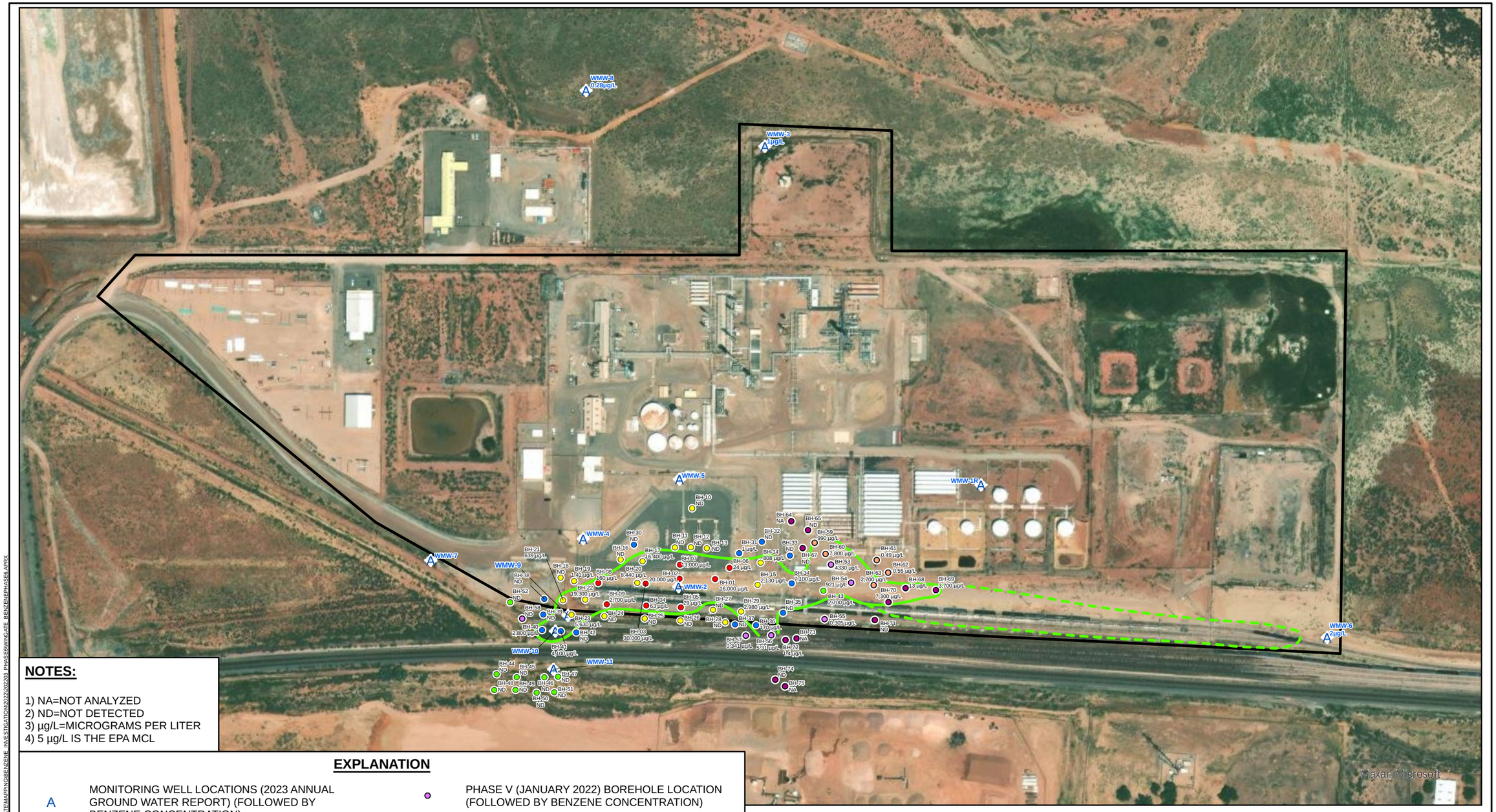
0 200'

Trihydro CORPORATION
1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 3-1
PHASE I THROUGH PHASE VII INVESTIGATION RESULTS BENZENE INVESTIGATION REPORT
WESTERN REFINING TERMINALS LLC D/B/A MARATHON WINGATE FACILITY GALLUP, NEW MEXICO

Drawn By: BS	Checked By: AW	Scale: 1" = 200'	Date: 2/20/24	File: 3-1_Phase1-PhaseVII_Investigation

\\TRIHYDRO.COM\CLIENTSITON\MARATHON\GIS\WINGATE\MAPPING\BENZENE_INVESTIGATION\2022\20220208_PHASEIIIWMWGATE_BENZENEPHASES.APRX



NOTES:

1) NA=NOT ANALYZED
2) ND=NOT DETECTED
3) µg/L=MICROGRAMS PER LITER
4) 5 µg/L IS THE EPA MCL

EXPLANATION

- A — MONITORING WELL LOCATIONS (2023 ANNUAL GROUND WATER REPORT) (FOLLOWED BY BENZENE CONCENTRATION)
- PHASE I (FEBRUARY 2020) BOREHOLE LOCATION (FOLLOWED BY BENZENE CONCENTRATION)
- PHASE II (DECEMBER 2020) BOREHOLE LOCATION (FOLLOWED BY BENZENE CONCENTRATION)
- PHASE III (APRIL 2021) BOREHOLE LOCATION (FOLLOWED BY BENZENE CONCENTRATION)
- PHASE IV (AUGUST 2021) BOREHOLE LOCATION (FOLLOWED BY BENZENE CONCENTRATION)
- PHASE V (JANUARY 2022) BOREHOLE LOCATION (FOLLOWED BY BENZENE CONCENTRATION)
- PHASE VI (JUNE 2022) BOREHOLE LOCATION (FOLLOWED BY BENZENE CONCENTRATION)
- PHASE VII (OCTOBER 2023) BOREHOLE LOCATION (FOLLOWED BY BENZENE CONCENTRATION)
- APPROXIMATE 5 ug/L BENZENE CONTOUR (DASHED WHERE INFERRED)
- PROPOSED EXTENT OF DELINEATION
- APPROXIMATE PROPERTY BOUNDARY

0 300'

Trihydro CORPORATION
1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 3-2

PROPOSED EXTENT OF DELINEATION BENZENE INVESTIGATION REPORT

WESTERN REFINING TERMINALS LLC D/B/A MARATHON WINGATE FACILITY GALLUP, NEW MEXICO

Drawn By: BS	Checked By: AW	Scale: 1" = 300'	Date: 2/20/24	File: 3-2_BenzeneSitewide

I:\TRIHYDRO.COM\CLIENTS\T\MARATHON\GIS\WINGATE\MAPPING\BENZENE_INVESTIGATION\20222\20223_PHASEIIIWINGATE_BENZENEPHASEII.APRX

Tables

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

TABLE 3-1A. DATA SUMMARY, BENZENE ANALYTICAL RESULTS, BENZENE INVESTIGATION REPORT
WESTERN REFINING TERMINALS LLC, D/B/A MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzene (µg/L)
BH-01	2/27/20	**16000**
BH-02	2/27/20	**20000**
BH-03	2/27/20	**30000**
BH-04	2/27/20	**63**
BH-05	2/27/20	**29**
BH-06	2/28/20	**24**
BH-07	2/28/20	**13000**
BH-08	2/27/20	**160**
BH-09	2/27/20	**2700**
BH-10	12/04/20	ND(1)
BH-11	12/03/20	ND(1)
BH-12	12/03/20	ND(1)
BH-13	12/03/20	ND(1)
BH-14	12/04/20	**808**
BH-15	12/04/20	**2130**
BH-16	12/04/20	ND(1)
BH-17	12/04/20	**16400**
BH-18	12/02/20	ND(1)
BH-19	12/03/20	1.41
BH-20	12/04/20	**8440**
USEPA MCL HQ 1.0		5

HQ - Hazard Quotient
ID - Identification
MCL - Maximum Contaminant Level
ND - Not Detected at the Reporting Limit
µg/L - micrograms per Liter
USEPA - United States Environmental Protection Agency

Page 31 of 477

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

TABLE 3-1A. DATA SUMMARY, BENZENE ANALYTICAL RESULTS, BENZENE INVESTIGATION REPORT
WESTERN REFINING TERMINALS LLC, D/B/A MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzene (µg/L)
BH-21	12/04/20	**639**
BH-22	12/03/20	**19300**
BH-23	12/02/20	**5630**
BH-24	12/02/20	ND(1)
BH-25	12/01/20	ND(1)
BH-26	12/01/20	ND(1)
BH-27	12/03/20	ND(1)
BH-28	12/01/20	ND(1)
BH-29	12/03/20	**2980**
BH-30	4/06/21	ND(5)
BH-31	4/07/21	1
BH-32	4/07/21	ND(2)
BH-33	4/07/21	ND(2)
BH-34	4/07/21	**7100**
BH-35	4/07/21	ND(2)
BH-36	4/06/21	**170**
BH-37	4/06/21	ND(1)
BH-38	4/06/21	ND(5)
BH-39	4/06/21	ND(2)
BH-40	4/06/21	**2800**
USEPA MCL HQ 1.0		5

HQ - Hazard Quotient
ID - Identification
MCL - Maximum Contaminant Level
ND - Not Detected at the Reporting Limit
µg/L - micrograms per Liter
USEPA - United States Environmental Protection Agency

Page 32 of 477

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

TABLE 3-1A. DATA SUMMARY, BENZENE ANALYTICAL RESULTS, BENZENE INVESTIGATION REPORT
WESTERN REFINING TERMINALS LLC, D/B/A MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzene (µg/L)
BH-41	4/06/21	**4100**
BH-42	4/06/21	ND(1)
BH-43	8/25/21	**2700**
BH-44	8/25/21	ND(2)
BH-45	8/25/21	ND(2)
BH-46	8/24/21	ND(1)
BH-47	8/25/21	ND(2)
BH-48	8/25/21	ND(1)
BH-49	8/25/21	ND(1)
BH-50	8/25/21	ND(2)
BH-51	8/24/21	ND(1)
BH-52	8/25/21	ND(2)
BH-53	1/22/22	**4330**
BH-54	1/22/22	**921**
BH-55	1/22/22	0.305
BH-56	1/21/22	**5.31**
BH-57	1/21/22	0.341
BH-58	1/22/22	ND(1)
BH-59	6/29/22	**990**
BH-60	6/29/22	**7800**
USEPA MCL HQ 1.0		5

HQ - Hazard Quotient
ID - Identification
MCL - Maximum Contaminant Level
ND - Not Detected at the Reporting Limit
µg/L - micrograms per Liter
USEPA - United States Environmental Protection Agency

Page 33 of 477

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

TABLE 3-1A. DATA SUMMARY, BENZENE ANALYTICAL RESULTS, BENZENE INVESTIGATION REPORT
WESTERN REFINING TERMINALS LLC, D/B/A MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzene (µg/L)
BH-61	6/29/22	0.49
BH-62	6/29/22	0.55
BH-63	6/28/22	**2700**
BH-65	10/12/23	ND(2)
BH-67	10/12/23	ND(2)
BH-68	10/11/23	**13**
BH-69	10/11/23	**3700**
BH-70	10/11/23	**7300**
BH-71	10/11/23	ND(2)
BH-72	10/11/23	1.4
BH-74	10/10/23	ND(2.0)
USEPA MCL HQ 1.0		5

HQ - Hazard Quotient
ID - Identification
MCL - Maximum Contaminant Level
ND - Not Detected at the Reporting Limit
µg/L - micrograms per Liter
USEPA - United States Environmental Protection Agency

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

TABLE 3-1B. DATA SUMMARY, BTEX GROUNDWATER ANALYTICAL RESULTS, BENZENE INVESTIGATION REPORT
WESTERN REFINING TERMINALS LLC, D/B/A MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes, Total (µg/L)
BH-01	2/27/20	**16000**	56	170	1500
BH-02	2/27/20	**20000**	310	120	720
BH-03	2/27/20	**30000**	**2300**	220	1800
BH-04	2/27/20	**63**	3	1.8	7.9
BH-05	2/27/20	**29**	5.5	3	26
BH-06	2/28/20	**24**	0.9	1.5	0.95
BH-07	2/28/20	**13000**	6.4	65	480
BH-08	2/27/20	**160**	72	56	560
BH-09	2/27/20	**2700**	9.2	48	290
BH-10	12/04/20	ND(1)	ND(1)	--	ND(10)
BH-11	12/03/20	ND(1)	ND(1)	--	ND(10)
BH-12	12/03/20	ND(1)	ND(1)	--	ND(10)
BH-13	12/03/20	ND(1)	ND(1)	--	ND(10)
BH-14	12/04/20	**808**	ND(10)	--	ND(100)
BH-15	12/04/20	**2130**	ND(20)	--	1150
BH-16	12/04/20	ND(1)	ND(1)	--	ND(10)
BH-17	12/04/20	**16400**	ND(200)	--	ND(2000)
BH-18	12/02/20	ND(1)	ND(1)	--	ND(10)
BH-19	12/03/20	1.41	ND(1)	--	ND(10)
USEPA MCL HQ 1.0		5	1000	700	10000

-- - Not Analyzed
BTEX - Benzene, toluene, ethylbenzene, and total xylenes
HQ - Hazard Quotient
ID - Identification
MCL - Maximum Contaminant Level
ND - Not Detected at the Reporting Limit
µg/L - micrograms per Liter
USEPA - United States Environmental Protection Agency

Page 35 of 477

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

TABLE 3-1B. DATA SUMMARY, BTEX GROUNDWATER ANALYTICAL RESULTS, BENZENE INVESTIGATION REPORT
WESTERN REFINING TERMINALS LLC, D/B/A MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes, Total (µg/L)
BH-20	12/04/20	**8440**	98.7	--	1690
BH-21	12/04/20	**639**	53.9	--	736
BH-22	12/03/20	**19300**	**2410**	--	ND(1000)
BH-23	12/02/20	**5630**	ND(50)	--	ND(500)
BH-24	12/02/20	ND(1)	ND(1)	--	ND(10)
BH-25	12/01/20	ND(1)	ND(1)	--	ND(10)
BH-26	12/01/20	ND(1)	ND(1)	--	ND(10)
BH-27	12/03/20	ND(1)	ND(1)	--	ND(10)
BH-28	12/01/20	ND(1)	ND(1)	--	ND(10)
BH-29	12/03/20	**2980**	ND(25)	--	ND(250)
BH-30	4/06/21	ND(5)	ND(5)	ND(5)	ND(7.5)
BH-31	4/07/21	1	ND(1)	ND(1)	ND(1.5)
BH-32	4/07/21	ND(2)	ND(2)	ND(2)	ND(3)
BH-33	4/07/21	ND(2)	ND(2)	ND(2)	ND(3)
BH-34	4/07/21	**7100**	ND(1)	39	230
BH-35	4/07/21	ND(2)	ND(2)	ND(2)	ND(3)
BH-36	4/06/21	**170**	7.3	29	50
BH-37	4/06/21	ND(1)	ND(1)	ND(1)	ND(1.5)
BH-38	4/06/21	ND(5)	ND(5)	ND(5)	ND(7.5)
USEPA MCL HQ 1.0		5	1000	700	10000

-- - Not Analyzed
BTEX - Benzene, toluene, ethylbenzene, and total xylenes
HQ - Hazard Quotient
ID - Identification
MCL - Maximum Contaminant Level
ND - Not Detected at the Reporting Limit
µg/L - micrograms per Liter
USEPA - United States Environmental Protection Agency

Page 36 of 477

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

TABLE 3-1B. DATA SUMMARY, BTEX GROUNDWATER ANALYTICAL RESULTS, BENZENE INVESTIGATION REPORT
WESTERN REFINING TERMINALS LLC, D/B/A MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes, Total (µg/L)
BH-39	4/06/21	ND(2)	ND(2)	ND(2)	ND(3)
BH-40	4/06/21	**2800**	ND(1)	5	31
BH-41	4/06/21	**4100**	ND(2)	21	94
BH-42	4/06/21	ND(1)	ND(1)	ND(1)	ND(1.5)
BH-43	8/25/21	**2700**	ND(5)	150	320
BH-44	8/25/21	ND(2)	ND(2)	ND(2)	ND(3)
BH-45	8/25/21	ND(2)	ND(2)	ND(2)	ND(3)
BH-46	8/24/21	ND(1)	ND(1)	ND(1)	ND(1.5)
BH-47	8/25/21	ND(2)	ND(2)	ND(2)	ND(3)
BH-48	8/25/21	ND(1)	ND(1)	ND(1)	ND(1.5)
BH-49	8/25/21	ND(1)	ND(1)	ND(1)	ND(1.5)
BH-50	8/25/21	ND(2)	ND(2)	ND(2)	ND(3)
BH-51	8/24/21	ND(1)	ND(1)	ND(1)	ND(1.5)
BH-52	8/25/21	ND(2)	ND(2)	ND(2)	ND(3)
BH-53	1/22/22	**4330**	ND(1)	112	505
BH-54	1/22/22	**921**	1.58	135	292
BH-55	1/22/22	0.305	ND(1)	ND(1)	ND(10)
BH-56	1/21/22	**5.31**	104	19.3	121
BH-57	1/21/22	0.341	ND(1)	ND(1)	ND(10)
USEPA MCL HQ 1.0		5	1000	700	10000

-- - Not Analyzed
BTEX - Benzene, toluene, ethylbenzene, and total xylenes
HQ - Hazard Quotient
ID - Identification
MCL - Maximum Contaminant Level
ND - Not Detected at the Reporting Limit
µg/L - micrograms per Liter
USEPA - United States Environmental Protection Agency

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

TABLE 3-1B. DATA SUMMARY, BTEX GROUNDWATER ANALYTICAL RESULTS, BENZENE INVESTIGATION REPORT
WESTERN REFINING TERMINALS LLC, D/B/A MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes, Total (µg/L)
BH-58	1/22/22	ND(1)	ND(1)	ND(1)	ND(10)
BH-59	6/29/22	**990**	ND(4)	22	64
BH-60	6/29/22	**7800**	6.5	31	200
BH-61	6/29/22	0.49	ND(1)	ND(1)	ND(1.6)
BH-62	6/29/22	0.55	ND(1)	ND(1)	ND(1.6)
BH-63	6/28/22	**2700**	2.2	120	360
BH-65	10/12/23	ND(2)	ND(2)	ND(2)	ND(3)
BH-67	10/12/23	ND(2)	ND(2)	ND(2)	ND(3)
BH-68	10/11/23	**13**	ND(5)	ND(5)	ND(7.5)
BH-69	10/11/23	**3700**	ND(2)	4.9	71
BH-70	10/11/23	**7300**	ND(2)	170	340
BH-71	10/11/23	ND(2)	ND(2)	ND(2)	ND(3)
BH-72	10/11/23	1.4	ND(2)	ND(2)	ND(3)
BH-74	10/10/23	ND(2.0)	ND(2.0)	ND(2.0)	ND(3.0)
USEPA MCL HQ 1.0		5	1000	700	10000

-- - Not Analyzed
BTEX - Benzene, toluene, ethylbenzene, and total xylenes
HQ - Hazard Quotient
ID - Identification
MCL - Maximum Contaminant Level
ND - Not Detected at the Reporting Limit
µg/L - micrograms per Liter
USEPA - United States Environmental Protection Agency

Page 38 of 477

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

TABLE 3-2. DATA SUMMARY, BTEX SOIL ANALYTICAL RESULTS, BENZENE INVESTIGATION REPORT
WESTERN REFINING TERMINALS LLC, D/B/A MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes, Total (mg/kg)
BH-01 (23 ft)	2/24/20	1.3	ND(0.025)	ND(0.025)	0.089
BH-02 (13 ft)	2/25/20	0.027	ND(0.028)	ND(0.028)	ND(0.055)
BH-03 (15 ft)	2/25/20	**9.5**	2.1	0.7	7.8
BH-04 (19 ft)	2/26/20	ND(0.013)	ND(0.026)	ND(0.026)	ND(0.052)
BH-05 (14 ft)	2/26/20	ND(0.013)	ND(0.026)	ND(0.026)	ND(0.052)
BH-06 (11 ft)	2/27/20	ND(0.014)	ND(0.027)	ND(0.027)	ND(0.054)
BH-07 (14 ft)	2/27/20	ND(0.013)	ND(0.027)	ND(0.027)	ND(0.053)
BH-08 (8 ft)	2/25/20	1.8	0.36	2.5	21
BH-09 (19 ft)	2/26/20	0.52	ND(0.029)	ND(0.029)	ND(0.058)
BH-43 (6-7 ft)	8/25/21	2.1	ND(0.26)	0.49	3.7
BH-44 (13.5-14.5 ft)	8/25/21	ND(0.013)	ND(0.027)	ND(0.027)	ND(0.054)
BH-45 (12.5-13.5 ft)	8/25/21	ND(0.012)	ND(0.025)	ND(0.025)	ND(0.05)
BH-46 (10-10.5 ft)	8/24/21	ND(0.018)	ND(0.036)	ND(0.036)	ND(0.072)
BH-47 (24-25 ft)	8/25/21	ND(0.014)	ND(0.029)	ND(0.029)	ND(0.058)
BH-48 (10-11 ft)	8/25/21	ND(0.014)	ND(0.028)	ND(0.028)	ND(0.055)
BH-49 (11-12 ft)	8/25/21	ND(0.015)	ND(0.029)	ND(0.029)	ND(0.058)
BH-50 (9.8-10.8 ft)	8/25/21	ND(0.012)	ND(0.025)	ND(0.025)	ND(0.049)
BH-51 (21-22 ft)	8/24/21	ND(0.013)	ND(0.026)	ND(0.026)	ND(0.053)
BH-52 (13-14 ft)	8/25/21	ND(0.014)	ND(0.028)	ND(0.028)	ND(0.056)
2023 USEPA RSL Industrial Soil HQ 1.0		5.1	47000	25	2500

BTEX - Benzene, toluene, ethylbenzene, total xylenes
ft - feet
HQ - Hazard Quotient
ID - Identification
mg/kg - milligram per kilogram
ND - Not Detected at the Reporting Limit
RSL - Regional Screening Level
USEPA - United States Environmental Protection Agency

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

TABLE 3-2. DATA SUMMARY, BTEX SOIL ANALYTICAL RESULTS, BENZENE INVESTIGATION REPORT
WESTERN REFINING TERMINALS LLC, D/B/A MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes, Total (mg/kg)
BH-53 (29 ft)	1/22/22	0.0614	ND(0.151)	0.189	1.38
BH-54 (13 ft)	1/22/22	0.000731	ND(0.00634)	ND(0.00127)	ND(0.00253)
BH-55 (14 ft)	1/22/22	ND(0.00111)	ND(0.00554)	ND(0.00111)	ND(0.00222)
BH-56 (26 ft)	1/21/22	0.000773	ND(0.00583)	ND(0.00117)	ND(0.00233)
BH-57 (26 ft)	1/21/22	ND(0.00114)	ND(0.00571)	ND(0.00114)	ND(0.00229)
BH-58 (20 ft)	1/22/22	ND(0.00116)	ND(0.00579)	ND(0.00116)	ND(0.00232)
BH-59 (8 ft)	6/29/22	0.25	0.076	0.046	0.46
BH-60 (13 ft)	6/29/22	ND(0.011)	ND(0.022)	ND(0.022)	ND(0.043)
BH-61 (15 ft)	6/29/22	ND(0.014)	ND(0.027)	ND(0.027)	ND(0.054)
BH-62 (10.5 ft)	6/29/22	ND(0.013)	ND(0.026)	ND(0.026)	ND(0.051)
BH-63 (11.5 ft)	6/28/22	ND(0.012)	ND(0.025)	ND(0.025)	ND(0.05)
BH-74 (12-14 ft)	10/10/23	ND(0.025)	ND(0.050)	ND(0.050)	ND(0.10)
BH-75 (10-12 ft)	10/10/23	ND(0.025)	ND(0.050)	ND(0.050)	ND(0.10)
2023 USEPA RSL Industrial Soil HQ 1.0		5.1	47000	25	2500

BTEX - Benzene, toluene, ethylbenzene, total xylenes
ft - feet
HQ - Hazard Quotient
ID - Identification
mg/kg - milligram per kilogram
ND - Not Detected at the Reporting Limit
RSL - Regional Screening Level
USEPA - United States Environmental Protection Agency

Page 40 of 477

Appendix A – Boring Logs

A-1. Monitoring Well Boring Logs (WMW-09, WMW-10, WMW-11)

A-2. Non-Monitoring well Boring Logs

A-1. Monitoring Well Boring Logs (WMW-09, WMW-10, WMW-11)

Trihydro CORPORATION

Lithology Log

Sheet 1 of 1

LOCID: **WMW-9**

Project Name	Project Number	Site ID
Wingate Benzene Investigation Phase III	**697-072-003**	**Marathon Wingate Faciliy, Gallup NM**

Drilling Company	Driller	Ground Elevation	Total Drilled Depth
Terracon	**Jeff Cothron**	**6596.58'**	**15'**

Drilling Equipment	Drilling Method	Borehole Diameter	Date/Time Drilling Started	Date/Time Total Depth Reached
Track mounted drill rig	**Hollow stem auger**	**12.5"**	**4/7/2020 @ 14:00**	**4/7/2021 @ 15:30**

Type of Sampling Device	Water Level (bgs)	
	First **6'**	Final

Sample Hammer	Hydrogeologist	Checked by/Date
Type Driving Wt. **Drop**	**Wallace Coles**	**D. Bower 2/15/2024**

Location Description (include sketch in field logbook)
Marathon Wingate Facility Outside the SE corner of the faciliy fence. Between the fence and the rail spur.

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0-6				Hard red silty Clay, some fine to coarse grained sand, dry	(CL)s						0-1': TOV = 0.51 ppm Benzene = 0 ppm 5-6': TOV = 18.75 ppm Benzene = 0 ppm
6-6.5				Brown, fine to coarse grained sandy CLAY, saturated	s(CL)						
6.5-15				Brown fine to coarse grained SAND, saturated	SW						9-10ft: TOV = 20.11 ppm Benzene = 16.81 ppm 14-15': TOV = 18.75 ppm Benzene = 10.34 ppm
				Boring terminated at 15' below ground surface(bgs) Well installed at 15' bgs. Well screen installed 5' - 15' Well riser installed 5' - 0'							

Released to Imaging: 8/16/2024 2:26:48 PM

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCATION ID: **WMW-10**

Project Name	Project Number	Site ID
Wingate Benzene Investigation - Phase VI	**697-072-005**	

Drilling Company	Driller	Ground Elevation	Total Drilled Depth
Cascade	**RP/BS**	**6596.01'**	**15 feet-bgs**

Drilling Equipment	Drilling Method	Borehole Diameter	Date/Time Drilling Started	Date/Time Total Depth Reached
	DPT	**2.25"**	**10-21-22**	**10-21-22**

Type of Sampling Device	Water Level (bgs)	
Geoprobe - DPT Liner	First **8 feet-bgs**	Final **NA**

Sample Hammer	Hydrogeologist	Checked by/Date
Type: Pneumatic **NA** Driving Weight **NA**	**W. Coles**	**Aaron Wiggins 2-23-24**

Location Description (include sketch in field logbook)

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0											
1				Hand augured for borehole clearance, no lithology logged.							
2											
3											
4											
5				Brown/red, sandy (fine to coarse grained) CLAY, with some gravel, moist. No odor or staining.	s(CL)						PID Reading 3.6 PPM
6											
7											
8				Brown fine to coarse grained SAND, saturated. No staining, hydrocarbon odor present.	SW						PID Reading 2.2 PPM
9											
10											

Released to Imaging: 8/16/2024 2:26:48 PM

Trihydro CORPORATION

Lithology Log (continued) Sheet 2 of 2

LOCATION ID **WMW-10**

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Gray, clayey fine to medium grained SAND, saturated. No staining, hydrocarbon odor present.	SC						
11				Brown fine to medium grained SAND, saturated. No staining, hydrocarbon odor present.	SP						
12				Brown and gray fine to coarse grained SAND, saturated. No staining, hydrocarbon odor present.	SW						
13											
14											
15				Boring terminated at 15 ft bgs Soil samples collected at: 0.0' - 0.5' 5' - 6' 7' - 8' 14' - 15' Duplicate sample at 14.5' - 15'							
16											
17											
18											
19											
20											
21											
22											
23											

Released to Imaging: 8/16/2024 2:26:48 PM

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCATION ID: **WMW-11**

Project Name: **Wingate Benzene Investigation - Phase VI**	Project Number: **697-072-005**	Site ID:	
Drilling Company: **Cascade**	Driller: RP/BS	Ground Elevation: **6602.67'**	Total Drilled Depth: **20 feet-bgs**
Drilling Equipment:	Drilling Method: **DPT**	Borehole Diameter: **2.25"**	Date/Time Drilling Started: **10-22-22**
Date/Time Total Depth Reached: **10-22-22**			
Type of Sampling Device: **Geoprobe - DPT Liner**		Water Level (bgs): First **13 feet-bgs**	Final **NA**
Sample Hammer **NA** Type: Pneumatic **NA**	Driving Weight **NA**	Hydrogeologist: **W. Coles**	Checked by/Date: **Aaron Wiggins 2-23-24**

Location Description (include sketch in field logbook)

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0–5				Hand augured for borehole clearance, no lithology logged.							
5–10				Red/brown CLAY, moist. No staining and no odor present.	CL						PID Reading 1.5 PPM PID Reading 0.4 PPM

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 2

LOCATION ID: **WMW-11**

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Red/brown CLAY, moist. No staining and no odor present.	CL						PID Reading 0.9 PPM
11											
12											
13				Red/brown clayey fine to coarse grained SAND, saturated. No odor or staining observed.	SC						
14											
15											
16											
17											
18											
19											
20				Boring terminated at 20 ft bgs Soil samples collected at: 0.0' - 0.5' 5' - 6' 12' - 13' 19' - 20'							
21											
22											
23											

A-2. Non-Monitoring well Boring Logs

Trihydro CORPORATION

Lithology Log

Sheet 1 of 3

LOCATION ID: **BH-01**

Project Name	Project Number	Site ID
Wingate Benzene Investigation	**697-072-001**	

Drilling Company	Driller	Ground Elevation	Total Drilled Depth
Yellow Jacket	**SL**		**30 feet-bgs**

Drilling Equipment	Drilling Method	Borehole Diameter	Date/Time Drilling Started	Date/Time Total Depth Reached
Track Mounted	**HSA**	**8.5 inches**	**2/24/2020**	**2/24/2020**

Type of Sampling Device	Water Level (bgs)	
Continuous Sampler	First **10 feet-bgs**	Final

Sample Hammer	Hydrogeologist	Checked by/Date
Type **NA** Driving Weight **Drop**	**W. Coles**	**D. Bower 2/15/2024**

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, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0				Roadbase/gravel, crushed asphalt							
1											
2				Red/brown fat CLAY, moist, black staining present from 3' - 5'	CH						Hand augered to 5' bgs to clear borehole location
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											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 3

LOCATION ID **BH-01**

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Same as above	CH						
15				Brown fine to medium grained SAND, moist to saturated (25')	SP						Soil sample collected at 23'. TOV/Benzene = 1.3/1.3 ppm
23											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 3 of 3

LOCATION ID **BH-01**

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
23				Same as above	SP						Groundwater sample taken 2/27/2020
24											
25											
26											
27											
28											
29											
30				Boring terminated at 30' bgs							
31											
32											
33											
34											
35											
36											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCATION ID: **BH-02**

Project Name	Project Number	Site ID
Wingate Benzene Investigation	**697-072-001**	

Drilling Company	Driller	Ground Elevation	Total Drilled Depth
Yellow Jacket	**SL**		**20 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 **15 feet-bgs**	Final

Sample Hammer	Hydrogeologist	Checked by/Date
Type **NA** Driving Weight **Drop**	**W. Coles**	**D. Bower 2/15/2024**

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, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0				Roadbase and gravel	GP						Hand augered to 5' bgs to clear borehole 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											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 2

LOCATION ID **BH-02**

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Same as above	CH						Soil sample collected @13'. TOV/Benzene at 1.0/0.6 ppm
15				Saturated fine to medium grained sand (from cuttings); no recovery in sampler barrel	SP						Groundwater sample taken 2/27/2020
20				Boring terminated at 20' bgs							
23											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCATION ID: **BH-03**

Project Name	Project Number	Site ID
Wingate Benzene Investigation	**697-072-001**	

Drilling Company	Driller	Ground Elevation	Total Drilled Depth
Yellow Jacket	**SL**		**20 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 **10 feet-bgs**	Final

Sample Hammer	Hydrogeologist	Checked by/Date
Type **NA** Driving Weight **Drop**	**W. Coles**	**D. Bower 2/15/2024**

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, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0				Gravel, layer of geotextile at 1'							Hand augered to 5' bgs to clear borehole 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											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 2

LOCATION ID **BH-03**

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Same as above, wet at 17'	CH						Soil sample collected at 15'. TOV/Benzene = 69/0.6 ppm
17				Gray, fine to medium grained SAND, hydrocarbon odor present, saturated	SP						Groundwater sample taken 2/27/2020
20				Boring terminated at 20' bgs							

Trihydro CORPORATION

Lithology Log

Sheet 1 of 3

LOCATION ID: **BH-04**

Project Name: **Wingate Benzene Investigation**	Project Number: **697-072-001**	Site ID:	
Drilling Company: **Yellow Jacket**	Driller: **SL**	Ground Elevation:	Total Drilled Depth: **25 feet-bgs**
Drilling Equipment: **Track Mounted**	Drilling Method: **HSA**	Borehole Diameter: **8.5 inches**	Date/Time Drilling Started: **2/26/2020**	Date/Time Total Depth Reached: **2/26/2020**
Type of Sampling Device: **Continuous Sampler**			Water Level (bgs): First **10 feet-bgs** Final **21 feet-bgs**
Sample Hammer: Type **NA** Driving Weight **Drop**			Hydrogeologist: **W. Coles**	Checked by/Date: **D. Bower 2/15/2024**

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, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0				Gravel							Hand augered to 5' bgs to clear borehole location
1–5				Red/brown fat CLAY, black staining from 2.5' - 5'	CH						
5–10				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

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 3

LOCATION ID **BH-04**

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

Trihydro CORPORATION

Lithology Log (continued)

Sheet 3 of 3

LOCATION ID **BH-04**

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
23				Brown fine grained SAND, no staining or odor observed, saturated	SP						Groundwater sample taken 2/27/2020
24											
25				Boring terminated at 25' bgs							
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCATION ID: **BH-05**

Project Name: **Wingate Benzene Investigation**		Project Number: **697-072-001**	Site ID:	
Drilling Company: **Yellow Jacket**	Driller: **SL**	Ground Elevation:		Total Drilled Depth: **20 feet-bgs**
Drilling Equipment: **Track Mounted**	Drilling Method: **HSA**	Borehole Diameter: **8.5 inches**	Date/Time Drilling Started: **2/26/2020**	Date/Time Total Depth Reached: **2/26/2020**
Type of Sampling Device: **Continuous Sampler**			Water Level (bgs): First **10 feet-bgs**	Final
Sample Hammer: Type **NA** Driving Weight **Drop**			Hydrogeologist: **W. Coles**	Checked by/Date: **D. Bower 2/15/2024**
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, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0				Gravel	GP						
1				Red/brown fat CLAY, staining and slight HC odor from 2.5' - 5', moist	CH						Hand augered to 5' bgs to clear borehole location
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											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 2

LOCATION ID **BH-05**

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Same as above	CH						
11											
12				Brown, red, and gray mottled CLAY, moist, no odor or staining observed, wet at 16'							
13											
14											Soil sample collected at 14'; TOV/Benzene = 0.3/0.0 ppm
15					CL						
16											
17											
18											
19				Brown fine to medium grained SAND, little clay; black staining and slight HC odor present, saturated	SP-SC						Groundwater sample taken 2/27/2020
20											
21				Boring terminated at 20' bgs							
22											
23											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCATION ID: **BH-06**

Project Name: **Wingate Benzene Investigation**		Project Number: **697-072-001**	Site ID:	
Drilling Company: **Yellow Jacket**	Driller: **SL**	Ground Elevation:	Total Drilled Depth: **15 feet-bgs**	
Drilling Equipment: **Track Mounted**	Drilling Method: **HSA**	Borehole Diameter: **8.5 inches**	Date/Time Drilling Started:	Date/Time Total Depth Reached:
Type of Sampling Device: **Continuous Sampler**			Water Level (bgs): First **6 feet-bgs**	Final
Sample Hammer: Type **NA** Driving Weight **Drop**			Hydrogeologist: **W. Coles**	Checked by/Date: **D. Bower 2/15/2024**
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, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0				Red/brown CLAY, moist, no staining/odor observed	CL						Hand augered to 5' bgs to clear borehole location
5				Same as above, wet zone at 6'	CL						Drilled using hollow stem augers and continuous sampler
10											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 2

LOCATION ID **BH-06**

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Same as above	CL						Soil sampled at 11'; TOV/Benezene = 0.0/0.0 ppm
11											
12											
13				Brown fine to medium grained SAND, no staining or odor noted in soils	SP						Groundwater sample taken 2/28/2020 Duplicate Groundwater sample taken 2/28/2020
14											
15				Boring terminated at 15' bgs							
16											
17											
18											
19											
20											
21											
22											
23											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCATION ID: **BH-07**

Project Name: **Wingate Benzene Investigation**		Project Number: **697-072-001**	Site ID:	
Drilling Company: **Yellow Jacket**	Driller: **SL**	Ground Elevation:		Total Drilled Depth: **20 feet-bgs**
Drilling Equipment: **Track Mounted**	Drilling Method: **HSA**	Borehole Diameter: **8.5 inches**	Date/Time Drilling Started: **2/27/2020**	Date/Time Total Depth Reached: **2/27/2020**
Type of Sampling Device: **Continuous Sampler**			Water Level (bgs): First **16 feet-bgs**	Final
Sample Hammer: Type **NA** Driving Weight **Drop**			Hydrogeologist: **W. Coles**	Checked by/Date: **D. Bower 2/15/2024**
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, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0				Asphalt and sub base material							Hand augered to 5' bgs to clear borehole location
3				Red/brown fat CLAY, moist, no odor or staining observed	CH						
5				Same as above	CH						Drilled using hollow stem augers and continuous sampler
10											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 2

LOCATION ID **BH-07**

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Same as above							
11											
12					CH						
13											Soil sample collected at 14'; TOV/Benzene = 0.0/0.0 ppm
14											
15				Gray CLAY, little fine to medium grained sand, moist, no odor or staining observed	(CL)s						
16											
17											
18				Brown fine to medium grained SAND, little clay, saturated	SP-SC						
19											Groundwater sample taken 2/28/2020
20											
21				Boring terminated at 20' bgs							
22											
23											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCATION ID: **BH-08**

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 **10 feet-bgs**	Final

Sample Hammer	Hydrogeologist	Checked by/Date
Type **NA** Driving Weight **Drop**	**W. Coles**	**D. Bower 2/15/2024**

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, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0				Gravel, rocks, roadbase	GP						Hand augered to 5' bgs to clear borehole location
1											
2				Red/brown fat CLAY, moist, stained (black) with strong hydrocarbon odor from 3' - 5'	CH						
3											
4											
5				Red/brown fat CLAY, black staining present, HC odor present	CH						Drilled using hollow stem augers and continuous sampler Soil sampled at 8'; TOV/Benzene = 200+ (over range)/0.6 ppm
6											
7											
8											
9											
10											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 2

LOCATION ID **BH-08**

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Gray, black stained, fine to medium grained SAND, saturated	SP						Groundwater sample taken 2/27/2020
15				Boring terminated at 15' bgs							
16											
17											
18											
19											
20											
21											
22											
23											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 3

LOCATION ID: **BH-09**

Project: **Wingate Benzene Investigation**	Project Number: **697-072-001**	Site ID:	
Drilling Company: **Yellow Jacket**	Driller:	Ground Elevation:	Total Drilled Depth: **25 feet-bgs**
Drilling Equipment: **Track Mounted**	Drilling Method: **HSA**	Borehole Diameter: **8.5 inches**	Date/Time Drilling Started:	Date/Time Total Depth Reached:
Type of Sampling Device: **Continuous Sampler**		Water Level (bgs): First **21 feet-bgs** Final	
Sample Hammer: Type **NA** Driving Weight **Drop**		Hydrogeologist: **W. Coles**	Checked by/Date: **D. Bower 2/15/2024**

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, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0				Gravel	GP						
1				Red/brown fat CLAY, black staining present 3' - 5', moist	CH						Hand augered to 5' bgs to clear borehole location
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											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 3

LOCATION ID **BH-09**

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

Trihydro CORPORATION

Lithology Log (continued)

Sheet 3 of 3

LOCATION ID **BH-09**

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
23				Same as above							
24					SP						Groundwater sample taken 2/27/2020
25				Boring terminated at 25' bgs							
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCID: **BH-43**

Project Name: **Wingate Benzene Investigation Phase IV**	Project Number: **697-072-003**	Site ID: **Marathon Wingate Facility, Gallup NM**	
Drilling Company: **Terracon**	Driller: **Jeff Cothron**	Ground Elevation:	Total Drilled Depth: **15'**
Drilling Equipment: **CME 55 Track Mounted Drill Rig**	Drilling Method: **Direct Push**	Borehole Diameter: **2.25"**	Date/Time Drilling Started: **8/25/2021 @ 14:00**
Date/Time Total Depth Reached: **8/25/2021 @ 14:20**			
Type of Sampling Device: **5' Continuous Core**		Water Level (bgs): First **6'** Final	
Sample Hammer: Type Driving Wt. **Drop**		Geologist/Engineer: **Kara Hoppes**	Checked by/Date: **Aaron Wiggins 1/8/2024**
Weather: **Hot, Sunny Slight Breeze**		Other Personnel Present	
Site Conditions			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
0				Hand Augured							
5				Clay, sandy, very fine-grained to fine-grained, soft, moist, moderate plasticity, brown, strong hydrocarbon odor, gray hydrocarbon staining.	s(CL)				40	60	
6				Clay, sandy, very fine-grained to fine-grained, soft, saturated, high plasticity, brown to gray, with interbedded sand lenses.	s(CL)				20	80	PID 53.23 ppm Soil sample taken 6-7' bgs
8				Sand, clayey, very fine-grained to fine-grained, loose, saturated, poorly sorted, low plasticity, light brown to brown.	SC				60	40	
10											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 2

LOCID
BH-43

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Sand, silty, clayey, very fine-grained to fine-grained, loose, saturated, moderately sorted, low plasticity, gray to green, with interbedded clay lenses.	SM-SC				70	30	Groundwater sample taken 8/25/2021 14:25
11											
12											
13											
14											
15				Total Depth 15'							
16											
17											
18											
19											
20											
21											
22											
23											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCID: **BH-44**

Project Name: **Wingate Benzene Investigation Phase IV**	Project Number: **697-072-003**	Site ID: **Marathon Wingate Facility, Gallup NM**	
Drilling Company: **Terracon**	Driller: **Jeff Cothron**	Ground Elevation:	Total Drilled Depth: **20'**
Drilling Equipment: **CME 55 Track Mounted Drill Rig**	Drilling Method: **Direct Push**	Borehole Diameter: **2.25"**	Date/Time Drilling Started: **8/25/2021 @ 09:17**
Date/Time Total Depth Reached: **8/25/2021 @ 09:35**			
Type of Sampling Device: **5' Continuous Core**		Water Level (bgs): First **13.5'** Final	
Sample Hammer: Type Driving Wt. **Drop**		Geologist/Engineer: **Kara Hoppes**	Checked by/Date: **Aaron Wiggins 1/8/2024**
Weather: **Hot, Sunny Slight Breeze**		Other Personnel Present	
Site Conditions			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
0				Hand Augured							
1											
2											
3											
4											
5				Not Sampled							
6											
7											
8											
9											
10											

Released to Imaging: 8/16/2024 2:26:48 PM

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 2

LOCID
BH-44

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Sand, trace gravelly, fine-grained to coarse-grained, loose, dry , poorly to well sorted, sub rounded, non-plastic, light brown to reddish brown, gravels from 0.5-2.5cm.	(SW)g			5	95		
11											
12											
13				Sand, gravelly, clayey, fine-grained to coarse-grained, loose, dry , poorly sorted, sub rounded to sub angular, non-plastic, light brown to white to rust to pink, gravels from 0.5-1cm.	(SW)g			40	50	10	
14				Clay, sandy, very fine-grained to fine-grained, soft, saturated, high plasticity, reddish brown, with interbedded sand lenses.	(CL)s				10	90	PID 0.0 ppm Soil sample taken 13.5-14.5' bgs
15				Sand, fine-grained to medium-grained, loose, saturated, well sorted, sub rounded to sub angular, non-plastic, tan.	SP					100	
16											
17											
18											
19											Groundwater sample taken 8/25/2021 09:45
20											
21				Total Depth 20'							
22											
23											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCID: **BH-45**

Project Name: **Wingate Benzene Investigation Phase IV**	Project Number: **697-072-003**	Site ID: **Marathon Wingate Facility, Gallup NM**	
Drilling Company: **Terracon**	Driller: **Jeff Cothron**	Ground Elevation:	Total Drilled Depth: **20'**
Drilling Equipment: **CME 55 Track Mounted Drill Rig**	Drilling Method: **Direct Push**	Borehole Diameter: **2.25"**	Date/Time Drilling Started: **8/25/2021 @ 10:09**
Date/Time Total Depth Reached: **8/25/2021 @ 10:35**			
Type of Sampling Device: **5' Continuous Core**		Water Level (bgs): First **12.5'** Final	
Sample Hammer: Type Driving Wt. **Drop**		Geologist/Engineer: **Kara Hoppes**	Checked by/Date: **Aaron Wiggins 1/8/2024**
Weather: **Hot, Sunny Slight Breeze**		Other Personnel Present	
Site Conditions			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
0–5				Hand Augured							
5–10				Not Sampled							

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 2

LOCID
BH-45

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Sand, gravelly, silty, clayey, very fine-grained to medium-grained, loose, dry to moist, poorly to moderately sorted, rounded to angular, non-plastic, redish brown, gravels from 0.5-2.5cm.	SW-SM/SC			10	70	20	
11											
12									60	40	PID 0.1 ppm
13				Sand, clayey, very fine-grained to fine-grained, loose, dry to moist to saturated, poorly sorted, low plasticity , light brown to brown.	SC						Soil sample taken 12.5-13.5' bgs
14				Sand, fine-grained to medium-grained, loose, saturated, well sorted, rounded to sub rounded, non-plastic, tan.						100	
15					SW						
16											
17											
18				Sand, silty, very fine-grained to fine-grained, loose, saturated, well sorted, sub rounded to subangular, non-plastic, tan					80	20	
19					SM-SP						Groundwater sample taken 8/25/2021 10:40
20				Total Depth 20'							
21											
22											
23											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCID: **BH-46**

Project Name: **Wingate Benzene Investigation Phase IV**	Project Number: **697-072-003**	Site ID: **Marathon Wingate Facility, Gallup NM**	
Drilling Company: **Terracon**	Driller: **Jeff Cothron**	Ground Elevation:	Total Drilled Depth: **20'**
Drilling Equipment: **CME 55 Track Mounted Drill Rig**	Drilling Method: **Direct Push**	Borehole Diameter: **2.25"**	Date/Time Drilling Started: **8/24/2021 @ 14:45**
Date/Time Total Depth Reached: **8/24/2021 @ 15:30**			
Type of Sampling Device: **5' Continuous Core**		Water Level (bgs): First **10'**	Final
Sample Hammer — Type:	Driving Wt.: **Drop**	Geologist/Engineer: **Kara Hoppes**	Checked by/Date: **Aaron Wiggins 1/8/2024**
Weather: **Hot, Sunny Slight Breeze**		Other Personnel Present	
Site Conditions			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
0				Hand Augured							
1											
2											
3											
4											
5				Clay, silty, very fine-grained, stiff, dry, high plasticity, reddish brown.	CL-ML					100	
6											
7											
8											
9											
10											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 2

LOCID
BH-46

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Sand, silty, very fine-grained to fine-grained, loose, saturated, well sorted, sub rounded to subangular, non-plastic, tan.	SM-SP				90	10	PID 0.0 ppm Soil sample taken 10-10.5' bgs
11				Sand, fine-grained to medium-grained, loose, saturated, well sorted, rounded to sub rounded, non-plastic, tan.					100		
12											
13					SW						
14											Groundwater sample taken 8/24/2021 15:45
15				Not Sampled							
16											
17											
18											
19											
20				Total Depth 20'							
21											
22											
23											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 3

LOCID: **BH-47**

Project Name: **Wingate Benzene Investigation Phase IV**	Project Number: **697-072-003**	Site ID: **Marathon Wingate Facility, Gallup NM**	
Drilling Company: **Terracon**	Driller: **Jeff Cothron**	Ground Elevation	Total Drilled Depth: **25'**
Drilling Equipment: **CME 55 Track Mounted Drill Rig**	Drilling Method: **Direct Push**	Borehole Diameter: **2.25"**	Date/Time Drilling Started: **8/24/2021 @ 16:14**
			Date/Time Total Depth Reached: **8/25/2021 @ 07:15**
Type of Sampling Device: **5' Continuous Core**		Water Level (bgs): First **24'**	Final
Sample Hammer — Type	Driving Wt.: **Drop**	Geologist/Engineer: **Kara Hoppes**	Checked by/Date: **Aaron Wiggins 1/9/2024**
Weather: **Hot, Sunny, Windy**		Other Personnel Present	
Site Conditions			

Location Description (include sketch in field logbook)

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
0				Hand Augured							
1											
2											
3											
4											
5				Not Sampled							
6											
7											
8											
9											
10											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 3

LOCID
BH-47

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Clay, silty, very fine-grained, stiff, dry, high plasticity, calcareous, reddish brown.	CL						
11											
12											
13											
14											
15											
16											
17				Clay, silty, very fine-grained, stiff, dry to moist, high plasticity, brown.	CL						
18											
19											
20											
21											
22											
23											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 3 of 3

LOCID
BH-47

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
23											Groundwater sample taken 8/25/2021 07:35
24				Sand, gravelly, fine-grained, loose, saturated, well sorted, rounded to sub-rounded, non-plastic, brown, gravels 0.5cm	(SP)g		▽	10	90		PID 0.0 ppm Soil sample taken 24-25' bgs
25				Total Depth 25'							
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
35											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCID: **BH-48**

Project Name: **Wingate Benzene Investigation Phase IV**	Project Number: **697-072-003**	Site ID: **Marathon Wingate Facility, Gallup NM**	
Drilling Company: **Terracon**	Driller: **Jeff Cothron**	Ground Elevation	Total Drilled Depth: **20'**
Drilling Equipment: **CME 55 Track Mounted Drill Rig**	Drilling Method: **Direct Push**	Borehole Diameter: **2.25"**	Date/Time Drilling Started: **8/25/2021 @ 08:18**
			Date/Time Total Depth Reached: **8/25/2021 @ 08:40**
Type of Sampling Device: **5' Continuous Core**		Water Level (bgs): First **10'**	Final
Sample Hammer — Type	Driving Wt. **Drop**	Geologist/Engineer: **Kara Hoppes**	Checked by/Date: **Aaron Wiggins 1/9/2024**
Weather: **Good Temp, Sunny, Slight Breeze**		Other Personnel Present	
Site Conditions			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
0–5				Hand Augured							
5–10				Not Sampled							

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 2

LOCID
BH-48

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Sand, silty, very fine-grained to fine-grained, loose, saturated, well sorted, sub rounded to subangular, non-plastic, tan.	SM				90	10	PID 0.0 ppm Soil sample taken 10-11' bgs
11				Clay, sandy, very fine-grained to fine-grained, soft to moderately stiff, moist to saturated, moderate plasticity, tan.	(CL)s				30	70	
12											
13				Sand, silty, very fine-grained to medium-grained, loose, saturated, moderately to well sorted, sub rounded to subangular, non-plastic, tan.	SM				90	10	Groundwater sample taken 8/25/2021 08:55 Duplicate Groundwater sample taken
14											
15											
16											
17											
18											
19											
20				Total Depth 20'							
21											
22											
23											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCID: **BH-49**

Project Name: **Wingate Benzene Investigation Phase IV**	Project Number: **697-072-003**	Site ID: **Marathon Wingate Facility, Gallup NM**	
Drilling Company: **Terracon**	Driller: **Jeff Cothron**	Ground Elevation	Total Drilled Depth: **20'**
Drilling Equipment: **CME 55 Track Mounted Drill Rig**	Drilling Method: **Direct Push**	Borehole Diameter: **2.25"**	Date/Time Drilling Started: **8/25/2021 @ 10:58**
			Date/Time Total Depth Reached: **8/25/2021 @ 12:00**
Type of Sampling Device: **5' Continuous Core**		Water Level (bgs): First **11'** Final	
Sample Hammer — Type: Driving Wt.: **Drop**		Geologist/Engineer: **Kara Hoppes**	Checked by/Date: **Aaron Wiggins 1/9/2024**
Weather: **Hot, Sunny, Slight Breeze**		Other Personnel Present	
Site Conditions			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
0				Hand Augured							
1											
2											
3											
4											
5				Not Sampled							
6											
7											
8											
9											
10											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 2

LOCID
BH-49

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Clay, silty, very fine-grained, medium stiff, moist, high plasticity, grayish tan.	CL					100	
11				Sand, fine-grained to medium grained, loose, saturated, well sorted, rounded to sub rounded, non-plastic, tan to rust, with interbedded clay lenses.					100		PID 19.19 ppm Soil sample taken 11-12' bgs
12											
13											
14											
15					SP						
16											
17											
18											
19											Groundwater sample taken 8/25/2021 12:10
20				Total Depth 20'							
21											
22											
23											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCID: **BH-50**

Project Name: **Wingate Benzene Investigation Phase IV**	Project Number: **697-072-003**	Site ID: **Marathon Wingate Facility, Gallup NM**	
Drilling Company: **Terracon**	Driller: **Jeff Cothron**	Ground Elevation:	Total Drilled Depth: **15'**
Drilling Equipment: **CME 55 Track Mounted Drill Rig**	Drilling Method: **Direct Push**	Borehole Diameter: **2.25"**	Date/Time Drilling Started: **8/25/2021 @ 12:50**
			Date/Time Total Depth Reached: **8/25/2021 @ 13:05**
Type of Sampling Device: **5' Continuous Core**		Water Level (bgs): First **10** Final	
Sample Hammer — Type: Driving Wt.: **Drop**		Geologist/Engineer: **Kara Hoppes**	Checked by/Date: **Aaron Wiggins 1/9/2024**
Weather: **Hot, Sunny, Breezy**		Other Personnel Present	
Site Conditions			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
0				Hand Augured							
1											
2											
3											
4											
5				Clay, silty, very fine-grained, stiff, dry, high plasticity, reddish brown.	CL					100	
6											
7											
8											
9											
10											Soil sample taken 9.8-10.8' bgs

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 2

LOCID
BH-50

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Sand, clayey, very fine-grained to fine-grained, loose, saturated, well sorted, low plasticity, brown.	SC				80	20	PID 0.0 ppm
11											
12				Sand, clayey, very fine-grained to fine-grained, loose, saturated, poorly sorted, moderately plasticity, tan.	SC				55	45	
13				Sand, fine-grained to medium grained, loose, saturated, well sorted, rounded to sub-rounded, non-plastic, tan.	SP				100		
14											Groundwater sample taken 8/25/2021 13:12
15				Total Depth 15'							
16											
17											
18											
19											
20											
21											
22											
23											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 3

LOCID: **BH-51**

Project Name: **Wingate Benzene Investigation Phase IV**	Project Number: **697-072-003**	Site ID: **Marathon Wingate Faciliy, Gallup NM**	
Drilling Company: **Terracon**	Driller: **Jeff Cothron**	Ground Elevation	Total Drilled Depth: **25'**
Drilling Equipment: **CME 55 Track Mounted Drill Rig**	Drilling Method: **Direct Push**	Borehole Diameter: **2.25"**	Date/Time Drilling Started: **8/24/2021 @ 11:50**
			Date/Time Total Depth Reached: **8/24/2021 @ 12:30**
Type of Sampling Device: **5' Continuous Core**		Water Level (bgs): First **21'**	Final
Sample Hammer — Type	Driving Wt.: **Drop**	Geologist/Engineer: **Kara Hoppes**	Checked by/Date: **Aaron Wiggins 1/9/2024**
Weather: **Hot, Sunny, Windy**		Other Personnel Present	
Site Conditions			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
0				Hand Augured							
1											
2											
3											
4											
5				Clay, silty, very fine-grained, very stiff, dry, high plasticity, brown.	CL					100	
6											
7											
8											
9											
10											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 3

LOCID
BH-51

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Clay, silty, very fine-grained, very stiff, dry to moist, high plasticity, calcareous, reddish brown to brown.						100	
11											
12											
13											
14											
15					CL						
16											
17											
18											
19											
20											
21				Sand, silty, clayey, very fine-grained to fine-grained, loose, saturated, poorly sorted, moderate plasticity, tan.					60	40	PID 0.0 ppm
22					SC-SM						Soil sample taken 21-22' bgs
23											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 3 of 3

LOCID
BH-51

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
23											
24											Groundwater sample taken 8/24/2021 14:05
25				Total Depth 25'							
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 3

LOCID: **BH-52**

Project Name: **Wingate Benzene Investigation Phase IV**	Project Number: **697-072-003**	Site ID: **Marathon Wingate Facility, Gallup NM**	
Drilling Company: **Terracon**	Driller: **Jeff Cothron**	Ground Elevation	Total Drilled Depth: **25'**
Drilling Equipment: **CME 55 Track Mounted Drill Rig**	Drilling Method: **Direct Push**	Borehole Diameter: **2.25"**	Date/Time Drilling Started: **8/25/2021 @ 15:03**
			Date/Time Total Depth Reached: **8/25/2021 @ 15:25**
Type of Sampling Device: **5' Continuous Core**		Water Level (bgs): First **13'**	Final
Sample Hammer — Type	Driving Wt. **Drop**	Geologist/Engineer: **Kara Hoppes**	Checked by/Date: **Aaron Wiggins 1/9/2024**
Weather: **Hot, Sunny, Slight Breeze**		Other Personnel Present	
Site Conditions			

Location Description (include sketch in field logbook)

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
0–5				Hand Augured							
5–10				Clay, silty, very fine-grained, stiff, dry, high plasticity, reddish brown, with interbedded sand lenses.	CL					100	

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 3

LOCID
BH-52

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Clay, silty, very fine-grained, soft to medium stiff, moist, high plasticity, reddish brown, with interbedded sand lenses.	CL					100	
11											
12											
13				Sand, clayey, very fine-grained to fine-grained, loose, saturated, poorly sorted, moderately plasticity, tan.	SC				55	45	PID 0.0 ppm Soil sample taken 13-14' bgs
14											
15				Clay, silty, very fine-grained, stiff, dry to very moist, high plasticity, brown. Not Sampled 15-20', attemted to sample groundwater, dry when sampled	CL					100	
16											
17											
18											
19											
20											
21				Clay, sandy, very fine-grained to fine-grained, moderatly stiff, moist to saturated, moderate plasticity, brown.	CL				80	20	
22											
23											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 3 of 3

LOCID
BH-52

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
23											
24				Sand, fine-grained to medium grained, loose, saturated, well sorted, rounded to sub-rounded, non-plastic, tan.	SP				100		Groundwater sample taken 8/25/2021 16:02
25				Total Depth 25'							
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 3

LOCATION ID: **BH-53**

Project Name: **Wingate Benzene Investigation - Phase V**	Project Number: **697-072-004**	Site ID: **Marathon Wingate Facility, Gallup, NM**	
Drilling Company: **Yellow Jacket**	Driller:	Ground Elevation:	Total Drilled Depth: **32 feet-bgs**
Drilling Equipment: **CME 55**	Drilling Method: **DPT**	Borehole Diameter: **3.25"**	Date/Time Drilling Started: **1-22-22**	Date/Time Total Depth Reached: **1-22-22**
Type of Sampling Device: **DPT - Sample liners**		Water Level (bgs): First __ feet-bgs	Final NA
Sample Hammer NA; Type: **Direct Push**; Driving Weight **NA**		Hydrogeologist: **W. Coles**	Checked by/Date: **D. Bower 2/15/2024**
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0				Air knifed from 0 - 5'							
5				Red/brown CLAY, stiff, plastic, no staining, no odor	CL						
9				Red/brown fine grained sandy CLAY, no staining, no odor	CL						
10											

Trihydro CORPORATION

LOCATION ID **BH-53**

Lithology Log (continued)

Sheet 2 of 3

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Red/brown CLAY, stiff, plastic, no staining, no odor	CL						
11											
12											
13				Brown fine to medium grained SAND, damp with interbedded wet layers 2-3" thick, no staining, no odor	SP						
14											
15											
16											
17											
18											
19											
20				Brown, silty fine grained SAND, gray inclusions, damp, no odor	SM-SP						
21											
22											
23											

Trihydro CORPORATION

LOCATION ID **BH-53**

Lithology Log (continued)

Sheet 3 of 3

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
23				Brown, silty fine grained SAND, gray inclusions, damp, no odor							
24											
25					SM-SP						
26											
27				Brown fine to coarse grained SAND, some gravel, gray staining, slight hydrocarbon odor, damp	SW						
28				Brown, fine to coarse grained SAND, damp to wet. Saturated zone at 30' bgs with strong hydrocarbon odor.							Soil sample collected at 29' bgs above saturated zone. PID reading 44.48 PPM
29											
30					SW						Groundwater sample taken 1/22/2022 13:45
31											
32				Boring terminated at 32' bgs							
33											
34											
35											
36											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCATION ID: **BH-54**

Project Name: **Wingate Benzene Investigation - Phase V**	Project Number: **697-072-004**	Site ID: **Marathon Wingate Facility, Gallup, NM**	
Drilling Company: **Yellow Jacket**	Driller:	Ground Elevation:	Total Drilled Depth: **18 feet-bgs**
Drilling Equipment: **CME 55**	Drilling Method: **DPT**	Borehole Diameter: **3.25"**	Date/Time Drilling Started: **1-22-22**	Date/Time Total Depth Reached: **1-22-22**
Type of Sampling Device: **DPT - Sample liners**		Water Level (bgs): First __ feet-bgs	Final NA
Sample Hammer NA; Type: **Direct Push**; Driving Weight **NA**		Hydrogeologist: **W. Coles**	Checked by/Date: **D. Bower 2/15/2024**
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0				Air knifed 0-5'							
5				Red/brown CLAY, with gray and black staining, no odor	CL						
10											

Trihydro CORPORATION

LOCATION ID **BH-54**

Lithology Log (continued)

Sheet 2 of 2

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Red/brown CLAY, with gray and black staining, no odor	CL						
11											
12											
13				Brown, fine to medium grained SAND, wet to saturated, no odor, no staining	SP						Soil sample collected at 13' bgs, above wet zone. PID reading 0.0 PPM
14											
15											
16											Groundwater sample taken 1/22/2022 14:50
17											
18				Boring terminated at 18' bgs							
19											
20											
21											
22											
23											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCATION ID: **BH-55**

Project Name: **Wingate Benzene Investigation - Phase V**	Project Number: **697-072-004**	Site ID: **Marathon Wingate Facility, Gallup, NM**	
Drilling Company: **Yellow Jacket**	Driller:	Ground Elevation:	Total Drilled Depth: **18 feet-bgs**
Drilling Equipment: **CME 55**	Drilling Method: **DPT**	Borehole Diameter: **3.25"**	Date/Time Drilling Started: **1-22-22**	Date/Time Total Depth Reached: **1-22-22**
Type of Sampling Device: **DPT - Sample liners**		Water Level (bgs): First __ feet-bgs	Final NA
Sample Hammer NA; Type: **Direct Push**; Driving Weight **NA**		Hydrogeologist: **W. Coles**	Checked by/Date: **D. Bower 2/15/2024**
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0–5				Hand augured 0-5'							
5–10				Red/brown CLAY, stiff, plastic, black staining, no odor, zone of perched water at 7' bgs	CL						

Trihydro CORPORATION

LOCATION ID **BH-55**

Lithology Log (continued)

Sheet 2 of 2

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Gray, fine grained sandy CLAY, moist. No staining, no odor	s(CL)						
11				Gray and brown, fine to coarse grained SAND, some gravel, no odor, no staining							
12											
13											Soil sample collected at 14' bgs, above saturated zone. PID reading 0.0 PPM
14				Same as above, saturated.	SW						
15											
16											
17											Groundwater sample taken 1/22/2022 09:55
18				Boring terminated at 18' bgs							
19											
20											
21											
22											
23											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 3

LOCATION ID: **BH-56**

Project Name: **Wingate Benzene Investigation - Phase V**	Project Number: **697-072-004**	Site ID: **Marathon Wingate Facility, Gallup, NM**	
Drilling Company: **Yellow Jacket**	Driller:	Ground Elevation:	Total Drilled Depth: **28 feet-bgs**
Drilling Equipment: **CME 55**	Drilling Method: **DPT**	Borehole Diameter: **3.25"**	Date/Time Drilling Started: **1-21-22**	Date/Time Total Depth Reached: **1-21-22**
Type of Sampling Device: **DPT - Sample liners**		Water Level (bgs): First __ feet-bgs	Final NA
Sample Hammer NA; Type: **Direct Push**; Driving Weight **NA**		Hydrogeologist: **W. Coles**	Checked by/Date: **D. Bower 2/15/2024**
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0				Air knifed from 0 - 5'							
5				Red/brown CLAY, black staining, no odor, plastic.	CL						
7				Red/brown CLAY, no staining, no odor, plastic. Lenses of wet sand.	CL						
10											

Trihydro CORPORATION

LOCATION ID **BH-56**

Lithology Log (continued)

Sheet 2 of 3

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Red/brown CLAY, no staining, no odor, plastic. Lenses of wet sand.	CL						
16				Brown fine grained sandy CLAY, moist, wet sandy CLAY lens at 22-23'	s(CL)						

Trihydro CORPORATION

LOCATION ID **BH-56**

Lithology Log (continued)

Sheet 3 of 3

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
23				Brown fine sandy CLAY, moist, wet sandy CLAY lens at 22-23'	s(CL)						
24				Red/brown fine sandy CLAY, moist.	s(CL)						
25				Red/brown fine grained SAND	SP						
26				Gray, fine to coarse grained SAND, saturated. No staining or odor observed.	SW						Soil sample collected at 26' bgs above saturated zone. PID reading 0.0 PPM
27				Red/brown, fine grained SAND	SP						Groundwater sample taken 1/21/2022 15:00
28				Boring terminated at 28' bgs							
29											
30											
31											
32											
33											
34											
35											
36											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 3

LOCATION ID: **BH-57**

Project Name: **Wingate Benzene Investigation - Phase V**	Project Number: **697-072-004**	Site ID: **Marathon Wingate Facility, Gallup, NM**	
Drilling Company: **Yellow Jacket**	Driller:	Ground Elevation:	Total Drilled Depth: **28 feet-bgs**
Drilling Equipment: **CME 55**	Drilling Method: **DPT**	Borehole Diameter: **3.25"**	Date/Time Drilling Started: **1-21-22**
Date/Time Total Depth Reached: **1-21-22**			
Type of Sampling Device: **DPT - Sample liners**		Water Level (bgs): First __ feet-bgs	Final **NA**
Sample Hammer **NA** Type: **Direct Push** Driving Weight **NA**		Hydrogeologist: **W. Coles**	Checked by/Date: **D. Bower 2/15/2024**

Location Description (include sketch in field logbook)

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0				Air knifed from 0 - 5'							
5				Red/brown CLAY, no staining, no odor, plastic.	CL						
10											

Trihydro CORPORATION

LOCATION ID **BH-57**

Lithology Log (continued)

Sheet 2 of 3

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Red/brown CLAY, no staining, no odor, plastic.							
11											
12					CL						
13											
14											
15				Red/brown, fine sandy CLAY, no staining, no odor							
16											
17											
18											
19					s(CL)						
20											
21											
22											
23											

Trihydro CORPORATION

Lithology Log (continued) Sheet 3 of 3

LOCATION ID **BH-57**

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
23				Red/brown, fine to coarse grained, sandy CLAY, moist, no staining, no odor	s(CL)						
24											
25				Brown, fine grained SAND, damp, no staining, no odor	SP						
26				Brown, clayey, fine to coarse grained SAND, saturated, no staining, no odor	SC						Soil sample collected at 25-26' bgs above saturated zone. PID reading 0.0 PPM.
27											Groundwater sample taken 1/21/2022 17:00
28				Boring terminated at 28' bgs							
29											
30											
31											
32											
33											
34											
35											
36											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCATION ID: **BH-58**

Project Name: **Wingate Benzene Investigation - Phase V**	Project Number: **697-072-004**	Site ID: **Marathon Wingate Facility, Gallup, NM**	
Drilling Company: **Yellow Jacket**	Driller:	Ground Elevation:	Total Drilled Depth: **22 feet-bgs**
Drilling Equipment: **CME 55**	Drilling Method: **DPT**	Borehole Diameter: **3.25"**	Date/Time Drilling Started: **1-22-22**	Date/Time Total Depth Reached: **1-22-22**
Type of Sampling Device: **DPT - Sample liners**		Water Level (bgs): First __ feet-bgs	Final NA
Sample Hammer NA; Type: **Direct Push**; Driving Weight **NA**		Hydrogeologist: **W. Coles**	Checked by/Date: **D. Bower 2/15/2024**
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0				Air knifed from 0 - 5'							
5				Brown, fine to coarse grained SAND, little silt, dry. No staining, no odor	SP-SM						
7				Red/brown CLAY, moist, very stiff, no staining, no odor	CL						
10											

Trihydro CORPORATION

LOCATION ID **BH-58**

Lithology Log (continued)

Sheet 2 of 2

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Red/brown CLAY, moist, very stiff, no staining, no odor							
11											
12											
13					CL						
14											
15											
16				Brown, fine to coarse grained sandy CLAY, moist no staining, no odor	CL						
17				Brown, fine to medium grained SAND, no staining, no odor							
18					SP						
19											Soil sample collected at 20'/above saturated sand. PID reading 0.0 PPM
20				Brown, fine to coarse grained SAND, saturated, no staining, no odor							Groundwater sample taken 1/22/2022 09:05
21					SW						
22				Boring terminated at 22' bgs							
23											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCID: **BH-59**

Project Name: **Wingate Benzene Investigation Phase VI**	Project Number: **697-072-004**	Site ID: **Marathon Wingate Facility, Gallup NM**	
Drilling Company: **Cascade**	Driller: **Richard & Bianca**	Ground Elevation:	Total Drilled Depth: **20'**
Drilling Equipment: **Geoprobe**	Drilling Method: **Direct Push**	Borehole Diameter: **2.25"**	Date/Time Drilling Started: **6/29/22**
Date/Time Total Depth Reached: **6/29/22**			
Type of Sampling Device: **5' Continuous Core**		Water Level (bgs): First **10'** Final	
Sample Hammer Type:	Driving Wt.:	Drop:	Geologist/Engineer: **W. Glenn**
Checked by/Date: **Aaron Wiggins 1/8/2024**			
Weather:		Other Personnel Present:	
Site Conditions:			

Location Description (include sketch in field logbook):

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
0				Air-knifed to 5' bgs							
5				Sand, silty, very fine-grained to fine-grained, dense, moist to saturated, well sorted, sub rounded to subangular, non-plastic, black, hydrocarbon staining.	SM-SP						PID 0.0 ppm Soil sample taken 8' bgs Duplicate soil sample taken Dup-WG-062922
10											PID 0.0 ppm

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 2

LOCID
BH-59

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10											
11											
12				Clay, silty, very fine-grained, stiff, moist, high plasticity, reddish brown.							
13											
14											
15					CL						
16											
17											
18				Sand, silty, very fine-grained to fine-grained, dense, saturated, well sorted, sub rounded to subangular, non-plastic, reddish brown.							
19					SM-SP						Groundwater sample taken 6/29/022 18:40
20				Total Depth 20'							
21											
22											
23											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCID: **BH-60**

Project Name: **Wingate Benzene Investigation Phase VI**	Project Number: **697-072-004**	Site ID: **Marathon Wingate Facility, Gallup NM**	
Drilling Company: **Cascade**	Driller: **Richard & Bianca**	Ground Elevation:	Total Drilled Depth: **20'**
Drilling Equipment: **Geoprobe**	Drilling Method: **Direct Push**	Borehole Diameter: **2.25"**	Date/Time Drilling Started: **6/29/22**
Date/Time Total Depth Reached: **6/29/22**			
Type of Sampling Device: **5' Continuous Core**		Water Level (bgs): First **16'** Final	
Sample Hammer Type:	Driving Wt.:	Drop:	Geologist/Engineer: **W. Glenn**
Checked by/Date: **Aaron Wiggins 1/8/2024**			
Weather:		Other Personnel Present:	
Site Conditions:			
Location Description (include sketch in field logbook):			

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
0				Air-knifed to 5' bgs							
5				Clay, silty, very fine-grained, stiff, dry, high plasticity, reddish brown, hydrocarbon staining.	CL						PID 0.0 ppm
9				Sand, silty, very fine-grained to fine-grained, dense, dry, well sorted, sub rounded to subangular, non-plastic, reddish brown.	SM-SP						
10											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 2

LOCID
BH-60

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10											
11											
12											
13				Clay, stiff, moist, moderate plasticity, dark reddish brown, hydrocarbon staining.							PID 0.0 ppm'
14					CL						Soil sample taken 13' bgs
15				Sand, silty, very fine-grained to medium-grained, dense, moist to saturated, well sorted, sub rounded to subangular, non-plastic, reddish brown.							
16							▽				
17											
18					SM-SP						
19											Groundwater sample taken 6/29/2022 16:40
20				Total Depth 20'							
21											
22											
23											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCID: **BH-61**

Project Name: **Wingate Benzene Investigation Phase VI**	Project Number: **697-072-004**	Site ID: **Marathon Wingate Facility, Gallup NM**	
Drilling Company: **Cascade**	Driller: **Richard & Bianca**	Ground Elevation:	Total Drilled Depth: **20'**
Drilling Equipment: **Geoprobe**	Drilling Method: **Direct Push**	Borehole Diameter: **2.25"**	Date/Time Drilling Started: **6/29/22**
Date/Time Total Depth Reached: **6/29/22**			
Type of Sampling Device: **5' Continuous Core**		Water Level (bgs): First **16'** Final	
Sample Hammer: Type Driving Wt. **Drop**		Geologist/Engineer: **W. Glenn**	Checked by/Date: **Aaron Wiggins 1/8/2024**
Weather:		Other Personnel Present	
Site Conditions			

Location Description (include sketch in field logbook)

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
0				Air-knifed to 5' bgs							
5				Clay, sandy, very fine-grained to fine-grained, stiff, moist, moderate to high plasticity, reddish brown.	CL				10	90	
10											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 2

LOCID
BH-61

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10											
11											
12											
13				Sand, silty, very fine-grained to medium-grained, dense, moist to saturated, well sorted, sub rounded to subangular, non-plastic, yellowish brown.					80	20	
14											Soil sample taken 15' bgs
15											
16					SM-SW						
17											
18											
19				Clay, gravelly, sandy, very fine-grained to fine-grained, hard, moist, moderate plasticity, reddish brown, gravels 0.5-2.5cm.	(CL)gs			20	10	70	Groundwater sample taken 6/29/2022 11:35
20				Total Depth 20'							
21											
22											
23											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 2

LOCID: **BH-62**

Project Name: **Wingate Benzene Investigation Phase VI**	Project Number: **697-072-004**	Site ID: **Marathon Wingate Facility, Gallup NM**	
Drilling Company: **Cascade**	Driller: **Richard & Bianca**	Ground Elevation:	Total Drilled Depth: **20'**
Drilling Equipment: **Geoprobe**	Drilling Method: **Direct Push**	Borehole Diameter: **2.25"**	Date/Time Drilling Started: **6/29/22**
Date/Time Total Depth Reached: **6/29/22**			
Type of Sampling Device: **5' Continuous Core**		Water Level (bgs): First **11'** Final	
Sample Hammer Type:	Driving Wt.: **Drop**	Geologist/Engineer: **W. Glenn**	Checked by/Date: **Aaron Wiggins 1/92024**
Weather:		Other Personnel Present	
Site Conditions			

Location Description (include sketch in field logbook)

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
0				Air-knifed to 5' bgs							
5				Clay, sandy, very fine-grained to fine-grained, medium stiff, moist, moderate plasticity, reddish brown.	(CL)s				15	85	PID 0.0 ppm
10											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 2

LOCID
BH-62

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Sand, silty, very fine-grained to medium-grained, dense, moist to saturated, well sorted, sub rounded to subangular, non-plastic, yellowish brown.					75	25	
11							▽				
12											
13											
14					SM-SW						
15											
16											
17											
18				Clay, gravelly, sandy, very fine-grained to fine-grained, hard, moist, moderate plasticity, reddish brown, gravels 0.5-2.5cm.				15	10	75	Groundwater sample taken 6/29/2022 08:50
19					(CL)gs						
20				Total Depth 20'							
21											
22											
23											

Trihydro CORPORATION

Lithology Log

Sheet 1 of 3

LOCID: **BH-63**

Project Name: **Wingate Benzene Investigation Phase VI**	Project Number: **697-072-004**	Site ID: **Marathon Wingate Facility, Gallup NM**	
Drilling Company: **Cascade**	Driller: **Richard & Bianca**	Ground Elevation:	Total Drilled Depth: **25'**
Drilling Equipment: **Geoprobe**	Drilling Method: **Direct Push**	Borehole Diameter: **2.25"**	Date/Time Drilling Started: **6/28/22**
Date/Time Total Depth Reached: **6/28/22**			
Type of Sampling Device: **5' Continuous Core**		Water Level (bgs): First **13** Final	
Sample Hammer: Type Driving Wt. **Drop**		Geologist/Engineer: **W. Glenn**	Checked by/Date: **Aaron Wiggins 1/8/2024**
Weather:		Other Personnel Present	
Site Conditions			

Location Description (include sketch in field logbook)

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types, times, and depth, odor, organic vapor measurements, etc.)
0				Air-knifed to 5' bgs							
5				Clay, sandy, very fine-grained to fine-grained, medium stiff, moist, moderate plasticity, reddish brown.	CL				10	90	
10											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 3

LOCID
BH-63

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10											
11				Sand, silty, very fine-grained to medium-grained, dense, moist to saturated, well sorted, sub rounded to subangular, non-plastic, dark gray.					80	20	PID 0.0 ppm Soil Sample taken 11.5' bgs
12					SM-SW						
13											
14				Silt, sandy, very fine-grained to fine-grained, hard, dry, non plastic, yellowish brown.					10	90	
15					(ML)s						
16				Sand, silty, very fine-grained to medium-grained, dense, moist to saturated, well sorted, sub rounded to subangular, non-plastic, dark gray.					75	25	
17											
18											
19					SM-SW						
20											
21											
22											
23											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 3 of 3

LOCID
BH-63

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
23											
24				Clay, gravelly, sandy, very fine-grained to fine-grained, stiff, saturated, high plasticity, reddish brown, gravels 0.5-2.5cm	(CL)gs						Groundwater Sample Taken 6/28/2022 12:00
25				Total Depth 25'							
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											

Trihydro CORPORATION

Lithology Log Sheet 1 of 2 LOCID: **BH-72**

Project Name: **Wingate Phase VII BTEX Investigation**	Project Number: **00697-072-0060**	Site ID: **Wingate Facility, Gallup, NM**	
Drilling Company: **Cascade**	Driller: **Bianca**	Ground Elevation:	Total Drilled Depth: **16' bgs**
Drilling Equipment: **Geoprobe 80400T**	Drilling Method: **Direct Push**	**Borehole Diameter: 2.25"**	Date/Time Drilling Started: **10/11/2023 8:00**	Date/Time Total Depth Reached: **10/11/2023 8:45**
Type of Sampling Device: **Soil probe rod w/ acetate liner**		Water Level (bgs): First **13.5'** **Final**	
Sample Hammer: **Type: Pneumatic** Driving Wt: **Drop**		Geologist/Engineer: **A.Wiggins/D.Bower**	Checked by/Date: **Aaron Wiggins 2/23/24**
Weather: **Windy**		Other Personnel Present:	
Site Conditions:			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0				No Recovery 0-5'							
5				Clay - brown, silty, scattered organic matter, no odor, trace sand, medium stiff, slightly moist.	CL				5	95	
10											

Trihydro CORPORATION

Lithology Log (continued) Sheet 2 of 2 LOCID: **BH-72**

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				"same as above" Cave in @ 10'							
11											
12											
13											Groundwater @ 13.5'
14											
15				Sand - brown, tan, dark gray in parts, very fine-grained to fine-grained, sub-angular to sub-rounded, well sorted, clayey, moist, no odor.	SP				80	20	Groundwater sample taken 10/11/2023 09:00
16				Drill to 16' bgs. TD @ 08:45							
17											
18											
19											
20											
21											
22											
23											

Trihydro CORPORATION

Lithology Log Sheet 1 of 2 LOCID: **BH-74**

Project Name: **Wingate Phase VII BTEX Investigation**	Project Number: **00697-072-0060**	Site ID: **Wingate Facility, Gallup, NM**	
Drilling Company: **Cascade**	Driller: **Bianca**	Ground Elevation:	Total Drilled Depth: **17' bgs**
Drilling Equipment: **Geoprobe 80400T**	Drilling Method: **Direct Push**	Borehole Diameter: **2.25"**	Date/Time Drilling Started: **10/10/2023 12:25**
Date/Time Total Depth Reached: **10/10/2023 13:30**			
Type of Sampling Device: **Soil probe rod w/ acetate liner**		Water Level (bgs): First **14.5' bgs** Final **17' bgs**	
Sample Hammer: Type: **Pneumatic** Driving Wt: **Drop**		Geologist/Engineer: **A.Wiggins/D.Bower**	Checked by/Date: **Aaron Wiggins 2/23/24**
Weather:		Other Personnel Present: **Heidi Jones**	
Site Conditions: **Slightly rough terrain**			

Location Description (include sketch in field logbook)

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0				Fill Sand - silty to slightly clayey, very fine-grained to fine-grained, sub-angular to sub-rounded, moderately sorted, very loose, moist, non-plastic, brown.	SM-SC				70	30	
6				Fill Clay - very sandy, very fine-grained to fine-grained, plastic, stiff, moist, mottled light brown to brown.	(CL)s				40	60	
10				Clay - silty, trace sand, very fine-grained, stiff, very plastic, moist, brown.	CL				5	95	

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 2

LOCID: **BH-74**

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				Clay - sandy, soft, moist, no odor, brown, with interbedded sand lenses.					35	65	
11											PID @ 10-12' - 0ppm
12				"same as above"	(CL)s						Soil sample taken 12-14' bgs
13				Increasing sand content, decreasing clay content					80	20	PID @ 12-14' = 0ppm
14				Cave in @ 14'							
15				Sand - clayey - very fine-grained to, sub-angular to sub-rounded, poorly sorted, clay matrix, no odor, brown, light tan, soft, saturated.	SC				70	30	
16				Sand - silty in parts, trace clay, no odor, brown, slightly reddish, soft, saturated.	SM				80	20	Groundwater sample taken 10/10/2023 15:00
17				Drill to 17' bgs. TD @ 13:30							
18											
19											
20											
21											
22											
23											

Trihydro CORPORATION

Lithology Log Sheet 1 of 2 LOCID: **BH-75**

Project Name: **Wingate Phase VII BTEX Investigation**	Project Number: **00697-072-0060**		Site ID: **Wingate Facility, Gallup, NM**
Drilling Company: **Cascade**	Driller: **Bianca**	Ground Elevation:	Total Drilled Depth: **20' bgs**
Drilling Equipment: **Geoprobe 80400T**	Drilling Method: **Direct Push**	Borehole Diameter: **2.25"**	Date/Time Drilling Started: **10/10/2023 15:45**
			Date/Time Total Depth Reached: **10/11/2023 16:15**
Type of Sampling Device: **Soil probe rod w/ acetate liner**		Water Level (bgs): First **12' bgs** Final	
Sample Hammer: Type: **Pneumatic** Driving Wt: **Drop**		Geologist/Engineer: **A.Wiggins/D.Bower**	Checked by/Date: **Aaron Wiggins 2/23/24**
Weather: **Sunny**		Other Personnel Present:	
Site Conditions: **Dry, muddy spots in ditch**			
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0				Backfilled sand - brown, very fine-grained to fine grained, sub-angular to sub-rounded, moderately sorted, loose, moist, trace clay.	SW-SC				80	20	
5				Clay - brown, sandy, trace roots, stiff, moist, no odor.					25	75	Deviated from pre-cleared borehole @ 4.5' bgs
				Increasing sand content					40	60	
6				Interbedded sand lenses	s(CL)						
8				Sand - brown, silty, slightly clayey, very moist, loose, no odor					75	25	
9					SC						PID @ 8-10' = 0ppm
10											

Trihydro CORPORATION

Lithology Log (continued)

Sheet 2 of 2

LOCID: **BH-75**

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	ASTM Code	Lithology	Water Content	Estimate % of Gr	Sa	Fi	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
10				"same as above"					75	25	Soil sample taken 10-12' bgs 10/10/2023 16:50
11											PID @ 10-12' - 0ppm
12				Sand - brown, tan, silty, very fine-grained to fine grained, sub-angular to sub-rounded, moderately sorted, saturated, medium dense, no odor.					80	20	Groundwater top @ 12' bgs
13											
14				Cave in @ 14'							
15											
16					SP-SM						
17				"same as above" with erratic density of loose to medium dense, saturated, no odor, lenses of increasing silt contributing to medium dense.					75	25	
18											
19											
20				Gravel lens @ 20'							Groundwater sample taken 10/10/2023 16:30
				Drill to 20' bgs. TD @ 16:15							
21											
22											
23											

Appendix B – Benzene Analytical Results For Monitoring Wells

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

APPENDIX B. DATA SUMMARY, BENZENE ANALYTICAL RESULTS FOR MONITORING WELLS, BENZENE INVESTIGATION REPORT
WESTERN REFINING TERMINALS LLC, D/B/A MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzene (µg/L)
WMW-10	8/02/23	**2900**
WMW-11	7/27/23	0.35
WMW-1R	7/20/15	ND(1)
WMW-1R	7/12/16	ND(1)
WMW-1R	7/11/17	ND(1)
WMW-1R	7/02/18	ND(1)
WMW-1R	7/01/19	0.17
WMW-1R	7/21/21	ND(1)
WMW-1R	7/13/22	ND(1)
WMW-1R	8/02/23	ND(1)
WMW-2	7/21/15	**26000**
WMW-2	7/12/16	**26000**
WMW-2	7/11/17	**28000**
WMW-2	7/02/18	**21000**
WMW-2	7/01/19	**24000**
WMW-2	7/21/21	**27000**
WMW-2	7/13/22	**23000**
WMW-2	7/27/23	**28000**
WMW-4	7/21/15	ND(1)
USEPA MCL HQ 1.0		5

HQ - Hazard Quotient
ID - Identification
MCL - Maximum Contaminant Level
ND - Not Detected at the Reporting Limit
µg/L - micrograms per Liter
USEPA - United States Environmental Protection Agency

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

APPENDIX B. DATA SUMMARY, BENZENE ANALYTICAL RESULTS FOR MONITORING WELLS, BENZENE INVESTIGATION REPORT
WESTERN REFINING TERMINALS LLC, D/B/A MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzene (µg/L)
WMW-4	7/12/16	ND(1)
WMW-4	7/11/17	ND(1)
WMW-4	7/02/18	ND(1)
WMW-4	7/01/19	ND(1)
WMW-4	7/22/21	0.39
WMW-4	7/13/22	ND(1)
WMW-4	8/02/23	ND(1)
WMW-5	7/20/15	ND(1)
WMW-5	7/12/16	ND(1)
WMW-5	7/11/17	ND(1)
WMW-5	7/02/18	ND(1)
WMW-5	7/01/19	ND(1)
WMW-5	7/21/21	ND(1)
WMW-5	7/13/22	ND(1)
WMW-5	8/02/23	ND(1)
WMW-6	7/20/15	ND(1)
WMW-6	7/11/16	ND(1)
WMW-6	7/11/17	ND(1)
WMW-6	7/02/18	ND(1)
USEPA MCL HQ 1.0		5

HQ - Hazard Quotient
ID - Identification
MCL - Maximum Contaminant Level
ND - Not Detected at the Reporting Limit
µg/L - micrograms per Liter
USEPA - United States Environmental Protection Agency

Page 127 of 477

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

APPENDIX B. DATA SUMMARY, BENZENE ANALYTICAL RESULTS FOR MONITORING WELLS, BENZENE INVESTIGATION REPORT
WESTERN REFINING TERMINALS LLC, D/B/A MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Sample ID	Sample Date	Benzene (µg/L)
WMW-6	7/01/19	ND(1)
WMW-6	8/19/21	ND(1)
WMW-6	7/13/22	ND(1)
WMW-6	7/27/23	2
WMW-7	7/20/15	ND(1)
WMW-7	7/11/16	ND(1)
WMW-7	7/11/17	ND(1)
WMW-7	7/02/18	ND(1)
WMW-7	7/01/19	0.2
WMW-7	7/22/21	ND(1)
WMW-7	7/13/22	ND(1)
WMW-7	8/02/23	ND(1)
WMW-9	7/21/21	**21000**
WMW-9	7/13/22	**5200**
WMW-9	8/02/23	**4400**
USEPA MCL HQ 1.0		5

HQ - Hazard Quotient
ID - Identification
MCL - Maximum Contaminant Level
ND - Not Detected at the Reporting Limit
µg/L - micrograms per Liter
USEPA - United States Environmental Protection Agency

Page 128 of 477

Appendix C – Laboratory Analytical Reports

C-1. – Phase I Laboratory Analytical Reports

C-2. – Phase II Laboratory Analytical Report

C-3. – Phase III Laboratory Analytical Report

C-4. – Phase IV Laboratory Analytical Reports

C-5. – Phase V Laboratory Analytical Reports

C-6. – Phase VI Laboratory Analytical Reports

C-7. – Phase VII Laboratory Analytical Reports

C-1. – Phase I Laboratory Analytical Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

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,



Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2002C93**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

Analytical Report
Lab Order **2002C93**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative 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

Analytical Report
Lab Order **2002C93**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **2002C93**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

Analytical Report
Lab Order **2002C93**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

Analytical Report
Lab Order **2002C93**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative 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

Analytical Report
Lab Order **2002C93**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **2002C93**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

Analytical Report
Lab Order **2002C93**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

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 Quanitative 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 Quanitative 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 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: **MSLLLCS-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: **MSLLLCS-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 Quanitative 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 Quanitative 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 Quanitative 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 Quanitative 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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2002C93**
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: **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 Quanitative 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 Quanitative 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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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: **LLLCS-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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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 Quanitative 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 Quanitative 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 Quanitative 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

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

Sample Log-In Check List

Client Name: **MARATHON GALLUP** Work Order Number: **2002C93** RcptNo: **1**

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

Completed By: **Leah Baca** **2/28/2020 3:55:01 PM** Leah SBaca

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° 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: MY 03/02/20
unpres: ENM 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 -002 and -003, Added 1 mL HNO_3 for acceptable pH. For -001 added 0.5 mL HNO_3 for acceptable pH.
MY 03/02/20

17. **Cooler Information**

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

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 8:58:12 PM

Chain-of-Custody Record

Client: Marathon Petroleum Company

Mailing Address: 92 Great Crossing Rd
Jamestown NM

Phone #: 505-726-9745

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☒ NELAC ☐ Other

☒ EDD (Type) Trihydro

Turn-Around Time:
☐ Standard ☐ Rush

Project Name: Wingate Benzene Investigation

Project #: 697-072-001

Project Manager: Paul Hildebrandt

Sampler:

On Ice: ☒ Yes ☐ No 2/28/20

# of Coolers: 1

Cooler Temp (including CF): 1.5-0.3=1.2 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2002C93	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA) BTEX(8260B)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	300.0(28.0) Chloride, Fluoride, Nitrate, Sulfate, Nitrite	EPA 310.1 - Alkalinity	6010B - As, Ba, Ca, Cd, Cr, Fe, K, Mg, Mn, Na, Ni, Pb, Se, Ag, Sr, Tl, U, V, Zn	150.1 - pH	EPA 160.1 - TDS	
2-28-20	0815	GW	BH-6	Bottles=7		-001								X	X		X	X	X	X	X	
2-28-20	0900	GW	BH-7			-002								X	X		X	X	X	X	X	
2-28-20	1200	GW	DUP 2			-003								X	X		X	X	X	X	X	

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
2-28-20	1300					
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
				Courier	2/28/20	1515

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

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,



Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2002C96**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

Analytical Report
Lab Order **2002C96**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

Analytical Report
Lab Order **2002C96**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative 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

Analytical Report
Lab Order **2002C96**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

Analytical Report
Lab Order **2002C96**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative 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

Analytical Report
Lab Order **2002C96**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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

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

Qualifiers:

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

Analytical Report
Lab Order **2002C96**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

Analytical Report
Lab Order **2002C96**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

Analytical Report
Lab Order **2002C96**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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	R66988
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 Quanitative 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

Analytical Report
Lab Order **2002C96**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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 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 Quanitative 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: **MSLLLCS-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: **MSLLLCS-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 Quanitative 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 Quanitative 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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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 Quanitative 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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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 Quanitative 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: **LLLCS-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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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 Quanitative 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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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 Quanitative 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

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

Sample Log-In Check List

Client Name: **MARATHON GALLUP** Work Order Number: **2002C96** RcptNo: **1**

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

Completed By: **Leah Baca** **2/28/2020 4:13:08 PM** Leah S Baca

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° 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 ☑ mg 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: mg 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 Moore 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 HNO_3 for acceptable pH. mg 03/02/20

17. **Cooler Information**

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

Released to Imaging: 8/16/2024 2:26:48 PM

Received by OCD: 3/7/2024 8:27:27 PM

Chain-of-Custody Record

Client: Marathon Petroleum Co.

Mailing Address: 92 Grant Crossing
Jamestown NM

Phone #: 505-726-9745

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☒ NELAP ☐ Other

☒ EDD (Type)

Turn-Around Time:
☐ Standard ☐ Rush

Project Name: Wingate Benzene Investgtn

Project #: 697-072-001

Project Manager: Paul Hildebrant

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 5.2-0.3=4.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 2007C96	BTEX + MTBE + TMB's (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,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) - BTEX	8270 (Semi-VOA)	300.0/A (EPA) Chloride, Sulfate, Nitrate	310.1 (EPA) - Alkalinity	6010B - As, Ba, Ca, Cd, Cr, Mg, Se, Na, Ni, Ag, Pb	160.1 - TDS (EPA)	Air Bubbles (Y or N)
2/27/20	8:06	GW	BH-1			-001										X	X	X	X	X	X	X
2/27/20	10:34	GW	BH-2			-002										X	X	X	X	X	X	X
2/27/20	11:15	GW	BH-3			-003										X	X	X	X	X	X	X
			Trip Blank			-004															X	X
			MB 3/4/2020																			

Date:	Time:	Relinquished by:	Received by:	Date	Time
19:00	2/27/20				
Date:	Time:	Relinquished by:	Received by:	Date	Time
			VM courier	2/28/20	15 15

Remarks: 16 2/28/20

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

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,



Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

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 belived 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.

Analytical Report
Lab Order **2002C97**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

Analytical Report
Lab Order **2002C97**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

Analytical Report
Lab Order **2002C97**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2002C97**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

Analytical Report
Lab Order **2002C97**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

Analytical Report
Lab Order **2002C97**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative 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

Analytical Report
Lab Order **2002C97**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

Analytical Report
Lab Order **2002C97**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

Analytical Report
Lab Order **2002C97**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative 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

Analytical Report
Lab Order **2002C97**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

Analytical Report
Lab Order **2002C97**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

Analytical Report
Lab Order **2002C97**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative 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

Analytical Report
Lab Order **2002C97**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative 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

Analytical Report
Lab Order **2002C97**
Date Reported: **3/19/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative 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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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: **MSLLLCS-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: **MSLLLCS-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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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 Quanitative 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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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 Quanitative 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 Quanitative 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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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 Quanitative 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 Quanitative 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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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: **LLLCS-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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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 Quanitative 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 Quanitative 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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **MARATHON GALLUP** Work Order Number: **2002C97** RcptNo: **1**

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

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

Reviewed By: DAD 2/28/20 : Unpres
JR 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° 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? YES
Checked by: MY 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 HNO_3 to -001D and -004D. Added 2 mL HNO_3 to -002D. Added 1mL HNO_3 to -003D for acceptable pH. MY 03/02

17. **Cooler Information**

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

Released to Imaging: 8/16/2024 2:26:48 PM

Received by OCD: 3/7/2024 4:58:42 PM

Chain-of-Custody Record

Client: Marathon Petroleum Company

Mailing Address: 92 Giant Crossing Rd
Jamestown NM

Phone #: 505-726-9745

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☒ NELAP ☐ Other _____

☒ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: Wingate Benzene Investigation

Project #: 697-072-001

Project Manager: Paul Hibbrandt

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 41-0.2=3.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 7002C97
2/27/20	15:10	GW	BH-4	bottles		-001
2/27/20	15:35	GW	BH-5	bottles		-002
2/27/20	13:29	GW	BH-8	bottles		-003
2/27/20	14:30	GW	BH-9	bottles		-004
			Trip Blank			-005

Analysis Request

BTEX + MTBE + TMB's (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 ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA) - BTEX	8270 (Semi-VOA)	300.0A (EPA) Chloride, Sulfate, Nitrate	EPA 310.1 - Alkalinity	6010B - As, Ba, Ca, Cd, Cr, Mg, Se, Ag, Na, Hg, Pb	EPA 160.1 - TDS	Air Bubbles (Y or N) 15
									X	X	X	X	X	X	X
									X	X	X	X	X	X	X
									X	X	X	X	X	X	X
									X	X	X	X	X	X	X
									X						

Date: 2/27/20 Time: 1850 Relinquished by: _____ Received by: _____ Date Time

Date: Time: Relinquished by: Received by: courier Date: 2/28/20 Time: 1515

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

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,



Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2003014**
Date Reported: **3/6/2020**

Hall Environmental Analysis Laboratory, Inc.

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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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 Quanitative 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 Quanitative 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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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 Quanitative 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 Quanitative 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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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 Quanitative 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: **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
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 Quanitative 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

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

Sample Log-In Check List

Client Name: **MARATHON 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: JR 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° 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: MJ 03/02/20

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				

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 7:58:12 PM

Chain-of-Custody Record

Client: Marathon Petroleum Co.

Mailing Address: 92 Giant Crossing Rd
Jamestown NM

Phone #: 505-726-9745

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation
☒ NELAP ☐ Other _____

☒ EDD (Type) _____

Turn-Around Time:
☐ Standard ☐ Rush _____

Project Name: Wingate Benzene Investigation

Project #: 697-072-001

Project Manager: Paul Hildebrandt

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.0 -0.3 = 4.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 2003014	BTEX + MTBE + TMB's (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,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
2/24/20	17:30	Soil	BH-1 23'	bottles/Jar		-001										X						
2/25/20	10:30	Soil	BH-2 13'	bottles/Jar		-002										X						
2/25/20	13:30	Soil	BH-3 15'	"		-003										X						
2/26/20	13:20	Soil	BH-4 19'	"		-004										X						
2/26/20	09:55	Soil	BH-5 14'	"		-005										X						
2/27/20	11:38	Soil	BH-6 11'	"		-006										X						
2/27/20	09:43	Soil	BH-7 14'	"		-007										X						
2/25/20	16:20	Soil	BH-8 8'	"		-008										X						
2/24/20	15:33	Soil	BH-9 19'	"		-009										X						
2/27/20	0:00	Soil	DUP 1	"		-010										X						
			MeOH Blank			-011																

Date	Time	Relinquished by:	Received by:	Date	Time
2/27/20	18:30				
Date:	Time:	Relinquished by:	Received by:	Date	Time
			Courier	2/28/20	1515

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

C-2. – Phase II Laboratory Analytical Report

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-196702-1
Laboratory Sample Delivery Group: Wingate Facility
Client Project/Site: Trihydro Gallup Refinery-BTX

For:
Trihydro Corporation
1252 Commerce Drive
Laramie, Wyoming 82070

Attn: Brian McLoughlin

Authorized for release by:
12/15/2020 9:24:30 AM

Leah Klingensmith, Senior Project Manager
(615)301-5038
Leah.Klingensmith@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 5
Sample Summary 8
Client Sample Results 9
Definitions 38
Surrogate Summary 39
QC Association 40
QC Sample Results 41
Chronicle 45
Method Summary 51
Certification Summary 52
Chain of Custody 53
Receipt Checklists 59

Case Narrative

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Job ID: 400-196702-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-196702-1

Comments
No additional comments.

Receipt
The samples were received on 12/5/2020 9:10 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.3º C.

Receipt Exceptions

One or more containers for the following sample(s) was received broken or leaking: BH-13 (400-196702-4), BH-28 (400-196702-18). Should have enough remaining for both samples.

The following sample(s) was listed on the Chain of Custody (COC); however, no sample(s) was received. Did not recieve any containers for sample: BH-20.

GC/MS VOA
Method 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: BH-15 (400-196702-6), BH-17 (400-196702-8), BH-22 (400-196702-12), BH-23 (400-196702-13), BH-29 (400-196702-19), DUP-12/4/2020 (400-196702-27). Elevated reporting limits (RLs) are provided.

Method 8260C: The following sample(s) was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The samples were analyzed within the 7-day holding time specified for unpreserved samples: BH-10 (400-196702-1), BH-11 (400-196702-2), BH-12 (400-196702-3), BH-13 (400-196702-4), BH-14 (400-196702-5), BH-15 (400-196702-6), BH-16 (400-196702-7), BH-17 (400-196702-8), BH-19 (400-196702-10), BH-22 (400-196702-12), BH-23 (400-196702-13), BH-24 (400-196702-14), BH-25 (400-196702-15), BH-26 (400-196702-16), BH-27 (400-196702-17), BH-28 (400-196702-18), BH-29 (400-196702-19), BH-21 (400-196702-20), DUP-12/1/2020 (400-196702-21), DUP-12/2/2020 (400-196702-23), DUP-12/3/2020 (400-196702-25), DUP-12/4/2020 (400-196702-27).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Job ID: 400-196792-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-196792-1

Comments
No additional comments.

Receipt
The sample was received on 12/8/2020 9:16 AM; the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.3º C.

GC/MS VOA
Method 8260C: The following sample(s) was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The sample was analyzed within the 7-day holding time specified for unpreserved samples: BH-20 (400-196792-1).

Case Narrative

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Job ID: 400-196792-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Released to Imaging: 8/16/2024 2:26:48 PM

Detection Summary

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-10 — Lab Sample ID: 400-196702-1

No Detections.

Client Sample ID: BH-11 — Lab Sample ID: 400-196702-2

No Detections.

Client Sample ID: BH-12 — Lab Sample ID: 400-196702-3

No Detections.

Client Sample ID: BH-13 — Lab Sample ID: 400-196702-4

No Detections.

Client Sample ID: BH-14 — Lab Sample ID: 400-196702-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	808		10.0		ug/L	10		8260C	Total/NA

Client Sample ID: BH-15 — Lab Sample ID: 400-196702-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2130		20.0		ug/L	20		8260C	Total/NA
Xylenes, Total	1150		200		ug/L	20		8260C	Total/NA

Client Sample ID: BH-16 — Lab Sample ID: 400-196702-7

No Detections.

Client Sample ID: BH-17 — Lab Sample ID: 400-196702-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	16400		200		ug/L	200		8260C	Total/NA

Client Sample ID: BH-18 — Lab Sample ID: 400-196702-9

No Detections.

Client Sample ID: BH-19 — Lab Sample ID: 400-196702-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.41		1.00		ug/L	1		8260C	Total/NA

Client Sample ID: BH-22 — Lab Sample ID: 400-196702-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	19300		100		ug/L	100		8260C	Total/NA
Toluene	2410		100		ug/L	100		8260C	Total/NA

Client Sample ID: BH-23 — Lab Sample ID: 400-196702-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	5630		50.0		ug/L	50		8260C	Total/NA

Client Sample ID: BH-24 — Lab Sample ID: 400-196702-14

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pensacola

Detection Summary

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-25 Lab Sample ID: 400-196702-15

No Detections.

Client Sample ID: BH-26 Lab Sample ID: 400-196702-16

No Detections.

Client Sample ID: BH-27 Lab Sample ID: 400-196702-17

No Detections.

Client Sample ID: BH-28 Lab Sample ID: 400-196702-18

No Detections.

Client Sample ID: BH-29 Lab Sample ID: 400-196702-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2980		25.0		ug/L	25		8260C	Total/NA

Client Sample ID: BH-21 Lab Sample ID: 400-196702-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	639		10.0		ug/L	10		8260C	Total/NA
Toluene	53.9		10.0		ug/L	10		8260C	Total/NA
Xylenes, Total	736		100		ug/L	10		8260C	Total/NA

Client Sample ID: DUP-12/1/2020 Lab Sample ID: 400-196702-21

No Detections.

Client Sample ID: FB-12/1/2020 Lab Sample ID: 400-196702-22

No Detections.

Client Sample ID: DUP-12/2/2020 Lab Sample ID: 400-196702-23

No Detections.

Client Sample ID: FB-12/2/2020 Lab Sample ID: 400-196702-24

No Detections.

Client Sample ID: DUP-12/3/2020 Lab Sample ID: 400-196702-25

No Detections.

Client Sample ID: FB-12/3/2020 Lab Sample ID: 400-196702-26

No Detections.

Client Sample ID: DUP-12/4/2020 Lab Sample ID: 400-196702-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2160		20.0		ug/L	20		8260C	Total/NA
Xylenes, Total	1170		200		ug/L	20		8260C	Total/NA

Client Sample ID: FB-12/4/2020 Lab Sample ID: 400-196702-28

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pensacola

Detection Summary

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: TRIP BLANK — Lab Sample ID: 400-196702-29

No Detections.

Client Sample ID: BH-20 — Lab Sample ID: 400-196792-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	8440		50.0		ug/L	50		8260C	Total/NA
Toluene	98.7		50.0		ug/L	50		8260C	Total/NA
Xylenes, Total	1690		500		ug/L	50		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-196702-1	BH-10	Water	12/04/20 09:00	12/05/20 09:10	
400-196702-2	BH-11	Water	12/03/20 16:00	12/05/20 09:10	
400-196702-3	BH-12	Water	12/03/20 16:20	12/05/20 09:10	
400-196702-4	BH-13	Water	12/03/20 16:45	12/05/20 09:10	
400-196702-5	BH-14	Water	12/04/20 11:50	12/05/20 09:10	
400-196702-6	BH-15	Water	12/04/20 11:20	12/05/20 09:10	
400-196702-7	BH-16	Water	12/04/20 09:35	12/05/20 09:10	
400-196702-8	BH-17	Water	12/04/20 10:30	12/05/20 09:10	
400-196702-9	BH-18	Water	12/02/20 16:20	12/05/20 09:10	
400-196702-10	BH-19	Water	12/03/20 14:20	12/05/20 09:10	
400-196702-12	BH-22	Water	12/03/20 13:50	12/05/20 09:10	
400-196702-13	BH-23	Water	12/02/20 15:34	12/05/20 09:10	
400-196702-14	BH-24	Water	12/02/20 12:20	12/05/20 09:10	
400-196702-15	BH-25	Water	12/01/20 14:40	12/05/20 09:10	
400-196702-16	BH-26	Water	12/01/20 13:40	12/05/20 09:10	
400-196702-17	BH-27	Water	12/03/20 12:30	12/05/20 09:10	
400-196702-18	BH-28	Water	12/01/20 12:50	12/05/20 09:10	
400-196702-19	BH-29	Water	12/03/20 12:08	12/05/20 09:10	
400-196702-20	BH-21	Water	12/04/20 14:00	12/05/20 09:10	
400-196702-21	DUP-12/1/2020	Water	12/01/20 00:00	12/05/20 09:10	
400-196702-22	FB-12/1/2020	Water	12/01/20 00:00	12/05/20 09:10	
400-196702-23	DUP-12/2/2020	Water	12/02/20 00:00	12/05/20 09:10	
400-196702-24	FB-12/2/2020	Water	12/02/20 00:00	12/05/20 09:10	
400-196702-25	DUP-12/3/2020	Water	12/03/20 00:00	12/05/20 09:10	
400-196702-26	FB-12/3/2020	Water	12/03/20 00:00	12/05/20 09:10	
400-196702-27	DUP-12/4/2020	Water	12/04/20 00:00	12/05/20 09:10	
400-196702-28	FB-12/4/2020	Water	12/04/20 00:00	12/05/20 09:10	
400-196702-29	TRIP BLANK	Water	12/04/20 00:00	12/05/20 09:10	
400-196792-1	BH-20	Water	12/04/20 12:20	12/08/20 09:16	

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-10

Date Collected: 12/04/20 09:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/09/20 15:57	1
Toluene	ND		1.00		ug/L			12/09/20 15:57	1
Xylenes, Total	ND		10.0		ug/L			12/09/20 15:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*84*		*78 - 118*		*12/09/20 15:57*	*1*
Dibromofluoromethane	*93*		*81 - 121*		*12/09/20 15:57*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*12/09/20 15:57*	*1*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-11

Date Collected: 12/03/20 16:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-2

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/09/20 11:20	1
Toluene	ND		1.00		ug/L			12/09/20 11:20	1
Xylenes, Total	ND		10.0		ug/L			12/09/20 11:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*83*		*78 - 118*		*12/09/20 11:20*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*12/09/20 11:20*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*12/09/20 11:20*	*1*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-12

Date Collected: 12/03/20 16:20
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-3

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/09/20 11:43	1
Toluene	ND		1.00		ug/L			12/09/20 11:43	1
Xylenes, Total	ND		10.0		ug/L			12/09/20 11:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*86*		*78 - 118*		*12/09/20 11:43*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*12/09/20 11:43*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*12/09/20 11:43*	*1*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-13

Date Collected: 12/03/20 16:45
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/09/20 12:07	1
Toluene	ND		1.00		ug/L			12/09/20 12:07	1
Xylenes, Total	ND		10.0		ug/L			12/09/20 12:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*86*		*78 - 118*		*12/09/20 12:07*	*1*
Dibromofluoromethane	*93*		*81 - 121*		*12/09/20 12:07*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/09/20 12:07*	*1*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-14

Date Collected: 12/04/20 11:50
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-5

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**808**		10.0		ug/L			12/09/20 19:05	10
Toluene	ND		10.0		ug/L			12/09/20 19:05	10
Xylenes, Total	ND		100		ug/L			12/09/20 19:05	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*82*		*78 - 118*		*12/09/20 19:05*	*10*
Dibromofluoromethane	*96*		*81 - 121*		*12/09/20 19:05*	*10*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/09/20 19:05*	*10*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-15

Date Collected: 12/04/20 11:20
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-6

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2130**		20.0		ug/L			12/10/20 11:42	20
Toluene	ND		20.0		ug/L			12/10/20 11:42	20
Xylenes, Total	**1150**		200		ug/L			12/10/20 11:42	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*84*		*78 - 118*		*12/10/20 11:42*	*20*
Dibromofluoromethane	*99*		*81 - 121*		*12/10/20 11:42*	*20*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/10/20 11:42*	*20*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-16

Date Collected: 12/04/20 09:35
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-7

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/09/20 16:20	1
Toluene	ND		1.00		ug/L			12/09/20 16:20	1
Xylenes, Total	ND		10.0		ug/L			12/09/20 16:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*84*		*78 - 118*		*12/09/20 16:20*	*1*
Dibromofluoromethane	*95*		*81 - 121*		*12/09/20 16:20*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/09/20 16:20*	*1*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-17

Date Collected: 12/04/20 10:30
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-8

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**16400**		200		ug/L			12/11/20 11:35	200
Toluene	ND		200		ug/L			12/11/20 11:35	200
Xylenes, Total	ND		2000		ug/L			12/11/20 11:35	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*85*		*78 - 118*		*12/11/20 11:35*	*200*
Dibromofluoromethane	*96*		*81 - 121*		*12/11/20 11:35*	*200*
Toluene-d8 (Surr)	*92*		*80 - 120*		*12/11/20 11:35*	*200*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-18

Date Collected: 12/02/20 16:20
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-9

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/09/20 16:47	1
Toluene	ND		1.00		ug/L			12/09/20 16:47	1
Xylenes, Total	ND		10.0		ug/L			12/09/20 16:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*86*		*78 - 118*		*12/09/20 16:47*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*12/09/20 16:47*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/09/20 16:47*	*1*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-19

Date Collected: 12/03/20 14:20
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-10

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.41**		1.00		ug/L			12/09/20 12:29	1
Toluene	ND		1.00		ug/L			12/09/20 12:29	1
Xylenes, Total	ND		10.0		ug/L			12/09/20 12:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*85*		*78 - 118*		*12/09/20 12:29*	*1*
Dibromofluoromethane	*95*		*81 - 121*		*12/09/20 12:29*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/09/20 12:29*	*1*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-22

Date Collected: 12/03/20 13:50
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-12

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**19300**		100		ug/L			12/10/20 12:29	100
Toluene	**2410**		100		ug/L			12/10/20 12:29	100
Xylenes, Total	ND		1000		ug/L			12/10/20 12:29	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*85*		*78 - 118*		*12/10/20 12:29*	*100*
Dibromofluoromethane	*97*		*81 - 121*		*12/10/20 12:29*	*100*
Toluene-d8 (Surr)	*95*		*80 - 120*		*12/10/20 12:29*	*100*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-23

Date Collected: 12/02/20 15:34
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-13

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**5630**		50.0		ug/L			12/08/20 19:42	50
Toluene	ND		50.0		ug/L			12/08/20 19:42	50
Xylenes, Total	ND		500		ug/L			12/08/20 19:42	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*90*		*78 - 118*		*12/08/20 19:42*	*50*
Dibromofluoromethane	*98*		*81 - 121*		*12/08/20 19:42*	*50*
Toluene-d8 (Surr)	*101*		*80 - 120*		*12/08/20 19:42*	*50*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-24

Date Collected: 12/02/20 12:20
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-14

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/08/20 15:17	1
Toluene	ND		1.00		ug/L			12/08/20 15:17	1
Xylenes, Total	ND		10.0		ug/L			12/08/20 15:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*91*		*78 - 118*		*12/08/20 15:17*	*1*
Dibromofluoromethane	*93*		*81 - 121*		*12/08/20 15:17*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*12/08/20 15:17*	*1*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-25

Date Collected: 12/01/20 14:40
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-15

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/08/20 12:27	1
Toluene	ND		1.00		ug/L			12/08/20 12:27	1
Xylenes, Total	ND		10.0		ug/L			12/08/20 12:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*86*		*78 - 118*		*12/08/20 12:27*	*1*
Dibromofluoromethane	*95*		*81 - 121*		*12/08/20 12:27*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*12/08/20 12:27*	*1*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-26

Date Collected: 12/01/20 13:40
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-16

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/08/20 12:54	1
Toluene	ND		1.00		ug/L			12/08/20 12:54	1
Xylenes, Total	ND		10.0		ug/L			12/08/20 12:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*87*		*78 - 118*		*12/08/20 12:54*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*12/08/20 12:54*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*12/08/20 12:54*	*1*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-27

Date Collected: 12/03/20 12:30
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-17

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/09/20 12:57	1
Toluene	ND		1.00		ug/L			12/09/20 12:57	1
Xylenes, Total	ND		10.0		ug/L			12/09/20 12:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*82*		*78 - 118*		*12/09/20 12:57*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*12/09/20 12:57*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/09/20 12:57*	*1*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-28

Date Collected: 12/01/20 12:50
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-18

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/08/20 13:17	1
Toluene	ND		1.00		ug/L			12/08/20 13:17	1
Xylenes, Total	ND		10.0		ug/L			12/08/20 13:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*90*		*78 - 118*		*12/08/20 13:17*	*1*
Dibromofluoromethane	*92*		*81 - 121*		*12/08/20 13:17*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*12/08/20 13:17*	*1*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-29

Date Collected: 12/03/20 12:08
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-19

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2980**		25.0		ug/L			12/09/20 13:48	25
Toluene	ND		25.0		ug/L			12/09/20 13:48	25
Xylenes, Total	ND		250		ug/L			12/09/20 13:48	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*85*		*78 - 118*		*12/09/20 13:48*	*25*
Dibromofluoromethane	*96*		*81 - 121*		*12/09/20 13:48*	*25*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/09/20 13:48*	*25*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-21

Date Collected: 12/04/20 14:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-20

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**639**		10.0		ug/L			12/09/20 19:33	10
Toluene	**53.9**		10.0		ug/L			12/09/20 19:33	10
Xylenes, Total	**736**		100		ug/L			12/09/20 19:33	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*84*		*78 - 118*		*12/09/20 19:33*	*10*
Dibromofluoromethane	*94*		*81 - 121*		*12/09/20 19:33*	*10*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/09/20 19:33*	*10*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: DUP-12/1/2020

Date Collected: 12/01/20 00:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-21

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/08/20 13:40	1
Toluene	ND		1.00		ug/L			12/08/20 13:40	1
Xylenes, Total	ND		10.0		ug/L			12/08/20 13:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*87*		*78 - 118*		*12/08/20 13:40*	*1*
Dibromofluoromethane	*94*		*81 - 121*		*12/08/20 13:40*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*12/08/20 13:40*	*1*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: FB-12/1/2020

Date Collected: 12/01/20 00:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-22

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/09/20 17:15	1
Toluene	ND		1.00		ug/L			12/09/20 17:15	1
Xylenes, Total	ND		10.0		ug/L			12/09/20 17:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*86*		*78 - 118*		*12/09/20 17:15*	*1*
Dibromofluoromethane	*95*		*81 - 121*		*12/09/20 17:15*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/09/20 17:15*	*1*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: DUP-12/2/2020

Date Collected: 12/02/20 00:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-23

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/08/20 15:39	1
Toluene	ND		1.00		ug/L			12/08/20 15:39	1
Xylenes, Total	ND		10.0		ug/L			12/08/20 15:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*87*		*78 - 118*		*12/08/20 15:39*	*1*
Dibromofluoromethane	*95*		*81 - 121*		*12/08/20 15:39*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*12/08/20 15:39*	*1*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: FB-12/2/2020

Date Collected: 12/02/20 00:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-24

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/09/20 17:43	1
Toluene	ND		1.00		ug/L			12/09/20 17:43	1
Xylenes, Total	ND		10.0		ug/L			12/09/20 17:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*87*		*78 - 118*		*12/09/20 17:43*	*1*
Dibromofluoromethane	*94*		*81 - 121*		*12/09/20 17:43*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/09/20 17:43*	*1*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: DUP-12/3/2020

Date Collected: 12/03/20 00:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-25

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/09/20 18:38	1
Toluene	ND		1.00		ug/L			12/09/20 18:38	1
Xylenes, Total	ND		10.0		ug/L			12/09/20 18:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*84*		*78 - 118*		*12/09/20 18:38*	*1*
Dibromofluoromethane	*94*		*81 - 121*		*12/09/20 18:38*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/09/20 18:38*	*1*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: FB-12/3/2020

Date Collected: 12/03/20 00:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-26

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/09/20 18:10	1
Toluene	ND		1.00		ug/L			12/09/20 18:10	1
Xylenes, Total	ND		10.0		ug/L			12/09/20 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*86*		*78 - 118*		*12/09/20 18:10*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*12/09/20 18:10*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/09/20 18:10*	*1*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: DUP-12/4/2020

Date Collected: 12/04/20 00:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-27

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2160**		20.0		ug/L			12/10/20 12:05	20
Toluene	ND		20.0		ug/L			12/10/20 12:05	20
Xylenes, Total	**1170**		200		ug/L			12/10/20 12:05	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*85*		*78 - 118*		*12/10/20 12:05*	*20*
Dibromofluoromethane	*97*		*81 - 121*		*12/10/20 12:05*	*20*
Toluene-d8 (Surr)	*94*		*80 - 120*		*12/10/20 12:05*	*20*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: FB-12/4/2020

Date Collected: 12/04/20 00:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-28

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/10/20 14:14	1
Toluene	ND		1.00		ug/L			12/10/20 14:14	1
Xylenes, Total	ND		10.0		ug/L			12/10/20 14:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*87*		*78 - 118*		*12/10/20 14:14*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*12/10/20 14:14*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/10/20 14:14*	*1*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: TRIP BLANK

Date Collected: 12/04/20 00:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-29

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/10/20 14:42	1
Toluene	ND		1.00		ug/L			12/10/20 14:42	1
Xylenes, Total	ND		10.0		ug/L			12/10/20 14:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*85*		*78 - 118*		*12/10/20 14:42*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*12/10/20 14:42*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*12/10/20 14:42*	*1*

Client Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-20

Date Collected: 12/04/20 12:20
Date Received: 12/08/20 09:16

Lab Sample ID: 400-196792-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**8440**		50.0		ug/L			12/10/20 18:29	50
Toluene	**98.7**		50.0		ug/L			12/10/20 18:29	50
Xylenes, Total	**1690**		500		ug/L			12/10/20 18:29	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*88*		*78 - 118*		*12/10/20 18:29*	*50*
Dibromofluoromethane	*101*		*81 - 121*		*12/10/20 18:29*	*50*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/10/20 18:29*	*50*

Definitions/Glossary

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Surrogate Summary

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-196702-1	BH-10	84	93	100
400-196702-2	BH-11	83	97	100
400-196702-2 MS	BH-11	86	95	98
400-196702-2 MSD	BH-11	88	93	99
400-196702-3	BH-12	86	96	100
400-196702-4	BH-13	86	93	99
400-196702-5	BH-14	82	96	99
400-196702-6	BH-15	84	99	96
400-196702-7	BH-16	84	95	97
400-196702-8	BH-17	85	96	92
400-196702-9	BH-18	86	100	96
400-196702-10	BH-19	85	95	98
400-196702-12	BH-22	85	97	95
400-196702-13	BH-23	90	98	101
400-196702-14	BH-24	91	93	102
400-196702-15	BH-25	86	95	104
400-196702-16	BH-26	87	96	104
400-196702-17	BH-27	82	96	99
400-196702-18	BH-28	90	92	104
400-196702-19	BH-29	85	96	99
400-196702-20	BH-21	84	94	97
400-196702-21	DUP-12/1/2020	87	94	104
400-196702-22	FB-12/1/2020	86	95	99
400-196702-23	DUP-12/2/2020	87	95	101
400-196702-24	FB-12/2/2020	87	94	98
400-196702-25	DUP-12/3/2020	84	94	96
400-196702-26	FB-12/3/2020	86	96	99
400-196702-27	DUP-12/4/2020	85	97	94
400-196702-28	FB-12/4/2020	87	97	96
400-196702-29	TRIP BLANK	85	97	95
400-196792-1	BH-20	88	101	98
LCS 400-513437/1003	Lab Control Sample	90	92	105
LCS 400-513616/1002	Lab Control Sample	90	96	102
LCS 400-513760/1003	Lab Control Sample	88	96	98
LCS 400-513781/1002	Lab Control Sample	90	93	95
MB 400-513437/5	Method Blank	84	95	103
MB 400-513616/4	Method Blank	86	96	100
MB 400-513760/5	Method Blank	85	97	98
MB 400-513781/6	Method Blank	85	91	92

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

QC Association Summary

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

GC/MS VOA

Analysis Batch: 513437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-196702-13	BH-23	Total/NA	Water	8260C	
400-196702-14	BH-24	Total/NA	Water	8260C	
400-196702-15	BH-25	Total/NA	Water	8260C	
400-196702-16	BH-26	Total/NA	Water	8260C	
400-196702-18	BH-28	Total/NA	Water	8260C	
400-196702-21	DUP-12/1/2020	Total/NA	Water	8260C	
400-196702-23	DUP-12/2/2020	Total/NA	Water	8260C	
MB 400-513437/5	Method Blank	Total/NA	Water	8260C	
LCS 400-513437/1003	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 513616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-196702-1	BH-10	Total/NA	Water	8260C	
400-196702-2	BH-11	Total/NA	Water	8260C	
400-196702-3	BH-12	Total/NA	Water	8260C	
400-196702-4	BH-13	Total/NA	Water	8260C	
400-196702-5	BH-14	Total/NA	Water	8260C	
400-196702-7	BH-16	Total/NA	Water	8260C	
400-196702-9	BH-18	Total/NA	Water	8260C	
400-196702-10	BH-19	Total/NA	Water	8260C	
400-196702-17	BH-27	Total/NA	Water	8260C	
400-196702-19	BH-29	Total/NA	Water	8260C	
400-196702-20	BH-21	Total/NA	Water	8260C	
400-196702-22	FB-12/1/2020	Total/NA	Water	8260C	
400-196702-24	FB-12/2/2020	Total/NA	Water	8260C	
400-196702-25	DUP-12/3/2020	Total/NA	Water	8260C	
400-196702-26	FB-12/3/2020	Total/NA	Water	8260C	
MB 400-513616/4	Method Blank	Total/NA	Water	8260C	
LCS 400-513616/1002	Lab Control Sample	Total/NA	Water	8260C	
400-196702-2 MS	BH-11	Total/NA	Water	8260C	
400-196702-2 MSD	BH-11	Total/NA	Water	8260C	

Analysis Batch: 513760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-196702-6	BH-15	Total/NA	Water	8260C	
400-196702-12	BH-22	Total/NA	Water	8260C	
400-196702-27	DUP-12/4/2020	Total/NA	Water	8260C	
400-196702-28	FB-12/4/2020	Total/NA	Water	8260C	
400-196702-29	TRIP BLANK	Total/NA	Water	8260C	
400-196792-1	BH-20	Total/NA	Water	8260C	
MB 400-513760/5	Method Blank	Total/NA	Water	8260C	
LCS 400-513760/1003	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 513781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-196702-8	BH-17	Total/NA	Water	8260C	
MB 400-513781/6	Method Blank	Total/NA	Water	8260C	
LCS 400-513781/1002	Lab Control Sample	Total/NA	Water	8260C	

QC Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 400-513437/5
Matrix: Water
Analysis Batch: 513437

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/08/20 10:06	1
Toluene	ND		1.00		ug/L			12/08/20 10:06	1
Xylenes, Total	ND		10.0		ug/L			12/08/20 10:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*84*		*78 - 118*		*12/08/20 10:06*	*1*
Dibromofluoromethane	*95*		*81 - 121*		*12/08/20 10:06*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*12/08/20 10:06*	*1*

Lab Sample ID: LCS 400-513437/1003
Matrix: Water
Analysis Batch: 513437

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	54.09		ug/L		108	70 - 130
Toluene	50.0	59.20		ug/L		118	70 - 130
Xylenes, Total	100	116.0		ug/L		116	70 - 130
m-Xylene & p-Xylene	50.0	58.47		ug/L		117	70 - 130
o-Xylene	50.0	57.50		ug/L		115	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*90*		*78 - 118*
Dibromofluoromethane	*92*		*81 - 121*
Toluene-d8 (Surr)	*105*		*80 - 120*

Lab Sample ID: MB 400-513616/4
Matrix: Water
Analysis Batch: 513616

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/09/20 09:11	1
Toluene	ND		1.00		ug/L			12/09/20 09:11	1
Xylenes, Total	ND		10.0		ug/L			12/09/20 09:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*86*		*78 - 118*		*12/09/20 09:11*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*12/09/20 09:11*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*12/09/20 09:11*	*1*

Lab Sample ID: LCS 400-513616/1002
Matrix: Water
Analysis Batch: 513616

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	48.55		ug/L		97	70 - 130
Toluene	50.0	49.02		ug/L		98	70 - 130
Xylenes, Total	100	97.89		ug/L		98	70 - 130
m-Xylene & p-Xylene	50.0	48.73		ug/L		97	70 - 130

QC Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-513616/1002
Matrix: Water
Analysis Batch: 513616

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
o-Xylene			50.0	49.17		ug/L		98	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*90*		*78 - 118*
Dibromofluoromethane	*96*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: 400-196702-2 MS
Matrix: Water
Analysis Batch: 513616

Client Sample ID: BH-11
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	ND		50.0	46.34		ug/L		93	56 - 142		
Toluene	ND		50.0	44.17		ug/L		88	65 - 130		
Xylenes, Total	ND		100	85.02		ug/L		85	59 - 130		
m-Xylene & p-Xylene	ND		50.0	43.08		ug/L		86	57 - 130		
o-Xylene	ND		50.0	41.94		ug/L		84	61 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*86*		*78 - 118*
Dibromofluoromethane	*95*		*81 - 121*
Toluene-d8 (Surr)	*98*		*80 - 120*

Lab Sample ID: 400-196702-2 MSD
Matrix: Water
Analysis Batch: 513616

Client Sample ID: BH-11
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		50.0	55.06		ug/L		110	56 - 142	17	30
Toluene	ND		50.0	52.01		ug/L		104	65 - 130	16	30
Xylenes, Total	ND		100	100.6		ug/L		101	59 - 130	17	30
m-Xylene & p-Xylene	ND		50.0	50.09		ug/L		100	57 - 130	15	30
o-Xylene	ND		50.0	50.53		ug/L		101	61 - 130	19	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*88*		*78 - 118*
Dibromofluoromethane	*93*		*81 - 121*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: MB 400-513760/5
Matrix: Water
Analysis Batch: 513760

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/10/20 09:15	1
Toluene	ND		1.00		ug/L			12/10/20 09:15	1
Xylenes, Total	ND		10.0		ug/L			12/10/20 09:15	1

QC Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-513760/5
Matrix: Water
Analysis Batch: 513760

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	85		78 - 118		12/10/20 09:15	1
Dibromofluoromethane	97		81 - 121		12/10/20 09:15	1
Toluene-d8 (Surr)	98		80 - 120		12/10/20 09:15	1

Lab Sample ID: LCS 400-513760/1003
Matrix: Water
Analysis Batch: 513760

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	56.08		ug/L		112	70 - 130
Toluene	50.0	52.26		ug/L		105	70 - 130
Xylenes, Total	100	103.4		ug/L		103	70 - 130
m-Xylene & p-Xylene	50.0	51.89		ug/L		104	70 - 130
o-Xylene	50.0	51.53		ug/L		103	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	88		78 - 118
Dibromofluoromethane	96		81 - 121
Toluene-d8 (Surr)	98		80 - 120

Lab Sample ID: MB 400-513781/6
Matrix: Water
Analysis Batch: 513781

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			12/11/20 10:25	1
Toluene	ND		1.00		ug/L			12/11/20 10:25	1
Xylenes, Total	ND		10.0		ug/L			12/11/20 10:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	85		78 - 118		12/11/20 10:25	1
Dibromofluoromethane	91		81 - 121		12/11/20 10:25	1
Toluene-d8 (Surr)	92		80 - 120		12/11/20 10:25	1

Lab Sample ID: LCS 400-513781/1002
Matrix: Water
Analysis Batch: 513781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	47.95		ug/L		96	70 - 130
Toluene	50.0	51.85		ug/L		104	70 - 130
Xylenes, Total	100	98.54		ug/L		99	70 - 130
m-Xylene & p-Xylene	50.0	49.98		ug/L		100	70 - 130
o-Xylene	50.0	48.56		ug/L		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	90		78 - 118

QC Sample Results

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-513781/1002
Matrix: Water
Analysis Batch: 513781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane	93		81 - 121
Toluene-d8 (Surr)	95		80 - 120

Lab Chronicle

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-10
Date Collected: 12/04/20 09:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513616	12/09/20 15:57	WPD	TAL PEN

Client Sample ID: BH-11
Date Collected: 12/03/20 16:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513616	12/09/20 11:20	WPD	TAL PEN

Client Sample ID: BH-12
Date Collected: 12/03/20 16:20
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513616	12/09/20 11:43	WPD	TAL PEN

Client Sample ID: BH-13
Date Collected: 12/03/20 16:45
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513616	12/09/20 12:07	WPD	TAL PEN

Client Sample ID: BH-14
Date Collected: 12/04/20 11:50
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	5 mL	5 mL	513616	12/09/20 19:05	WPD	TAL PEN

Client Sample ID: BH-15
Date Collected: 12/04/20 11:20
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		20	5 mL	5 mL	513760	12/10/20 11:42	WPD	TAL PEN

Client Sample ID: BH-16
Date Collected: 12/04/20 09:35
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513616	12/09/20 16:20	WPD	TAL PEN

Lab Chronicle

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-17
Date Collected: 12/04/20 10:30
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		200	5 mL	5 mL	513781	12/11/20 11:35	BEP	TAL PEN

Client Sample ID: BH-18
Date Collected: 12/02/20 16:20
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513616	12/09/20 16:47	WPD	TAL PEN

Client Sample ID: BH-19
Date Collected: 12/03/20 14:20
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513616	12/09/20 12:29	WPD	TAL PEN

Client Sample ID: BH-22
Date Collected: 12/03/20 13:50
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		100	5 mL	5 mL	513760	12/10/20 12:29	WPD	TAL PEN

Client Sample ID: BH-23
Date Collected: 12/02/20 15:34
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		50	5 mL	5 mL	513437	12/08/20 19:42	WPD	TAL PEN

Client Sample ID: BH-24
Date Collected: 12/02/20 12:20
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-14
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513437	12/08/20 15:17	WPD	TAL PEN

Client Sample ID: BH-25
Date Collected: 12/01/20 14:40
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513437	12/08/20 12:27	WPD	TAL PEN

Lab Chronicle

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-26
Date Collected: 12/01/20 13:40
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-16
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513437	12/08/20 12:54	WPD	TAL PEN

Client Sample ID: BH-27
Date Collected: 12/03/20 12:30
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-17
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513616	12/09/20 12:57	WPD	TAL PEN

Client Sample ID: BH-28
Date Collected: 12/01/20 12:50
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-18
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513437	12/08/20 13:17	WPD	TAL PEN

Client Sample ID: BH-29
Date Collected: 12/03/20 12:08
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-19
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		25	5 mL	5 mL	513616	12/09/20 13:48	WPD	TAL PEN

Client Sample ID: BH-21
Date Collected: 12/04/20 14:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-20
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	5 mL	5 mL	513616	12/09/20 19:33	WPD	TAL PEN

Client Sample ID: DUP-12/1/2020
Date Collected: 12/01/20 00:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-21
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513437	12/08/20 13:40	WPD	TAL PEN

Client Sample ID: FB-12/1/2020
Date Collected: 12/01/20 00:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-22
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513616	12/09/20 17:15	WPD	TAL PEN

Lab Chronicle

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: DUP-12/2/2020
Date Collected: 12/02/20 00:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-23
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513437	12/08/20 15:39	WPD	TAL PEN

Client Sample ID: FB-12/2/2020
Date Collected: 12/02/20 00:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-24
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513616	12/09/20 17:43	WPD	TAL PEN

Client Sample ID: DUP-12/3/2020
Date Collected: 12/03/20 00:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513616	12/09/20 18:38	WPD	TAL PEN

Client Sample ID: FB-12/3/2020
Date Collected: 12/03/20 00:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-26
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513616	12/09/20 18:10	WPD	TAL PEN

Client Sample ID: DUP-12/4/2020
Date Collected: 12/04/20 00:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-27
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		20	5 mL	5 mL	513760	12/10/20 12:05	WPD	TAL PEN

Client Sample ID: FB-12/4/2020
Date Collected: 12/04/20 00:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-28
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513760	12/10/20 14:14	WPD	TAL PEN

Client Sample ID: TRIP BLANK
Date Collected: 12/04/20 00:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-29
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513760	12/10/20 14:42	WPD	TAL PEN

Lab Chronicle

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: BH-20
Date Collected: 12/04/20 12:20
Date Received: 12/08/20 09:16

Lab Sample ID: 400-196792-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		50	5 mL	5 mL	513760	12/10/20 18:29	WPD	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-513437/5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513437	12/08/20 10:06	WPD	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-513616/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513616	12/09/20 09:11	WPD	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-513760/5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513760	12/10/20 09:15	WPD	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-513781/6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513781	12/11/20 10:25	BEP	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-513437/1003
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513437	12/08/20 09:16	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-513616/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513616	12/09/20 08:14	WPD	TAL PEN

Lab Chronicle

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-513760/1003
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513760	12/10/20 08:27	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-513781/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513781	12/11/20 09:07	BEP	TAL PEN

Client Sample ID: BH-11
Date Collected: 12/03/20 16:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-2 MS
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513616	12/09/20 14:39	WPD	TAL PEN

Client Sample ID: BH-11
Date Collected: 12/03/20 16:00
Date Received: 12/05/20 09:10

Lab Sample ID: 400-196702-2 MSD
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	513616	12/09/20 15:06	WPD	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Method Summary

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL PEN
5030C	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Accreditation/Certification Summary

Client: Trihydro Corporation
Project/Site: Trihydro Gallup Refinery-BTX

Job ID: 400-196702-1
SDG: Wingate Facility

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-21
ANAB	ISO/IEC 17025	L2471	02-23-23
Arizona	State	AZ0710	01-13-21
Arkansas DEQ	State	88-0689	09-02-21
California	State	2510	06-30-21
Florida	NELAP	E81010	06-30-21
Georgia	State	E81010(FL)	06-30-21
Illinois	NELAP	200041	10-09-21
Iowa	State	367	08-01-22
Kansas	NELAP	E-10253	10-31-21
Kentucky (UST)	State	53	06-30-21
Kentucky (WW)	State	KY98030	12-31-20
Louisiana	NELAP	30976	06-30-21
Louisiana (DW)	State	LA017	12-31-20
Maryland	State	233	09-30-21
Massachusetts	State	M-FL094	06-30-21
Michigan	State	9912	06-30-21
Minnesota	NELAP	012-999-481	12-31-20
New Jersey	NELAP	FL006	06-30-21
New York	NELAP	12115	04-01-21
North Carolina (WW/SW)	State	314	12-31-20
Oklahoma	State	9810-186	08-31-21
Pennsylvania	NELAP	68-00467	01-31-21
Rhode Island	State	LAO00307	12-30-20
South Carolina	State	96026002	06-30-21
Tennessee	State	TN02907	06-30-21
Texas	NELAP	T104704286	09-30-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-18-00148	05-17-21
Virginia	NELAP	460166	06-14-21
Washington	State	C915	05-15-21
West Virginia DEP	State	136	12-31-20

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

eurofins | Environment Testing America

400-196702 COC

Client Information	Sampler: Brian McLoughlin	Lab PM: Klingensmith, Leah	Carrier Tracking No(s):	COC No: 400-97393-35236.1
Client Contact: Brian McLoughlin	Phone: 808 640 1823	E-Mail: Leah.Klingensmith@Eurofinset.com		Page: Page 1 of 4
Company: Trihydro Corporation				Job #:

Address: 1252 Commerce Drive	Due Date Requested:
City: Laramie	TAT Requested (days):
State, Zip: WY, 82070	
Phone: 307-745-7474(Tel)	PO #: Purchase Order Requested
Email: bmcloughlin@trihydro.com	WO #:
Project Name: Gallup Refinery-BTX	Project #: 40012761
Site: Wingate Facility	SSOW#:

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C - (MOD) BTEXM 8260	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
BH-10	12-4-20	9:00	C	Water			X		
BH-11	12-3-20	16:00	G	Water			X		
BH-12	12-3-20	16:20	G	Water			X		
BH-13	12-3-20	16 45	G	Water			X		
BH-14	12-4-20	11:50	G	Water			X		
BH-15	12-4-20	11:20	G	Water			X		
BH-16	12-4-20	9:35	G	Water			X		
BH-17	12-4-20	10:30	G	Water			X		
BH-18	12-2-20	1620	G	Water			X		
BH-19	12-3-20	1420	G	Water			X		
BH-20	12-4-20	12:20	C	Water			X		

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Brian McLoughlin	12/4/2020 14:10			12-5-20 0910	TAPEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.3°C IR-7

Ver: 01/16/2019

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Brian McLoughlin	Lab PM: Klingensmith, Leah	Carrier Tracking No(s):	COC No: 400-97393-35236.2
Client Contact: Brian McLoughlin	Phone: (808) 640-1823	E-Mail: Leah.Klingensmith@Eurofinset.com		Page: Page 2 of 4
Company: Trihydro Corporation				Job #:
Address: 1252 Commerce Drive	Due Date Requested:			
City: Laramie	TAT Requested (days):			
State, Zip: WY, 82070				
Phone: 307-745-7474(Tel)	PO #: Purchase Order Requested			
Email: bmcloughlin@trihydro.com	WO #:			
Project Name: Gallup Refinery-BTX	Project #: 40012761			
Site: Wingate Facility	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C - (MOD) BTEXM 8260	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
~~BH-21~~ NO	~~12-2-20~~	~~1450~~	~~G~~	Water			~~X~~		
BH-22	12-3-20	1350	G	Water			X		
BH-23	12-2-20	1534	G	Water			X		
BH-24	12-2-20	1220	G	Water			X		
BH-25	12-1-20	1440	G	Water			X		
BH-26	12-1-20	1340	G	Water			X		
BH-27	12-3-20	1230	C	Water			X		
BH-28	12-1-20	1250	G	Water			X		
BH-29	12-3-20	1208	G	Water			X		
BH-21	12-4-20	14:00	G	Water			X		
				Water					

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	12/4/2020 14:10		[signature]	12-5-20 0910	TAPEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.3oC IR-7

Ver: 01/16/2019

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Brian McLoughlin	Lab PM: Klingensmith, Leah	Carrier Tracking No(s):	COC No: 400-97393-35236.3
Client Contact: Brian McLoughlin	Phone: 808 640 1823	E-Mail: Leah.Klingensmith@Eurofinset.com		Page: Page 3 of 4
Company: Trihydro Corporation				Job #:

Address: 1252 Commerce Drive	Due Date Requested:
City: Laramie	TAT Requested (days):
State, Zip: WY, 82070	
Phone: 307-745-7474(Tel)	PO #: Purchase Order Requested
Email: bmcloughlin@trihydro.com	WO #:
Project Name: Gallup Refinery-BTX	Project #: 40012761
Site:	SSOW#:

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C - (MOD) BTEXM 8260	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
DUP - 12/1/2020	12/1/20	—	G	Water			X		
FB - 12/1/2020	12/1/20	—	G	Water			X		
DUP - 12/2/2020	12/2/20	-	G	Water			X		
FB - 12/2/2020	12/2/20	-	G	Water			X		
DUP - 12/3/2020	12/3/20	—	G	Water			X		
FB - 12/3/2020	12/3/20	—	G	Water			X		
DUP - 12/4/2020	12/4/20	—	G	Water			X		
FB - 12/4/2020	12/4/20	-	G	Water			X		
				Water					
				Water					
				Water					

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 12/4/2020 14:10	Company	Received by:	Date/Time: 12-5-20 0910	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

eurofins

400-196792 COC

Client Information	Sampler: Brian McLoughlin	Lab PM: Klingensmith, Leah	Carrier Tracking No(s):	COC No: 400-97393-35236.4
Client Contact: Brian McLoughlin	Phone: 808 640 -1823	E-Mail: Leah.Klingensmith@Eurofinset.com		Page: Page 4 of 4
Company: Trihydro Corporation				Job #:
Address: 1252 Commerce Drive	Due Date Requested:			
City: Laramie	TAT Requested (days):			
State, Zip: WY, 82070				
Phone: 307-745-7474(Tel)	PO #: Purchase Order Requested			
Email: bmcloughlin@trihydro.com	WO #:			
Project Name: Gallup Refinery-BTX	Project #: 40012761			
Site: Wingate - Marathon	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C - (MOD) BTEXM 8260	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
BH - 20	12/4/20	12:20	G	Water			X		
				Water					
				Water					
				Water					

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/7/20 14:00	Trihydro		12-8-20 0916	TAPEN
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 4.3°C IR-8

Ver: 01/16/2019

Klingensmith, Leah

From: Brian McLoughlin <bmcloughlin@trihydro.com>
Sent: Monday, December 7, 2020 7:58 AM
To: Klingensmith, Leah
Subject: Re: ***Please Note***Eurofins TestAmerica Sample Login Confirmation files from 400-196702 Trihydro Gallup Refinery-BTX

EXTERNAL EMAIL*

Good morning, yes, it is BH-20 that I will be sending out today. Thanks for the update

Get Outlook for Android

From: Leah Klingensmith <Leah.Klingensmith@Eurofinset.com>
Sent: Monday, December 7, 2020 6:20:20 AM
To: Brian McLoughlin <bmcloughlin@trihydro.com>
Subject: ***Please Note***Eurofins TestAmerica Sample Login Confirmation files from 400-196702 Trihydro Gallup Refinery-BTX

◆ This message was sent from a non-Trihydro address. Please exercise caution when clicking links or opening attachments from external sources.

Hello,

We did have some breakage upon receipt but the analysis on all samples should still be available at least for one run. BH-13 and BH-28.

Brian – Was it the vials for BH-20 that did not make the shipment?

Attached, please find the Sample Confirmation files for job 400-196702; Trihydro Gallup Refinery-BTX

Please feel free to contact me if you have any questions.

Thank you.

Leah Klingensmith
Project Manager

Eurofins TestAmerica, Pensacola
Phone: 615-301-5038

E-mail: Leah.Klingensmith@Eurofinset.com
www.eurofinsus.com/env

Reference: [400-530346]
Attachments: 3

Please let us know if we met your expectations by rating the service you received from Eurofins TestAmerica on this project by visiting our website at: Project Feedback

* WARNING - EXTERNAL: This email originated from outside of Eurofins TestAmerica. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!

Login Sample Receipt Checklist

Client: Trihydro Corporation

Job Number: 400-196702-1
SDG Number: Wingate Facility

Login Number: 196702
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.3°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

C-3. – Phase III Laboratory Analytical Report

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

April 15, 2021

Brian McLoughlin

Marathon
92 Giant Crossing Rd
Gallup, NM 87301
TEL:
FAX

RE: Wingate Benzene Investigation Phase III OrderNo.: 2104449

Dear Brian McLoughlin:

Hall Environmental Analysis Laboratory received 23 sample(s) on 4/9/2021 for the analyses presented in the following report.

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

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

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

Sincerely,



Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order: **2104449**
Date Reported: **4/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Lab Order:** 2104449
Project: Wingate Benzene Investigation Phase III

Lab ID: 2104449-001 **Collection Date:** 4/6/2021 11:20:00 AM
Client Sample ID: BH-41 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	4100	200	P	µg/L	200	4/14/2021 8:03:18 PM	R76685
Toluene	ND	2.0	P	µg/L	2	4/13/2021 7:04:04 PM	R76654
Ethylbenzene	21	2.0	P	µg/L	2	4/13/2021 7:04:04 PM	R76654
Xylenes, Total	94	3.0	P	µg/L	2	4/13/2021 7:04:04 PM	R76654
Surr: 1,2-Dichloroethane-d4	94.0	70-130	P	%Rec	2	4/13/2021 7:04:04 PM	R76654
Surr: 4-Bromofluorobenzene	121	70-130	P	%Rec	2	4/13/2021 7:04:04 PM	R76654
Surr: Dibromofluoromethane	100	70-130	P	%Rec	2	4/13/2021 7:04:04 PM	R76654
Surr: Toluene-d8	103	70-130	P	%Rec	2	4/13/2021 7:04:04 PM	R76654

Lab ID: 2104449-002 **Collection Date:** 4/6/2021 10:45:00 AM
Client Sample ID: BH-42 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0		µg/L	1	4/14/2021 3:17:32 PM	R76685
Toluene	ND	1.0		µg/L	1	4/14/2021 3:17:32 PM	R76685
Ethylbenzene	ND	1.0		µg/L	1	4/14/2021 3:17:32 PM	R76685
Xylenes, Total	ND	1.5		µg/L	1	4/14/2021 3:17:32 PM	R76685
Surr: 1,2-Dichloroethane-d4	94.4	70-130		%Rec	1	4/14/2021 3:17:32 PM	R76685
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	4/14/2021 3:17:32 PM	R76685
Surr: Dibromofluoromethane	103	70-130		%Rec	1	4/14/2021 3:17:32 PM	R76685
Surr: Toluene-d8	102	70-130		%Rec	1	4/14/2021 3:17:32 PM	R76685

Lab ID: 2104449-003 **Collection Date:** 4/6/2021 12:00:00 PM
Client Sample ID: BH-40 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	2800	100	P	µg/L	100	4/15/2021 12:20:38 AM	R76685
Toluene	ND	1.0	P	µg/L	1	4/13/2021 8:58:36 PM	R76654
Ethylbenzene	5.0	1.0	P	µg/L	1	4/13/2021 8:58:36 PM	R76654
Xylenes, Total	31	1.5	P	µg/L	1	4/13/2021 8:58:36 PM	R76654
Surr: 1,2-Dichloroethane-d4	102	70-130	P	%Rec	1	4/13/2021 8:58:36 PM	R76654
Surr: Dibromofluoromethane	102	70-130	P	%Rec	1	4/13/2021 8:58:36 PM	R76654
Surr: Toluene-d8	105	70-130	P	%Rec	1	4/13/2021 8:58:36 PM	R76654

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

Qualifiers:

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

Analytical Report
Lab Order: **2104449**
Date Reported: **4/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Lab Order:** 2104449
Project: Wingate Benzene Investigation Phase III

Lab ID: 2104449-004 **Collection Date:** 4/6/2021 12:30:00 PM
Client Sample ID: BH-38 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	5.0	DP	µg/L	5	4/14/2021 3:46:06 PM	R76685
Toluene	ND	5.0	DP	µg/L	5	4/14/2021 3:46:06 PM	R76685
Ethylbenzene	ND	5.0	DP	µg/L	5	4/14/2021 3:46:06 PM	R76685
Xylenes, Total	ND	7.5	DP	µg/L	5	4/14/2021 3:46:06 PM	R76685
Surr: 1,2-Dichloroethane-d4	91.9	70-130	DP	%Rec	5	4/14/2021 3:46:06 PM	R76685
Surr: 4-Bromofluorobenzene	107	70-130	DP	%Rec	5	4/14/2021 3:46:06 PM	R76685
Surr: Dibromofluoromethane	101	70-130	DP	%Rec	5	4/14/2021 3:46:06 PM	R76685
Surr: Toluene-d8	101	70-130	DP	%Rec	5	4/14/2021 3:46:06 PM	R76685

Lab ID: 2104449-005 **Collection Date:** 4/6/2021 1:30:00 PM
Client Sample ID: BH-39 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	2.0	D	µg/L	2	4/14/2021 4:14:39 PM	R76685
Toluene	ND	2.0	D	µg/L	2	4/14/2021 4:14:39 PM	R76685
Ethylbenzene	ND	2.0	D	µg/L	2	4/14/2021 4:14:39 PM	R76685
Xylenes, Total	ND	3.0	D	µg/L	2	4/14/2021 4:14:39 PM	R76685
Surr: 1,2-Dichloroethane-d4	96.9	70-130	D	%Rec	2	4/14/2021 4:14:39 PM	R76685
Surr: 4-Bromofluorobenzene	108	70-130	D	%Rec	2	4/14/2021 4:14:39 PM	R76685
Surr: Dibromofluoromethane	98.4	70-130	D	%Rec	2	4/14/2021 4:14:39 PM	R76685
Surr: Toluene-d8	105	70-130	D	%Rec	2	4/14/2021 4:14:39 PM	R76685

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

Qualifiers:

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

Analytical Report
Lab Order: **2104449**
Date Reported: **4/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Lab Order:** 2104449
Project: Wingate Benzene Investigation Phase III

Lab ID: 2104449-006 **Collection Date:** 4/6/2021 2:15:00 PM
Client Sample ID: BH-36 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	170	10		µg/L	10	4/15/2021 12:49:19 AM	R76685
Toluene	7.3	1.0		µg/L	1	4/13/2021 10:24:16 PM	R76654
Ethylbenzene	29	1.0		µg/L	1	4/13/2021 10:24:16 PM	R76654
Xylenes, Total	50	1.5		µg/L	1	4/13/2021 10:24:16 PM	R76654
Surr: 1,2-Dichloroethane-d4	75.5	70-130		%Rec	1	4/13/2021 10:24:16 PM	R76654
Surr: 4-Bromofluorobenzene	98.3	70-130		%Rec	1	4/13/2021 10:24:16 PM	R76654
Surr: Dibromofluoromethane	75.8	70-130		%Rec	1	4/13/2021 10:24:16 PM	R76654
Surr: Toluene-d8	102	70-130		%Rec	1	4/13/2021 10:24:16 PM	R76654

Lab ID: 2104449-007 **Collection Date:** 4/6/2021 3:30:00 PM
Client Sample ID: BH-37 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0	P	µg/L	1	4/14/2021 12:18:54 AM	R76654
Toluene	ND	1.0	P	µg/L	1	4/14/2021 12:18:54 AM	R76654
Ethylbenzene	ND	1.0	P	µg/L	1	4/14/2021 12:18:54 AM	R76654
Xylenes, Total	ND	1.5	P	µg/L	1	4/14/2021 12:18:54 AM	R76654
Surr: 1,2-Dichloroethane-d4	95.8	70-130	P	%Rec	1	4/14/2021 12:18:54 AM	R76654
Surr: 4-Bromofluorobenzene	104	70-130	P	%Rec	1	4/14/2021 12:18:54 AM	R76654
Surr: Dibromofluoromethane	96.6	70-130	P	%Rec	1	4/14/2021 12:18:54 AM	R76654
Surr: Toluene-d8	99.7	70-130	P	%Rec	1	4/14/2021 12:18:54 AM	R76654

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

Qualifiers:

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

Analytical Report
Lab Order: **2104449**
Date Reported: **4/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Lab Order:** 2104449
Project: Wingate Benzene Investigation Phase III

Lab ID: 2104449-008 **Collection Date:** 4/6/2021 4:00:00 PM
Client Sample ID: BH-30 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	5.0	DP	µg/L	5	4/14/2021 12:47:24 AM	R76654
Toluene	ND	5.0	DP	µg/L	5	4/14/2021 12:47:24 AM	R76654
Ethylbenzene	ND	5.0	DP	µg/L	5	4/14/2021 12:47:24 AM	R76654
Xylenes, Total	ND	7.5	DP	µg/L	5	4/14/2021 12:47:24 AM	R76654
Surr: 1,2-Dichloroethane-d4	98.6	70-130	DP	%Rec	5	4/14/2021 12:47:24 AM	R76654
Surr: 4-Bromofluorobenzene	99.3	70-130	DP	%Rec	5	4/14/2021 12:47:24 AM	R76654
Surr: Dibromofluoromethane	102	70-130	DP	%Rec	5	4/14/2021 12:47:24 AM	R76654
Surr: Toluene-d8	103	70-130	DP	%Rec	5	4/14/2021 12:47:24 AM	R76654

Lab ID: 2104449-009 **Collection Date:**
Client Sample ID: DUP 4/6/2021 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0		µg/L	1	4/14/2021 1:16:01 AM	R76654
Toluene	ND	1.0		µg/L	1	4/14/2021 1:16:01 AM	R76654
Ethylbenzene	ND	1.0		µg/L	1	4/14/2021 1:16:01 AM	R76654
Xylenes, Total	ND	1.5		µg/L	1	4/14/2021 1:16:01 AM	R76654
Surr: 1,2-Dichloroethane-d4	96.7	70-130		%Rec	1	4/14/2021 1:16:01 AM	R76654
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	4/14/2021 1:16:01 AM	R76654
Surr: Dibromofluoromethane	98.6	70-130		%Rec	1	4/14/2021 1:16:01 AM	R76654
Surr: Toluene-d8	98.7	70-130		%Rec	1	4/14/2021 1:16:01 AM	R76654

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

Qualifiers:

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

Analytical Report
Lab Order: **2104449**
Date Reported: **4/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Lab Order:** 2104449
Project: Wingate Benzene Investigation Phase III

Lab ID: 2104449-010 **Collection Date:** 4/6/2021 11:20:00 AM
Client Sample ID: FB 4/6/2021 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0		µg/L	1	4/14/2021 1:44:38 AM	R76654
Toluene	ND	1.0		µg/L	1	4/14/2021 1:44:38 AM	R76654
Ethylbenzene	ND	1.0		µg/L	1	4/14/2021 1:44:38 AM	R76654
Xylenes, Total	ND	1.5		µg/L	1	4/14/2021 1:44:38 AM	R76654
Surr: 1,2-Dichloroethane-d4	95.8	70-130		%Rec	1	4/14/2021 1:44:38 AM	R76654
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	4/14/2021 1:44:38 AM	R76654
Surr: Dibromofluoromethane	101	70-130		%Rec	1	4/14/2021 1:44:38 AM	R76654
Surr: Toluene-d8	101	70-130		%Rec	1	4/14/2021 1:44:38 AM	R76654

Lab ID: 2104449-011 **Collection Date:** 4/7/2021 8:40:00 AM
Client Sample ID: BH-31 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	1.0	1.0		µg/L	1	4/14/2021 2:13:15 AM	R76654
Toluene	ND	1.0		µg/L	1	4/14/2021 2:13:15 AM	R76654
Ethylbenzene	ND	1.0		µg/L	1	4/14/2021 2:13:15 AM	R76654
Xylenes, Total	ND	1.5		µg/L	1	4/14/2021 2:13:15 AM	R76654
Surr: 1,2-Dichloroethane-d4	110	70-130		%Rec	1	4/14/2021 2:13:15 AM	R76654
Surr: Dibromofluoromethane	98.9	70-130		%Rec	1	4/14/2021 2:13:15 AM	R76654
Surr: Toluene-d8	94.3	70-130		%Rec	1	4/14/2021 2:13:15 AM	R76654

Lab ID: 2104449-012 **Collection Date:** 4/7/2021 9:15:00 AM
Client Sample ID: BH-32 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	2.0	DP	µg/L	2	4/14/2021 2:41:49 AM	R76654
Toluene	ND	2.0	DP	µg/L	2	4/14/2021 2:41:49 AM	R76654
Ethylbenzene	ND	2.0	DP	µg/L	2	4/14/2021 2:41:49 AM	R76654
Xylenes, Total	ND	3.0	DP	µg/L	2	4/14/2021 2:41:49 AM	R76654
Surr: 1,2-Dichloroethane-d4	97.7	70-130	DP	%Rec	2	4/14/2021 2:41:49 AM	R76654
Surr: 4-Bromofluorobenzene	103	70-130	DP	%Rec	2	4/14/2021 2:41:49 AM	R76654
Surr: Dibromofluoromethane	99.2	70-130	DP	%Rec	2	4/14/2021 2:41:49 AM	R76654
Surr: Toluene-d8	102	70-130	DP	%Rec	2	4/14/2021 2:41:49 AM	R76654

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

Qualifiers:

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

Analytical Report
Lab Order: **2104449**
Date Reported: **4/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Lab Order:** 2104449
Project: Wingate Benzene Investigation Phase III

Lab ID: 2104449-013 **Collection Date:** 4/7/2021 10:45:00 AM
Client Sample ID: BH-33 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	2.0	DP	µg/L	2	4/14/2021 3:10:29 AM	R76654
Toluene	ND	2.0	DP	µg/L	2	4/14/2021 3:10:29 AM	R76654
Ethylbenzene	ND	2.0	DP	µg/L	2	4/14/2021 3:10:29 AM	R76654
Xylenes, Total	ND	3.0	DP	µg/L	2	4/14/2021 3:10:29 AM	R76654
Surr: 1,2-Dichloroethane-d4	97.1	70-130	DP	%Rec	2	4/14/2021 3:10:29 AM	R76654
Surr: Dibromofluoromethane	102	70-130	DP	%Rec	2	4/14/2021 3:10:29 AM	R76654
Surr: Toluene-d8	100	70-130	DP	%Rec	2	4/14/2021 3:10:29 AM	R76654

Lab ID: 2104449-014 **Collection Date:** 4/7/2021 9:40:00 AM
Client Sample ID: BH-34 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	7100	200		µg/L	200	4/15/2021 1:17:57 AM	R76685
Toluene	ND	1.0		µg/L	1	4/14/2021 3:39:07 AM	R76654
Ethylbenzene	39	1.0		µg/L	1	4/14/2021 3:39:07 AM	R76654
Xylenes, Total	230	30		µg/L	20	4/15/2021 1:46:38 AM	R76685
Surr: 1,2-Dichloroethane-d4	95.2	70-130		%Rec	1	4/14/2021 3:39:07 AM	R76654
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	4/14/2021 3:39:07 AM	R76654
Surr: Dibromofluoromethane	97.6	70-130		%Rec	1	4/14/2021 3:39:07 AM	R76654
Surr: Toluene-d8	102	70-130		%Rec	1	4/14/2021 3:39:07 AM	R76654

Lab ID: 2104449-015 **Collection Date:** 4/7/2021 11:45:00 AM
Client Sample ID: BH-35 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	2.0	DP	µg/L	2	4/14/2021 4:43:20 PM	R76685
Toluene	ND	2.0	DP	µg/L	2	4/14/2021 4:43:20 PM	R76685
Ethylbenzene	ND	2.0	DP	µg/L	2	4/14/2021 4:43:20 PM	R76685
Xylenes, Total	ND	3.0	DP	µg/L	2	4/14/2021 4:43:20 PM	R76685
Surr: 1,2-Dichloroethane-d4	94.6	70-130	DP	%Rec	2	4/14/2021 4:43:20 PM	R76685
Surr: 4-Bromofluorobenzene	97.7	70-130	DP	%Rec	2	4/14/2021 4:43:20 PM	R76685
Surr: Dibromofluoromethane	97.9	70-130	DP	%Rec	2	4/14/2021 4:43:20 PM	R76685
Surr: Toluene-d8	101	70-130	DP	%Rec	2	4/14/2021 4:43:20 PM	R76685

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

Qualifiers:

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

Analytical Report
Lab Order: **2104449**
Date Reported: **4/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Lab Order:** 2104449
Project: Wingate Benzene Investigation Phase III

Lab ID: 2104449-016 **Collection Date:** 4/7/2021 1:10:00 PM
Client Sample ID: WMW-9 (0-1) **Matrix:** MEOH (SOIL)

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	0.062		mg/Kg	1	4/14/2021 6:37:37 PM	59235
Toluene	ND	0.12		mg/Kg	1	4/14/2021 6:37:37 PM	59235
Ethylbenzene	ND	0.12		mg/Kg	1	4/14/2021 6:37:37 PM	59235
Xylenes, Total	ND	0.25		mg/Kg	1	4/14/2021 6:37:37 PM	59235
Surr: Dibromofluoromethane	101	70-130		%Rec	1	4/14/2021 6:37:37 PM	59235
Surr: 1,2-Dichloroethane-d4	94.7	70-130		%Rec	1	4/14/2021 6:37:37 PM	59235
Surr: Toluene-d8	98.0	70-130		%Rec	1	4/14/2021 6:37:37 PM	59235
Surr: 4-Bromofluorobenzene	97.0	70-130		%Rec	1	4/14/2021 6:37:37 PM	59235

Lab ID: 2104449-017 **Collection Date:** 4/7/2021 1:20:00 PM
Client Sample ID: WMW-9 (5-6) **Matrix:** MEOH (SOIL)

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	0.078		mg/Kg	1	4/14/2021 7:06:13 PM	59235
Toluene	ND	0.16		mg/Kg	1	4/14/2021 7:06:13 PM	59235
Ethylbenzene	ND	0.16		mg/Kg	1	4/14/2021 7:06:13 PM	59235
Xylenes, Total	ND	0.31		mg/Kg	1	4/14/2021 7:06:13 PM	59235
Surr: Dibromofluoromethane	104	70-130		%Rec	1	4/14/2021 7:06:13 PM	59235
Surr: 1,2-Dichloroethane-d4	98.1	70-130		%Rec	1	4/14/2021 7:06:13 PM	59235
Surr: Toluene-d8	107	70-130		%Rec	1	4/14/2021 7:06:13 PM	59235
Surr: 4-Bromofluorobenzene	95.8	70-130		%Rec	1	4/14/2021 7:06:13 PM	59235

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order: **2104449**
Date Reported: **4/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Lab Order:** 2104449
Project: Wingate Benzene Investigation Phase III

Lab ID: 2104449-018 **Collection Date:** 4/7/2021 1:30:00 PM
Client Sample ID: WMW-9 (9-10) **Matrix:** MEOH (SOIL)

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	0.73	0.054		mg/Kg	1	4/14/2021 6:59:27 AM	59235
Toluene	ND	0.11		mg/Kg	1	4/14/2021 6:59:27 AM	59235
Ethylbenzene	ND	0.11		mg/Kg	1	4/14/2021 6:59:27 AM	59235
Xylenes, Total	ND	0.22		mg/Kg	1	4/14/2021 6:59:27 AM	59235
Surr: Dibromofluoromethane	104	70-130		%Rec	1	4/14/2021 6:59:27 AM	59235
Surr: 1,2-Dichloroethane-d4	98.1	70-130		%Rec	1	4/14/2021 6:59:27 AM	59235
Surr: Toluene-d8	103	70-130		%Rec	1	4/14/2021 6:59:27 AM	59235
Surr: 4-Bromofluorobenzene	95.7	70-130		%Rec	1	4/14/2021 6:59:27 AM	59235

Lab ID: 2104449-019 **Collection Date:** 4/7/2021 1:40:00 PM
Client Sample ID: WMW-9 (14-15) **Matrix:** MEOH (SOIL)

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	1.1	0.023		mg/Kg	1	4/14/2021 7:28:04 AM	59235
Toluene	ND	0.047		mg/Kg	1	4/14/2021 7:28:04 AM	59235
Ethylbenzene	ND	0.047		mg/Kg	1	4/14/2021 7:28:04 AM	59235
Xylenes, Total	ND	0.093		mg/Kg	1	4/14/2021 7:28:04 AM	59235
Surr: Dibromofluoromethane	102	70-130		%Rec	1	4/14/2021 7:28:04 AM	59235
Surr: 1,2-Dichloroethane-d4	97.6	70-130		%Rec	1	4/14/2021 7:28:04 AM	59235
Surr: Toluene-d8	97.5	70-130		%Rec	1	4/14/2021 7:28:04 AM	59235
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/14/2021 7:28:04 AM	59235

Lab ID: 2104449-020 **Collection Date:** 4/7/2021
Client Sample ID: DUP 4/7/2021 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0		µg/L	1	4/14/2021 5:11:54 PM	R76685
Toluene	ND	1.0		µg/L	1	4/14/2021 5:11:54 PM	R76685
Ethylbenzene	ND	1.0		µg/L	1	4/14/2021 5:11:54 PM	R76685
Xylenes, Total	ND	1.5		µg/L	1	4/14/2021 5:11:54 PM	R76685
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	4/14/2021 5:11:54 PM	R76685
Surr: Dibromofluoromethane	99.4	70-130		%Rec	1	4/14/2021 5:11:54 PM	R76685
Surr: Toluene-d8	104	70-130		%Rec	1	4/14/2021 5:11:54 PM	R76685

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

Qualifiers:

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

Analytical Report
Lab Order: **2104449**
Date Reported: **4/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Lab Order:** 2104449
Project: Wingate Benzene Investigation Phase III

Lab ID: 2104449-021 **Collection Date:** 4/7/2021 8:40:00 AM
Client Sample ID: FB 4/7/2021 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0		µg/L	1	4/14/2021 5:40:29 PM	R7668
Toluene	ND	1.0		µg/L	1	4/14/2021 5:40:29 PM	R7668
Ethylbenzene	ND	1.0		µg/L	1	4/14/2021 5:40:29 PM	R7668
Xylenes, Total	ND	1.5		µg/L	1	4/14/2021 5:40:29 PM	R7668
Surr: 1,2-Dichloroethane-d4	93.3	70-130		%Rec	1	4/14/2021 5:40:29 PM	R7668
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/14/2021 5:40:29 PM	R7668
Surr: Dibromofluoromethane	101	70-130		%Rec	1	4/14/2021 5:40:29 PM	R7668
Surr: Toluene-d8	99.7	70-130		%Rec	1	4/14/2021 5:40:29 PM	R7668

Lab ID: 2104449-022 **Collection Date:** 4/7/2021
Client Sample ID: Trip Blank **Matrix:** TRIP BLANK

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0		µg/L	1	4/14/2021 6:09:03 PM	R7668
Toluene	ND	1.0		µg/L	1	4/14/2021 6:09:03 PM	R7668
Ethylbenzene	ND	1.0		µg/L	1	4/14/2021 6:09:03 PM	R7668
Xylenes, Total	ND	1.5		µg/L	1	4/14/2021 6:09:03 PM	R7668
Surr: 1,2-Dichloroethane-d4	92.8	70-130		%Rec	1	4/14/2021 6:09:03 PM	R7668
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/14/2021 6:09:03 PM	R7668
Surr: Dibromofluoromethane	96.1	70-130		%Rec	1	4/14/2021 6:09:03 PM	R7668
Surr: Toluene-d8	99.9	70-130		%Rec	1	4/14/2021 6:09:03 PM	R7668

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order: **2104449**
Date Reported: **4/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Lab Order:** 2104449
Project: Wingate Benzene Investigation Phase III

Lab ID: 2104449-023 **Collection Date:**
Client Sample ID: MeOH Blank **Matrix:** MEOH BLANK

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	4/14/2021 7:34:46 PM	59235
Toluene	ND	0.050		mg/Kg	1	4/14/2021 7:34:46 PM	59235
Ethylbenzene	ND	0.050		mg/Kg	1	4/14/2021 7:34:46 PM	59235
Xylenes, Total	ND	0.10		mg/Kg	1	4/14/2021 7:34:46 PM	59235
Surr: Dibromofluoromethane	103	70-130		%Rec	1	4/14/2021 7:34:46 PM	59235
Surr: 1,2-Dichloroethane-d4	93.9	70-130		%Rec	1	4/14/2021 7:34:46 PM	59235
Surr: Toluene-d8	102	70-130		%Rec	1	4/14/2021 7:34:46 PM	59235
Surr: 4-Bromofluorobenzene	97.2	70-130		%Rec	1	4/14/2021 7:34:46 PM	59235

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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#: **2104449**
15-Apr-21

Client: Marathon
Project: Wingate Benzene Investigation Phase III

Sample ID: **lcs-59235**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **59235**	RunNo: **76654**
Prep Date: **4/6/2021**	Analysis Date: **4/13/2021**	SeqNo: **2716260** 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	104	70	130			
Toluene	1.0	0.050	1.000	0	104	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		108	70	130			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.52		0.5000		104	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			

Sample ID: **mb-59235**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **59235**	RunNo: **76654**
Prep Date: **4/6/2021**	Analysis Date: **4/13/2021**	SeqNo: **2716261** 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								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.53		0.5000		106	70	130			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		101	70	130			
Surr: Toluene-d8	0.50		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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#: **2104449**
15-Apr-21

Client: Marathon
Project: Wingate Benzene Investigation Phase III

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW** Batch ID: **R76654** RunNo: **76654**
Prep Date: Analysis Date: **4/13/2021** SeqNo: **2716232** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	70	130			
Toluene	21	1.0	20.00	0	105	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW** Batch ID: **R76654** RunNo: **76654**
Prep Date: Analysis Date: **4/13/2021** SeqNo: **2716233** 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	9.9		10.00		99.3	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.3	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	9.9		10.00		99.0	70	130			

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW** Batch ID: **A76685** RunNo: **76685**
Prep Date: Analysis Date: **4/14/2021** SeqNo: **2717271** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.2	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.5	70	130			
Surr: Dibromofluoromethane	10		10.00		103	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: **A76685** RunNo: **76685**
Prep Date: Analysis Date: **4/14/2021** SeqNo: **2717272** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.4	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.5	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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#: **2104449**
15-Apr-21

Client: Marathon
Project: Wingate Benzene Investigation Phase III

Sample ID: **2104449-001ams** SampType: **MS** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **BH-41** Batch ID: **R76685** RunNo: **76685**
Prep Date: Analysis Date: **4/14/2021** SeqNo: **2717286** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	3900	2.0	40.00	4073	-455	70	130			ESP
Toluene	37	2.0	40.00	0.4044	91.5	70	130			P
Surr: 1,2-Dichloroethane-d4	19		20.00		94.4	70	130			P
Surr: 4-Bromofluorobenzene	23		20.00		117	70	130			P
Surr: Dibromofluoromethane	19		20.00		95.3	70	130			P
Surr: Toluene-d8	20		20.00		99.2	70	130			P

Sample ID: **2104449-001amsd** SampType: **MSD** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **BH-41** Batch ID: **R76685** RunNo: **76685**
Prep Date: Analysis Date: **4/14/2021** SeqNo: **2717287** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	3900	2.0	40.00	4073	-537	70	130	0.846	20	ESP
Toluene	37	2.0	40.00	0.4044	90.9	70	130	0.676	20	P
Surr: 1,2-Dichloroethane-d4	19		20.00		93.5	70	130	0	0	P
Surr: 4-Bromofluorobenzene	23		20.00		116	70	130	0	0	P
Surr: Dibromofluoromethane	19		20.00		96.1	70	130	0	0	P
Surr: Toluene-d8	19		20.00		97.4	70	130	0	0	P

Qualifiers:

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

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

Sample Log-In Check List

Client Name: **Marathon** Work Order Number: **2104449** RcptNo: 1

Received By: **Desiree Dominguez** **4/9/2021 10:30:00 AM** DD

Completed By: **Desiree Dominguez** **4/9/2021 10:48:49 AM** DD

Reviewed By: ENM 4/9/21

Chain of Custody

1. Is Chain of Custody 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° 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 ☑ SPA 4.9.21 No ☒ NA ☐
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: (<2 or >12 unless noted)
Adjusted?
Checked by: SPA 4.9.21

Special Handling (if applicable)

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

Person Notified: Brian M. Date: 4/9/21
By Whom: Erin Melendrez Via: ☐ eMail ☒ Phone ☐ Fax ☐ In Person
Regarding: Various time and sample name discrepancies. -ENM
Client Instructions: COC is correct with exception of "FB 4/6/2021".

16. Additional remarks: All 3 VOA's of Sample 004A have Bubbles > 1/4". 4/9/21 SPA 4.9.21

17. **Cooler Information**

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

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

Chain-of-Custody Record

Client: Marathon Petroleum Co.

Mailing Address: 92 Giant Crossing Rd
Jamestown, NM

Phone #: 808 640-1823

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☒ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Wingate Benzene Investigation phase III

Project #: 697-072-002

Project Manager: Brian McLaughlin

Sampler:

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 4.0 -0.1 = 3.9 °C DAD 4.9.21

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2104449	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/6	11:20	GW	BH-41	3		-001	X									
4/6	10:45	GW	BH-42	3		-002	X									
4/6	12:00	GW	BH-40	3		-003	X									
4/6	12:30	GW	BH-38	3		-004	X									
4/6	13:30	GW	BH-39	3		-005	X									
4/6	14:15	GW	BH-36	3		-006	X									
4/6	15:30	GW	BH-37	3		-007	X									
4/6	16:00	GW	BH-30	3		-008	X									
4/6		GW	DUP 4/6/2021	3		-009	X									
4/6	~~11:20~~	water	FB 4/6/2021	3		-010	X									
	1045															
	ENV 4/9/21 per Brian M.															

Remarks:

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
4/8	15:30			CDO	4/9/21	10:30
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

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.

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

Chain-of-Custody Record

Client: Marathon Petroleum Company

Mailing Address: 92 Giant Crossing Road

Phone #: 608 640 1823

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 697-072-002

Project #: Wingate Benzene Investigation phase III

Project Manager: Brian McLaughlin

Sampler:

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 4.0 -0.1 = 3.9 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/7	8:10	GW	BH-31	3		-011	X									
4/7	9:15	GW	BH-32	3		-012	X									
4/7	10:45	GW	BH-33	3		-013	X									
4/7	9:40	GW	BH-34	3		-014	X									
4/7	11:45	GW	BH-35	3		-015	X									
4/7	13:10	Soil	WMW-9 (0-1)	3		-016	X									
4/7	13:20	Soil	WMW-9 (5-6)	3		-017	X									
4/7	13:30	Soil	WMW-9 (9-10)	3		-018	X									
4/7	13:40	Soil	WMW-9 (14-15)	3		-019	X									
4/7		GW	DUP 4/7/2021	3		-020	X									
4/7	8:40	Water	FB 4/7/2021	3		-021	X									
			Trip Blank DAD	4/9/21		-022										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
4/8	15:30			CDO	4/9/21	10:30
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks: -023 MeOH Blank ~~-00~~ DAD 4/9/21
DAD 4/9/21

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.

C-4. – Phase IV Laboratory Analytical Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

September 07, 2021

Brian McLoughlin

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

RE: Wingate Benzene Investigation Phase IV OrderNo.: 2108F45

Dear Brian McLoughlin:

Hall Environmental Analysis Laboratory received 12 sample(s) on 8/26/2021 for the analyses presented in the following report.

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

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

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

Sincerely,



Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2108F45**
Date Reported: **9/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-51 (21-22')
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/24/2021 2:30:00 PM
Lab ID: 2108F45-001 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.013		mg/Kg	1	9/2/2021 5:00:00 PM	R81023
Toluene	ND	0.026		mg/Kg	1	9/2/2021 5:00:00 PM	R81023
Ethylbenzene	ND	0.026		mg/Kg	1	9/2/2021 5:00:00 PM	R81023
Xylenes, Total	ND	0.053		mg/Kg	1	9/2/2021 5:00:00 PM	R81023
Surr: 1,2-Dichloroethane-d4	98.5	70-130		%Rec	1	9/2/2021 5:00:00 PM	R81023
Surr: 4-Bromofluorobenzene	85.9	70-130		%Rec	1	9/2/2021 5:00:00 PM	R81023
Surr: Dibromofluoromethane	100	70-130		%Rec	1	9/2/2021 5:00:00 PM	R81023
Surr: Toluene-d8	94.7	70-130		%Rec	1	9/2/2021 5:00:00 PM	R81023

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2108F45**
Date Reported: **9/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-46 (10-10.5')
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/24/2021 4:00:00 PM
Lab ID: 2108F45-002 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.018		mg/Kg	1	9/2/2021 6:21:17 PM	R81023
Toluene	ND	0.036		mg/Kg	1	9/2/2021 6:21:17 PM	R81023
Ethylbenzene	ND	0.036		mg/Kg	1	9/2/2021 6:21:17 PM	R81023
Xylenes, Total	ND	0.072		mg/Kg	1	9/2/2021 6:21:17 PM	R81023
Surr: 1,2-Dichloroethane-d4	97.8	70-130		%Rec	1	9/2/2021 6:21:17 PM	R81023
Surr: 4-Bromofluorobenzene	91.0	70-130		%Rec	1	9/2/2021 6:21:17 PM	R81023
Surr: Dibromofluoromethane	109	70-130		%Rec	1	9/2/2021 6:21:17 PM	R81023
Surr: Toluene-d8	105	70-130		%Rec	1	9/2/2021 6:21:17 PM	R81023

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2108F45**
Date Reported: **9/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BD1-08242021
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/24/2021
Lab ID: 2108F45-003 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.013		mg/Kg	1	9/2/2021 6:48:23 PM	R81023
Toluene	ND	0.027		mg/Kg	1	9/2/2021 6:48:23 PM	R81023
Ethylbenzene	ND	0.027		mg/Kg	1	9/2/2021 6:48:23 PM	R81023
Xylenes, Total	ND	0.053		mg/Kg	1	9/2/2021 6:48:23 PM	R81023
Surr: 1,2-Dichloroethane-d4	98.4	70-130		%Rec	1	9/2/2021 6:48:23 PM	R81023
Surr: 4-Bromofluorobenzene	88.0	70-130		%Rec	1	9/2/2021 6:48:23 PM	R81023
Surr: Dibromofluoromethane	107	70-130		%Rec	1	9/2/2021 6:48:23 PM	R81023
Surr: Toluene-d8	97.2	70-130		%Rec	1	9/2/2021 6:48:23 PM	R81023

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2108F45**
Date Reported: **9/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-47 (24-25')
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/25/2021 7:50:00 AM
Lab ID: 2108F45-004 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.014		mg/Kg	1	9/2/2021 7:15:30 PM	R81023
Toluene	ND	0.029		mg/Kg	1	9/2/2021 7:15:30 PM	R81023
Ethylbenzene	ND	0.029		mg/Kg	1	9/2/2021 7:15:30 PM	R81023
Xylenes, Total	ND	0.058		mg/Kg	1	9/2/2021 7:15:30 PM	R81023
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	9/2/2021 7:15:30 PM	R81023
Surr: 4-Bromofluorobenzene	96.4	70-130		%Rec	1	9/2/2021 7:15:30 PM	R81023
Surr: Dibromofluoromethane	113	70-130		%Rec	1	9/2/2021 7:15:30 PM	R81023
Surr: Toluene-d8	99.6	70-130		%Rec	1	9/2/2021 7:15:30 PM	R81023

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2108F45**
Date Reported: **9/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-48 (10-11')
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/25/2021 9:15:00 AM
Lab ID: 2108F45-005 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.014		mg/Kg	1	9/2/2021 7:42:38 PM	R81023
Toluene	ND	0.028		mg/Kg	1	9/2/2021 7:42:38 PM	R81023
Ethylbenzene	ND	0.028		mg/Kg	1	9/2/2021 7:42:38 PM	R81023
Xylenes, Total	ND	0.055		mg/Kg	1	9/2/2021 7:42:38 PM	R81023
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	9/2/2021 7:42:38 PM	R81023
Surr: 4-Bromofluorobenzene	94.2	70-130		%Rec	1	9/2/2021 7:42:38 PM	R81023
Surr: Dibromofluoromethane	115	70-130		%Rec	1	9/2/2021 7:42:38 PM	R81023
Surr: Toluene-d8	94.4	70-130		%Rec	1	9/2/2021 7:42:38 PM	R81023

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2108F45**
Date Reported: **9/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-44 (13.5-14.5')
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/25/2021 9:58:00 AM
Lab ID: 2108F45-006 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.013		mg/Kg	1	9/2/2021 8:09:41 PM	R81023
Toluene	ND	0.027		mg/Kg	1	9/2/2021 8:09:41 PM	R81023
Ethylbenzene	ND	0.027		mg/Kg	1	9/2/2021 8:09:41 PM	R81023
Xylenes, Total	ND	0.054		mg/Kg	1	9/2/2021 8:09:41 PM	R81023
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	9/2/2021 8:09:41 PM	R81023
Surr: 4-Bromofluorobenzene	94.9	70-130		%Rec	1	9/2/2021 8:09:41 PM	R81023
Surr: Dibromofluoromethane	107	70-130		%Rec	1	9/2/2021 8:09:41 PM	R81023
Surr: Toluene-d8	93.6	70-130		%Rec	1	9/2/2021 8:09:41 PM	R81023

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2108F45**
Date Reported: **9/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-49 (11-12')
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/25/2021 12:23:00 PM
Lab ID: 2108F45-007 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.015		mg/Kg	1	9/2/2021 8:36:46 PM	R81023
Toluene	ND	0.029		mg/Kg	1	9/2/2021 8:36:46 PM	R81023
Ethylbenzene	ND	0.029		mg/Kg	1	9/2/2021 8:36:46 PM	R81023
Xylenes, Total	ND	0.058		mg/Kg	1	9/2/2021 8:36:46 PM	R81023
Surr: 1,2-Dichloroethane-d4	116	70-130		%Rec	1	9/2/2021 8:36:46 PM	R81023
Surr: 4-Bromofluorobenzene	93.8	70-130		%Rec	1	9/2/2021 8:36:46 PM	R81023
Surr: Dibromofluoromethane	117	70-130		%Rec	1	9/2/2021 8:36:46 PM	R81023
Surr: Toluene-d8	99.8	70-130		%Rec	1	9/2/2021 8:36:46 PM	R81023

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2108F45**
Date Reported: **9/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-43 (6-7')
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/25/2021 2:43:00 PM
Lab ID: 2108F45-008 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	2.1	0.26	D	mg/Kg	20	9/2/2021 9:03:50 PM	R81023
Toluene	ND	0.26	D	mg/Kg	20	9/2/2021 9:03:50 PM	R81023
Ethylbenzene	0.49	0.26	D	mg/Kg	20	9/2/2021 9:03:50 PM	R81023
Xylenes, Total	3.7	0.52	D	mg/Kg	20	9/2/2021 9:03:50 PM	R81023
Surr: 1,2-Dichloroethane-d4	95.1	70-130	D	%Rec	20	9/2/2021 9:03:50 PM	R81023
Surr: 4-Bromofluorobenzene	92.6	70-130	D	%Rec	20	9/2/2021 9:03:50 PM	R81023
Surr: Dibromofluoromethane	95.8	70-130	D	%Rec	20	9/2/2021 9:03:50 PM	R81023
Surr: Toluene-d8	94.4	70-130	D	%Rec	20	9/2/2021 9:03:50 PM	R81023

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2108F45**
Date Reported: **9/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-45 (12.5-13.5')
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/25/2021 10:52:00 AM
Lab ID: 2108F45-009 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.012		mg/Kg	1	9/2/2021 9:30:53 PM	R81023
Toluene	ND	0.025		mg/Kg	1	9/2/2021 9:30:53 PM	R81023
Ethylbenzene	ND	0.025		mg/Kg	1	9/2/2021 9:30:53 PM	R81023
Xylenes, Total	ND	0.050		mg/Kg	1	9/2/2021 9:30:53 PM	R81023
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	9/2/2021 9:30:53 PM	R81023
Surr: 4-Bromofluorobenzene	93.3	70-130		%Rec	1	9/2/2021 9:30:53 PM	R81023
Surr: Dibromofluoromethane	114	70-130		%Rec	1	9/2/2021 9:30:53 PM	R81023
Surr: Toluene-d8	96.9	70-130		%Rec	1	9/2/2021 9:30:53 PM	R81023

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2108F45**
Date Reported: **9/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-50 (9.8-10.8')
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/25/2021 1:25:00 PM
Lab ID: 2108F45-010 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.012		mg/Kg	1	9/2/2021 9:57:55 PM	R81023
Toluene	ND	0.025		mg/Kg	1	9/2/2021 9:57:55 PM	R81023
Ethylbenzene	ND	0.025		mg/Kg	1	9/2/2021 9:57:55 PM	R81023
Xylenes, Total	ND	0.049		mg/Kg	1	9/2/2021 9:57:55 PM	R81023
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	9/2/2021 9:57:55 PM	R81023
Surr: 4-Bromofluorobenzene	92.6	70-130		%Rec	1	9/2/2021 9:57:55 PM	R81023
Surr: Dibromofluoromethane	117	70-130		%Rec	1	9/2/2021 9:57:55 PM	R81023
Surr: Toluene-d8	98.3	70-130		%Rec	1	9/2/2021 9:57:55 PM	R81023

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2108F45**
Date Reported: **9/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-52 (13-14')
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/25/2021 4:18:00 PM
Lab ID: 2108F45-011 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.014		mg/Kg	1	9/2/2021 10:24:57 PM	R81023
Toluene	ND	0.028		mg/Kg	1	9/2/2021 10:24:57 PM	R81023
Ethylbenzene	ND	0.028		mg/Kg	1	9/2/2021 10:24:57 PM	R81023
Xylenes, Total	ND	0.056		mg/Kg	1	9/2/2021 10:24:57 PM	R81023
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	9/2/2021 10:24:57 PM	R81023
Surr: 4-Bromofluorobenzene	91.5	70-130		%Rec	1	9/2/2021 10:24:57 PM	R81023
Surr: Dibromofluoromethane	114	70-130		%Rec	1	9/2/2021 10:24:57 PM	R81023
Surr: Toluene-d8	104	70-130		%Rec	1	9/2/2021 10:24:57 PM	R81023

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2108F45**
Date Reported: **9/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** MeOH Blank
Project: Wingate Benzene Investigation Phase IV **Collection Date:**
Lab ID: 2108F45-012 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	9/2/2021 10:52:03 PM	R81023
Toluene	ND	0.050		mg/Kg	1	9/2/2021 10:52:03 PM	R81023
Ethylbenzene	ND	0.050		mg/Kg	1	9/2/2021 10:52:03 PM	R81023
Xylenes, Total	ND	0.10		mg/Kg	1	9/2/2021 10:52:03 PM	R81023
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	9/2/2021 10:52:03 PM	R81023
Surr: 4-Bromofluorobenzene	92.1	70-130		%Rec	1	9/2/2021 10:52:03 PM	R81023
Surr: Dibromofluoromethane	110	70-130		%Rec	1	9/2/2021 10:52:03 PM	R81023
Surr: Toluene-d8	103	70-130		%Rec	1	9/2/2021 10:52:03 PM	R81023

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108F45**
07-Sep-21

Client: Marathon
Project: Wingate Benzene Investigation Phase IV

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS**	Batch ID: **R81023**	RunNo: **81023**
Prep Date:	Analysis Date: **9/2/2021**	SeqNo: **2859694** 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	104	70	130			
Toluene	0.85	0.050	1.000	0	85.0	70	130			
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		106	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.8	70	130			
Surr: Dibromofluoromethane	0.53		0.5000		106	70	130			
Surr: Toluene-d8	0.48		0.5000		96.3	70	130			

Sample ID: **2108f45-001a ms**	SampType: **MS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BH-51 (21-22')**	Batch ID: **R81023**	RunNo: **81023**
Prep Date:	Analysis Date: **9/2/2021**	SeqNo: **2859696** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.51	0.013	0.5255	0	97.0	70	130			
Toluene	0.46	0.026	0.5255	0	88.1	70	130			
Surr: 1,2-Dichloroethane-d4	0.25		0.2628		93.7	70	130			
Surr: 4-Bromofluorobenzene	0.24		0.2628		90.5	70	130			
Surr: Dibromofluoromethane	0.27		0.2628		104	70	130			
Surr: Toluene-d8	0.24		0.2628		93.1	70	130			

Sample ID: **2108f45-001a msd**	SampType: **MSD**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BH-51 (21-22')**	Batch ID: **R81023**	RunNo: **81023**
Prep Date:	Analysis Date: **9/2/2021**	SeqNo: **2859697** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.50	0.013	0.5255	0	95.2	70	130	1.87	20	
Toluene	0.47	0.026	0.5255	0	89.6	70	130	1.62	20	
Surr: 1,2-Dichloroethane-d4	0.25		0.2628		94.9	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.24		0.2628		91.3	70	130	0	0	
Surr: Dibromofluoromethane	0.28		0.2628		105	70	130	0	0	
Surr: Toluene-d8	0.25		0.2628		96.0	70	130	0	0	

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **R81023**	RunNo: **81023**
Prep Date:	Analysis Date: **9/2/2021**	SeqNo: **2859709** 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								
Xylenes, Total	ND	0.10								

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108F45**
07-Sep-21

Client: Marathon
Project: Wingate Benzene Investigation Phase IV

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **R81023**	RunNo: **81023**
Prep Date:	Analysis Date: **9/2/2021**	SeqNo: **2859709** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.54		0.5000		108	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.1	70	130			
Surr: Dibromofluoromethane	0.55		0.5000		111	70	130			
Surr: Toluene-d8	0.47		0.5000		94.4	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 Quanitative 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

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

Sample Log-In Check List

Client Name: **Marathon** Work Order Number: **2108F45** RcptNo: **1**

Received By: **Cheyenne Cason** **8/26/2021 3:20:00 PM** Chl

Completed By: **Isaiah Ortiz** **8/26/2021 3:44:25 PM** I-Ox

Reviewed By: IO 8/26/21

Chain of Custody

1. Is Chain of Custody 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° 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: SPA 8.26.21

Special Handling (if applicable)

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

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.8	Good	Not Present			

Released to Imaging: 8/15/2024 12:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

Chain of Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: Marathon Gallup Refinery

Mailing Address: 92 Giant Crossing Rd.
Jamestown, NM 87347

Phone #: 808-640-1823

Email or Fax#:

QA/QC Package:
Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
NELAC ☐ Other

EDD (Type)

☐ Standard ☐ **Rush**

Project Name: Wingate Benzene Investigation Phase IV

Project #: 697-072-003

PO # **4500275444**

Project Manager:
Bob Friesen / Brian McLoughlin

Sampler:

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 5.7+0.1=5.8

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2108745	BTEX
8/24/2021	14:30	Soil	BH-51 (21-22')	3	MeOH	001	X
8/24/2021	16:00	Soil	BH-46 (10-10.5')	3	MeOH	002	X
8/24/2021	-	Soil	BD1-08242021	3	MeOH	003	X
8/25/2021	7:50	Soil	BH-47 (24-25')	3	MeOH	004	X
8/25/2021	9:15	Soil	BH-48 (10-11')	3	MeOH	005	X
8/25/2021	9:58	Soil	BH-44 (13.5-14.5')	3	MeOH	006	X
8/25/2021	12:23	Soil	BH-49 (11-12')	3	MeOH	007	X
8/25/2021	14:43	Soil	BH-43 (6-7')	3	MeOH	008	X
8/25/2021	10:52	Soil	BH-45 (12.5-13.5')	3	MeOH	009	X
8/25/2021	13:25	Soil	BH-50 (9.8-10.8')	3	MeOH	010	X
8/25/2021	16:18	Soil	BH-52 (13-14')	3	MeOH	011	X
			TRIP BLANK		5PA	8:26:21 012	

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8/26/2021	10:00	Brian McLoughlin		ONO	8/26/21	1520
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

September 03, 2021

Brian McLoughlin

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

RE: Wingate Benzene Investigation Phase IV OrderNo.: 2108F52

Dear Brian McLoughlin:

Hall Environmental Analysis Laboratory received 17 sample(s) on 8/26/2021 for the analyses presented in the following report.

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

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

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

Sincerely,



Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2108F52**
Date Reported: **9/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-46
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/24/2021 3:45:00 PM
Lab ID: 2108F52-001 **Matrix:** AQUEOUS **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **CCM**	
Benzene	ND	0.23	1.0		µg/L	1	9/2/2021 1:22:00 AM	SL8096
Toluene	ND	0.20	1.0		µg/L	1	9/2/2021 1:22:00 AM	SL8096
Ethylbenzene	ND	0.21	1.0		µg/L	1	9/2/2021 1:22:00 AM	SL8096
Xylenes, Total	ND	0.37	1.5		µg/L	1	9/2/2021 1:22:00 AM	SL8096
Surr: 1,2-Dichloroethane-d4	83.8	0	70-130		%Rec	1	9/2/2021 1:22:00 AM	SL8096
Surr: 4-Bromofluorobenzene	99.0	0	70-130		%Rec	1	9/2/2021 1:22:00 AM	SL8096
Surr: Dibromofluoromethane	83.6	0	70-130		%Rec	1	9/2/2021 1:22:00 AM	SL8096
Surr: Toluene-d8	96.0	0	70-130		%Rec	1	9/2/2021 1:22:00 AM	SL8096

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

Qualifiers:

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

Analytical Report
Lab Order **2108F52**
Date Reported: **9/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-51
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/24/2021 2:05:00 PM
Lab ID: 2108F52-002 **Matrix:** AQUEOUS **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **CCM**	
Benzene	ND	0.23	1.0		µg/L	1	9/2/2021 2:31:00 AM	SL8096
Toluene	ND	0.20	1.0		µg/L	1	9/2/2021 2:31:00 AM	SL8096
Ethylbenzene	ND	0.21	1.0		µg/L	1	9/2/2021 2:31:00 AM	SL8096
Xylenes, Total	ND	0.37	1.5		µg/L	1	9/2/2021 2:31:00 AM	SL8096
Surr: 1,2-Dichloroethane-d4	82.7	0	70-130		%Rec	1	9/2/2021 2:31:00 AM	SL8096
Surr: 4-Bromofluorobenzene	96.0	0	70-130		%Rec	1	9/2/2021 2:31:00 AM	SL8096
Surr: Dibromofluoromethane	83.2	0	70-130		%Rec	1	9/2/2021 2:31:00 AM	SL8096
Surr: Toluene-d8	96.5	0	70-130		%Rec	1	9/2/2021 2:31:00 AM	SL8096

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

Qualifiers:

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

Analytical Report
Lab Order **2108F52**
Date Reported: **9/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: FB-08242021
Project: Wingate Benzene Investigation Phase IV
Collection Date: 8/24/2021 2:05:00 PM
Lab ID: 2108F52-003
Matrix: AQUEOUS
Received Date: 8/26/2021 3:20:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **CCM**	
Benzene	ND	0.23	1.0		µg/L	1	9/2/2021 2:55:00 AM	SL8096
Toluene	ND	0.20	1.0		µg/L	1	9/2/2021 2:55:00 AM	SL8096
Ethylbenzene	ND	0.21	1.0		µg/L	1	9/2/2021 2:55:00 AM	SL8096
Xylenes, Total	ND	0.37	1.5		µg/L	1	9/2/2021 2:55:00 AM	SL8096
Surr: 1,2-Dichloroethane-d4	85.7	0	70-130		%Rec	1	9/2/2021 2:55:00 AM	SL8096
Surr: 4-Bromofluorobenzene	97.7	0	70-130		%Rec	1	9/2/2021 2:55:00 AM	SL8096
Surr: Dibromofluoromethane	83.3	0	70-130		%Rec	1	9/2/2021 2:55:00 AM	SL8096
Surr: Toluene-d8	95.9	0	70-130		%Rec	1	9/2/2021 2:55:00 AM	SL8096

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

Qualifiers:

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

Analytical Report
Lab Order **2108F52**
Date Reported: **9/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: EB-08242021
Project: Wingate Benzene Investigation Phase IV
Collection Date: 8/24/2021 2:30:00 PM
Lab ID: 2108F52-004
Matrix: AQUEOUS
Received Date: 8/26/2021 3:20:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **CCM**	
Benzene	ND	0.23	1.0		µg/L	1	9/2/2021 3:18:00 AM	SL8096
Toluene	ND	0.20	1.0		µg/L	1	9/2/2021 3:18:00 AM	SL8096
Ethylbenzene	ND	0.21	1.0		µg/L	1	9/2/2021 3:18:00 AM	SL8096
Xylenes, Total	ND	0.37	1.5		µg/L	1	9/2/2021 3:18:00 AM	SL8096
Surr: 1,2-Dichloroethane-d4	83.6	0	70-130		%Rec	1	9/2/2021 3:18:00 AM	SL8096
Surr: 4-Bromofluorobenzene	97.5	0	70-130		%Rec	1	9/2/2021 3:18:00 AM	SL8096
Surr: Dibromofluoromethane	86.5	0	70-130		%Rec	1	9/2/2021 3:18:00 AM	SL8096
Surr: Toluene-d8	95.7	0	70-130		%Rec	1	9/2/2021 3:18:00 AM	SL8096

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

Qualifiers:

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

Analytical Report
Lab Order **2108F52**
Date Reported: **9/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BD2-08242021
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/24/2021
Lab ID: 2108F52-005 **Matrix:** AQUEOUS **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **CCM**	
Benzene	ND	0.23	1.0		µg/L	1	9/2/2021 3:41:00 AM	SL8096
Toluene	ND	0.20	1.0		µg/L	1	9/2/2021 3:41:00 AM	SL8096
Ethylbenzene	ND	0.21	1.0		µg/L	1	9/2/2021 3:41:00 AM	SL8096
Xylenes, Total	ND	0.37	1.5		µg/L	1	9/2/2021 3:41:00 AM	SL8096
Surr: 1,2-Dichloroethane-d4	83.9	0	70-130		%Rec	1	9/2/2021 3:41:00 AM	SL8096
Surr: 4-Bromofluorobenzene	97.3	0	70-130		%Rec	1	9/2/2021 3:41:00 AM	SL8096
Surr: Dibromofluoromethane	83.9	0	70-130		%Rec	1	9/2/2021 3:41:00 AM	SL8096
Surr: Toluene-d8	94.9	0	70-130		%Rec	1	9/2/2021 3:41:00 AM	SL8096

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

Qualifiers:

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

Analytical Report
Lab Order **2108F52**
Date Reported: **9/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-47
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/25/2021 7:35:00 AM
Lab ID: 2108F52-006 **Matrix:** AQUEOUS **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **CCM**	
Benzene	ND	0.45	2.0	P D	µg/L	2	9/2/2021 4:04:00 AM	SL8096
Toluene	ND	0.40	2.0	P D	µg/L	2	9/2/2021 4:04:00 AM	SL8096
Ethylbenzene	ND	0.43	2.0	P D	µg/L	2	9/2/2021 4:04:00 AM	SL8096
Xylenes, Total	ND	0.74	3.0	P D	µg/L	2	9/2/2021 4:04:00 AM	SL8096
Surr: 1,2-Dichloroethane-d4	85.2	0	70-130	P D	%Rec	2	9/2/2021 4:04:00 AM	SL8096
Surr: 4-Bromofluorobenzene	99.1	0	70-130	P D	%Rec	2	9/2/2021 4:04:00 AM	SL8096
Surr: Dibromofluoromethane	84.5	0	70-130	P D	%Rec	2	9/2/2021 4:04:00 AM	SL8096
Surr: Toluene-d8	95.5	0	70-130	P D	%Rec	2	9/2/2021 4:04:00 AM	SL8096

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

Qualifiers:

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

Analytical Report
Lab Order **2108F52**
Date Reported: **9/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** EB-08252021
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/25/2021 7:50:00 AM
Lab ID: 2108F52-007 **Matrix:** AQUEOUS **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **CCM**	
Benzene	ND	0.23	1.0		µg/L	1	9/2/2021 4:28:00 AM	SL8096
Toluene	ND	0.20	1.0		µg/L	1	9/2/2021 4:28:00 AM	SL8096
Ethylbenzene	ND	0.21	1.0		µg/L	1	9/2/2021 4:28:00 AM	SL8096
Xylenes, Total	ND	0.37	1.5		µg/L	1	9/2/2021 4:28:00 AM	SL8096
Surr: 1,2-Dichloroethane-d4	84.9	0	70-130		%Rec	1	9/2/2021 4:28:00 AM	SL8096
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	9/2/2021 4:28:00 AM	SL8096
Surr: Dibromofluoromethane	84.0	0	70-130		%Rec	1	9/2/2021 4:28:00 AM	SL8096
Surr: Toluene-d8	95.9	0	70-130		%Rec	1	9/2/2021 4:28:00 AM	SL8096

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

Qualifiers:

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

Analytical Report
Lab Order **2108F52**
Date Reported: **9/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: FB-08252021
Project: Wingate Benzene Investigation Phase IV
Collection Date: 8/25/2021 7:50:00 AM
Lab ID: 2108F52-008
Matrix: AQUEOUS
Received Date: 8/26/2021 3:20:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **CCM**	
Benzene	ND	0.23	1.0		µg/L	1	9/2/2021 4:51:00 AM	SL8096
Toluene	ND	0.20	1.0		µg/L	1	9/2/2021 4:51:00 AM	SL8096
Ethylbenzene	ND	0.21	1.0		µg/L	1	9/2/2021 4:51:00 AM	SL8096
Xylenes, Total	ND	0.37	1.5		µg/L	1	9/2/2021 4:51:00 AM	SL8096
Surr: 1,2-Dichloroethane-d4	83.8	0	70-130		%Rec	1	9/2/2021 4:51:00 AM	SL8096
Surr: 4-Bromofluorobenzene	98.4	0	70-130		%Rec	1	9/2/2021 4:51:00 AM	SL8096
Surr: Dibromofluoromethane	83.9	0	70-130		%Rec	1	9/2/2021 4:51:00 AM	SL8096
Surr: Toluene-d8	97.7	0	70-130		%Rec	1	9/2/2021 4:51:00 AM	SL8096

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

Qualifiers:

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

Analytical Report
Lab Order **2108F52**
Date Reported: **9/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-48
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/25/2021 8:55:00 AM
Lab ID: 2108F52-009 **Matrix:** AQUEOUS **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **CCM**	
Benzene	ND	0.23	1.0	P	µg/L	1	9/2/2021 5:14:00 AM	SL8096
Toluene	ND	0.20	1.0	P	µg/L	1	9/2/2021 5:14:00 AM	SL8096
Ethylbenzene	ND	0.21	1.0	P	µg/L	1	9/2/2021 5:14:00 AM	SL8096
Xylenes, Total	ND	0.37	1.5	P	µg/L	1	9/2/2021 5:14:00 AM	SL8096
Surr: 1,2-Dichloroethane-d4	85.7	0	70-130	P	%Rec	1	9/2/2021 5:14:00 AM	SL8096
Surr: 4-Bromofluorobenzene	99.9	0	70-130	P	%Rec	1	9/2/2021 5:14:00 AM	SL8096
Surr: Dibromofluoromethane	83.7	0	70-130	P	%Rec	1	9/2/2021 5:14:00 AM	SL8096
Surr: Toluene-d8	94.8	0	70-130	P	%Rec	1	9/2/2021 5:14:00 AM	SL8096

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

Qualifiers:

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

Analytical Report
Lab Order **2108F52**
Date Reported: **9/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-44
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/25/2021 9:45:00 AM
Lab ID: 2108F52-010 **Matrix:** AQUEOUS **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **CCM**	
Benzene	ND	0.45	2.0	P D	µg/L	2	9/2/2021 5:37:00 AM	SL8096
Toluene	ND	0.40	2.0	P D	µg/L	2	9/2/2021 5:37:00 AM	SL8096
Ethylbenzene	ND	0.43	2.0	P D	µg/L	2	9/2/2021 5:37:00 AM	SL8096
Xylenes, Total	ND	0.74	3.0	P D	µg/L	2	9/2/2021 5:37:00 AM	SL8096
Surr: 1,2-Dichloroethane-d4	84.5	0	70-130	P D	%Rec	2	9/2/2021 5:37:00 AM	SL8096
Surr: 4-Bromofluorobenzene	98.1	0	70-130	P D	%Rec	2	9/2/2021 5:37:00 AM	SL8096
Surr: Dibromofluoromethane	84.8	0	70-130	P D	%Rec	2	9/2/2021 5:37:00 AM	SL8096
Surr: Toluene-d8	95.9	0	70-130	P D	%Rec	2	9/2/2021 5:37:00 AM	SL8096

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

Qualifiers:

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

Analytical Report
Lab Order **2108F52**
Date Reported: **9/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-45
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/25/2021 10:40:00 AM
Lab ID: 2108F52-011 **Matrix:** AQUEOUS **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **CCM**	
Benzene	ND	0.45	2.0	P D	µg/L	2	9/2/2021 6:01:00 AM	SL8096
Toluene	ND	0.40	2.0	P D	µg/L	2	9/2/2021 6:01:00 AM	SL8096
Ethylbenzene	ND	0.43	2.0	P D	µg/L	2	9/2/2021 6:01:00 AM	SL8096
Xylenes, Total	ND	0.74	3.0	P D	µg/L	2	9/2/2021 6:01:00 AM	SL8096
Surr: 1,2-Dichloroethane-d4	84.1	0	70-130	P D	%Rec	2	9/2/2021 6:01:00 AM	SL8096
Surr: 4-Bromofluorobenzene	97.8	0	70-130	P D	%Rec	2	9/2/2021 6:01:00 AM	SL8096
Surr: Dibromofluoromethane	85.2	0	70-130	P D	%Rec	2	9/2/2021 6:01:00 AM	SL8096
Surr: Toluene-d8	95.9	0	70-130	P D	%Rec	2	9/2/2021 6:01:00 AM	SL8096

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

Qualifiers:

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

Analytical Report
Lab Order **2108F52**
Date Reported: **9/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-49
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/25/2021 12:10:00 PM
Lab ID: 2108F52-012 **Matrix:** AQUEOUS **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **CCM**	
Benzene	ND	0.23	1.0	P	µg/L	1	9/2/2021 6:24:00 AM	SL8096
Toluene	ND	0.20	1.0	P	µg/L	1	9/2/2021 6:24:00 AM	SL8096
Ethylbenzene	ND	0.21	1.0	P	µg/L	1	9/2/2021 6:24:00 AM	SL8096
Xylenes, Total	ND	0.37	1.5	P	µg/L	1	9/2/2021 6:24:00 AM	SL8096
Surr: 1,2-Dichloroethane-d4	82.4	0	70-130	P	%Rec	1	9/2/2021 6:24:00 AM	SL8096
Surr: 4-Bromofluorobenzene	96.7	0	70-130	P	%Rec	1	9/2/2021 6:24:00 AM	SL8096
Surr: Dibromofluoromethane	82.9	0	70-130	P	%Rec	1	9/2/2021 6:24:00 AM	SL8096
Surr: Toluene-d8	96.3	0	70-130	P	%Rec	1	9/2/2021 6:24:00 AM	SL8096

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

Qualifiers:

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

Analytical Report
Lab Order **2108F52**
Date Reported: **9/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-50
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/25/2021 1:12:00 PM
Lab ID: 2108F52-013 **Matrix:** AQUEOUS **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **CCM**	
Benzene	ND	0.45	2.0	P D	µg/L	2	9/2/2021 6:47:00 AM	SL8096
Toluene	ND	0.40	2.0	P D	µg/L	2	9/2/2021 6:47:00 AM	SL8096
Ethylbenzene	ND	0.43	2.0	P D	µg/L	2	9/2/2021 6:47:00 AM	SL8096
Xylenes, Total	ND	0.74	3.0	P D	µg/L	2	9/2/2021 6:47:00 AM	SL8096
Surr: 1,2-Dichloroethane-d4	84.9	0	70-130	P D	%Rec	2	9/2/2021 6:47:00 AM	SL8096
Surr: 4-Bromofluorobenzene	99.0	0	70-130	P D	%Rec	2	9/2/2021 6:47:00 AM	SL8096
Surr: Dibromofluoromethane	85.7	0	70-130	P D	%Rec	2	9/2/2021 6:47:00 AM	SL8096
Surr: Toluene-d8	95.6	0	70-130	P D	%Rec	2	9/2/2021 6:47:00 AM	SL8096

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

Qualifiers:

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

Analytical Report
Lab Order **2108F52**
Date Reported: **9/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-43
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/25/2021 2:25:00 PM
Lab ID: 2108F52-014 **Matrix:** AQUEOUS **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **CCM**	
Benzene	2700	11	50		µg/L	50	9/2/2021 7:10:00 AM	SL8096
Toluene	ND	1.0	5.0		µg/L	5	9/2/2021 7:34:00 AM	SL8096
Ethylbenzene	150	1.1	5.0		µg/L	5	9/2/2021 7:34:00 AM	SL8096
Xylenes, Total	320	1.9	7.5		µg/L	5	9/2/2021 7:34:00 AM	SL8096
Surr: 1,2-Dichloroethane-d4	75.8	0	70-130		%Rec	5	9/2/2021 7:34:00 AM	SL8096
Surr: 4-Bromofluorobenzene	99.1	0	70-130		%Rec	5	9/2/2021 7:34:00 AM	SL8096
Surr: Dibromofluoromethane	77.4	0	70-130		%Rec	5	9/2/2021 7:34:00 AM	SL8096
Surr: Toluene-d8	99.8	0	70-130		%Rec	5	9/2/2021 7:34:00 AM	SL8096

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

Qualifiers:

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

Analytical Report
Lab Order **2108F52**
Date Reported: **9/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-52
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/25/2021 4:02:00 PM
Lab ID: 2108F52-015 **Matrix:** AQUEOUS **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **CCM**	
Benzene	ND	0.45	2.0	D	µg/L	2	9/2/2021 7:57:00 AM	SL8096
Toluene	ND	0.40	2.0	D	µg/L	2	9/2/2021 7:57:00 AM	SL8096
Ethylbenzene	ND	0.43	2.0	D	µg/L	2	9/2/2021 7:57:00 AM	SL8096
Xylenes, Total	ND	0.74	3.0	D	µg/L	2	9/2/2021 7:57:00 AM	SL8096
Surr: 1,2-Dichloroethane-d4	83.8	0	70-130	D	%Rec	2	9/2/2021 7:57:00 AM	SL8096
Surr: 4-Bromofluorobenzene	99.7	0	70-130	D	%Rec	2	9/2/2021 7:57:00 AM	SL8096
Surr: Dibromofluoromethane	84.6	0	70-130	D	%Rec	2	9/2/2021 7:57:00 AM	SL8096
Surr: Toluene-d8	94.8	0	70-130	D	%Rec	2	9/2/2021 7:57:00 AM	SL8096

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

Qualifiers:

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

Analytical Report
Lab Order **2108F52**
Date Reported: **9/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-08252021
Project: Wingate Benzene Investigation Phase IV **Collection Date:** 8/25/2021
Lab ID: 2108F52-016 **Matrix:** AQUEOUS **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **CCM**	
Benzene	ND	0.45	2.0	D	µg/L	2	9/2/2021 8:20:00 AM	SL8096
Toluene	ND	0.40	2.0	D	µg/L	2	9/2/2021 8:20:00 AM	SL8096
Ethylbenzene	ND	0.43	2.0	D	µg/L	2	9/2/2021 8:20:00 AM	SL8096
Xylenes, Total	ND	0.74	3.0	D	µg/L	2	9/2/2021 8:20:00 AM	SL8096
Surr: 1,2-Dichloroethane-d4	86.7	0	70-130	D	%Rec	2	9/2/2021 8:20:00 AM	SL8096
Surr: 4-Bromofluorobenzene	99.4	0	70-130	D	%Rec	2	9/2/2021 8:20:00 AM	SL8096
Surr: Dibromofluoromethane	84.8	0	70-130	D	%Rec	2	9/2/2021 8:20:00 AM	SL8096
Surr: Toluene-d8	96.1	0	70-130	D	%Rec	2	9/2/2021 8:20:00 AM	SL8096

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

Qualifiers:

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

Analytical Report
Lab Order **2108F52**
Date Reported: **9/3/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** Trip Blank
Project: Wingate Benzene Investigation Phase IV **Collection Date:**
Lab ID: 2108F52-017 **Matrix:** AQUEOUS **Received Date:** 8/26/2021 3:20:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **CCM**	
Benzene	ND	0.23	1.0		µg/L	1	9/2/2021 8:43:00 AM	SL8096
Toluene	ND	0.20	1.0		µg/L	1	9/2/2021 8:43:00 AM	SL8096
Ethylbenzene	ND	0.21	1.0		µg/L	1	9/2/2021 8:43:00 AM	SL8096
Xylenes, Total	ND	0.37	1.5		µg/L	1	9/2/2021 8:43:00 AM	SL8096
Surr: 1,2-Dichloroethane-d4	84.1	0	70-130		%Rec	1	9/2/2021 8:43:00 AM	SL8096
Surr: 4-Bromofluorobenzene	97.9	0	70-130		%Rec	1	9/2/2021 8:43:00 AM	SL8096
Surr: Dibromofluoromethane	82.8	0	70-130		%Rec	1	9/2/2021 8:43:00 AM	SL8096
Surr: Toluene-d8	96.2	0	70-130		%Rec	1	9/2/2021 8:43:00 AM	SL8096

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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#: **2108F52**
03-Sep-21

Client: Marathon
Project: Wingate Benzene Investigation Phase IV

Sample ID: **100ng 8260 lcs-** SampType: **LCS** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW** Batch ID: **SL80963** RunNo: **80963**
Prep Date: Analysis Date: **9/2/2021** SeqNo: **2858766** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.3	70	130			
Toluene	20	1.0	20.00	0	98.8	70	130			
Surr: 1,2-Dichloroethane-d4	8.4		10.00		83.5	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.7	70	130			
Surr: Dibromofluoromethane	8.5		10.00		84.9	70	130			
Surr: Toluene-d8	9.6		10.00		95.8	70	130			

Sample ID: **mb-2** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW** Batch ID: **SL80963** RunNo: **80963**
Prep Date: Analysis Date: **9/2/2021** SeqNo: **2858767** 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	8.4		10.00		84.1	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.8	70	130			
Surr: Dibromofluoromethane	8.2		10.00		82.5	70	130			
Surr: Toluene-d8	9.6		10.00		95.7	70	130			

Sample ID: **2108F52-001ams** SampType: **MS** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BH-46** Batch ID: **SL80963** RunNo: **80963**
Prep Date: Analysis Date: **9/2/2021** SeqNo: **2858769** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	8.5		10.00		84.7	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	8.5		10.00		85.2	70	130			
Surr: Toluene-d8	9.6		10.00		96.5	70	130			

Sample ID: **2108F52-001amsd** SampType: **MSD** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BH-46** Batch ID: **SL80963** RunNo: **80963**
Prep Date: Analysis Date: **9/2/2021** SeqNo: **2858770** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	94.8	70	130	7.13	20	
Toluene	19	1.0	20.00	0	94.3	70	130	7.58	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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#: **2108F52**
03-Sep-21

Client: Marathon
Project: Wingate Benzene Investigation Phase IV

Sample ID: **2108F52-001amsd** SampType: **MSD** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BH-46** Batch ID: **SL80963** RunNo: **80963**
Prep Date: Analysis Date: **9/2/2021** SeqNo: **2858770** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	8.2		10.00		81.8	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.9		10.00		98.6	70	130	0	0	
Surr: Dibromofluoromethane	8.2		10.00		82.2	70	130	0	0	
Surr: Toluene-d8	9.4		10.00		93.8	70	130	0	0	

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **Marathon** Work Order Number: **2108F52** RcptNo: 1

Received By: **Cheyenne Cason** **8/26/2021 3:20:00 PM** Chl

Completed By: **Isaiah Ortiz** **8/26/2021 4:49:44 PM** I-Ox

Reviewed By: JR 8/27/21

Chain of Custody

1. Is Chain of Custody 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° 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 ☐ SPA 8.27.21
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☑ No ☒ NA ☐
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: (<2 or >12 unless noted)
Adjusted?
Checked by: SPA 8.27.21

Special Handling (if applicable)

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

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

16. Additional remarks: All VOAs of samples 010A and 013A have bubbles > 1/4 inch. SPA 8.27.21

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.9	Good	Not Present			

Released to Imaging: 8/7/2024 2:26:48 PM

Received by OCD: 3/7/2024 4:58:12 PM

Chain of Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: Marathon Gallup Refinery

Mailing Address: 92 Giant Crossing Rd.
Jamestown, NM 87347

Phone #: 808-640-1823

email or Fax#:

QA/QC Package:
X Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

X EDD (Type)

☐ Standard ☐ Rush

Project Name: Wingate Benzene Investigation Phase IV

Project #: 697-072-003

PO # **4500275444**

Project Manager:
Bob Friesen / Brian McLoughlin

Sampler:

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 3.8+0.1=3.9

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2108F52	BTEX
8/24/2021	15:45	water	BH-46	3	HCL	001	X
8/24/2021	14:05	water	BH-51	3	HCL	002	X
8/24/2021	14:05	water	FB-08242021	3	HCL	003	X
8/24/2021	14:30	water	EB-08242021	3	HCL	004	X
8/24/2021	-	water	BD2-08242021	3	HCL	005	X
8/25/2021	7:35	water	BH-47	3	HCL	006	X
8/25/2021	7:50	water	EB-08252021	3	HCL	007	X
8/25/2021	7:50	water	FB-08252021	3	HCL	008	X
8/25/2021	8:55	water	BH-48	3	HCL	009	X
8/25/2021	9:45	water	BH-44	3	HCL	010	X

Analysis Request

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
8/26/2021	10:00	Brian McLoughlin	CEE	COO	8/26/21	1520
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Released to Imaging: 3/12/2024 2:26:48 PM

Received by OCD: 3/7/2024 4:58:12 PM

Chain of Custody Record

Client: Marathon Gallup Refinery

Mailing Address: 92 Giant Crossing Rd.
Jamestown, NM 87347

Phone #: 808-640-1823

email or Fax#:

QA/QC Package:
X Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

X EDD (Type)

☐ Standard ☐ Rush

Project Name: Wingate Benzene Investigation Phase IV

Project #: 697-072-003

PO # 4500275444

Project Manager:
Bob Friesen / Brian McLoughlin

Sampler:

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp (including CF): 3.8 +0.1 = 3.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2108F52	Analysis Request: BTEX
8/25/2021	10:40	water	BH-45	3	HCL	011	X
8/25/2021	12:10	water	BH-49	3	HCL	012	X
8/25/2021	13:12	water	BH-50	3	HCL	013	X
8/25/2021	14:25	water	BH-43	3	HCL	014	X
8/25/2021	16:02	water	BH-52	3	HCL	015	X
8/25/2021	-	water	BH-08252021	3	HCL	016	X
			Trip Blank	(2)		017	
					SPA 8.27.21		

Date	Time	Relinquished by	Received by	Via	Date	Time
8/26/2021	10:00	Brian McLoughlin		CXO	8/26/21	1520

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

C-5. – Phase V Laboratory Analytical Reports

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins Houston
4145 Greenbriar Dr
Stafford, TX 77477
Tel: (281)240-4200

Laboratory Job ID: 860-19614-1
Client Project/Site: Marathon Wingate Benzene Investigation Phase 5
Revision: 1

For:
Trihydro Corporation
1252 Commerce Drive
Laramie, Wyoming 82070

Attn: Brian McLoughlin

Authorized for release by:
2/1/2022 2:27:20 PM

Sachin Kudchadkar, Senior Project Manager
(713)690-4444
Sachin.Kudchadkar@Eurofinset.com

LINKS
Review your project results through TotalAccess
Have a Question? Ask The Expert
Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Trihydro Corporation
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Laboratory Job ID: 860-19614-1

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Client Sample Results 6
Surrogate Summary 9
QC Sample Results 10
QC Association Summary 12
Lab Chronicle 13
Certification Summary 16
Method Summary 17
Sample Summary 18
Chain of Custody 19
Receipt Checklists 20

Definitions/Glossary

Client: Trihydro Corporation Job ID: 860-19614-1
Project/Site: Marathon Wingate Benzene Investigation Phase I

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Trihydro Corporation Job ID: 860-19614-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Job ID: 860-19614-1

Laboratory: Eurofins Houston

Narrative

Job Narrative
860-19614-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 2/1/2022. The report (revision 1) is being revised due to: Sample ID corrected per the chain of custody. BH-57 (26')..

Receipt
The samples were received on 1/25/2022 9:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4º C.

GC/MS VOA
Method 8260C: The following samples were diluted due to the nature of the sample matrix: (860-19522-G-3-A) and (860-19522-G-3-A MS). Elevated reporting limits (RLs) are provided.

Method 8260C: The following sample was diluted due to the nature of the sample matrix and abundance of target analytes: BH-53 (29') (860-19614-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Trihydro Corporation Job ID: 860-19614-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Client Sample ID: BH-56 (26') Lab Sample ID: 860-19614-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.000773	J	0.00117	0.000241	mg/Kg	1	☼	8260C	Total/NA

Client Sample ID: BH-57 (26') Lab Sample ID: 860-19614-2

No Detections.

Client Sample ID: DUP 01/21/2022 Lab Sample ID: 860-19614-3

No Detections.

Client Sample ID: BH-58 (20') Lab Sample ID: 860-19614-4

No Detections.

Client Sample ID: BH-55 (14') Lab Sample ID: 860-19614-5

No Detections.

Client Sample ID: BH-53 (29') Lab Sample ID: 860-19614-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.0614		0.0302	0.00625	mg/Kg	25	☼	8260C	Total/NA
Ethylbenzene	0.189		0.0302	0.0101	mg/Kg	25	☼	8260C	Total/NA
m,p-Xylenes	1.28		0.0604	0.0242	mg/Kg	25	☼	8260C	Total/NA
o-Xylene	0.0976		0.0302	0.0298	mg/Kg	25	☼	8260C	Total/NA
Xylenes, Total	1.38		0.0604	0.0298	mg/Kg	25	☼	8260C	Total/NA

Client Sample ID: BH-54 (13') Lab Sample ID: 860-19614-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.000731	J	0.00127	0.000262	mg/Kg	1	☼	8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Trihydro Corporation Job ID: 860-19614-1
Project/Site: Marathon Wingate Benzene Investigation Phase I

Client Sample ID: BH-56 (26') Lab Sample ID: 860-19614-1

Date Collected: 01/21/22 11:00 **Matrix: Solid**
Date Received: 01/25/22 09:45 **Percent Solids: 85.6**

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.000773**	**J**	0.00117	0.000241	mg/Kg	☼	01/25/22 11:53	01/28/22 17:04	1
Toluene	<0.00117	U	0.00583	0.00117	mg/Kg	☼	01/25/22 11:53	01/28/22 17:04	1
Ethylbenzene	<0.000391	U	0.00117	0.000391	mg/Kg	☼	01/25/22 11:53	01/28/22 17:04	1
m,p-Xylenes	<0.000933	U	0.00233	0.000933	mg/Kg	☼	01/25/22 11:53	01/28/22 17:04	1
o-Xylene	<0.00115	U	0.00117	0.00115	mg/Kg	☼	01/25/22 11:53	01/28/22 17:04	1
Xylenes, Total	<0.00115	U	0.00233	0.00115	mg/Kg	☼	01/25/22 11:53	01/28/22 17:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*56 - 150*	*01/25/22 11:53*	*01/28/22 17:04*	*1*
4-Bromofluorobenzene (Surr)	*111*		*68 - 152*	*01/25/22 11:53*	*01/28/22 17:04*	*1*
Dibromofluoromethane (Surr)	*97*		*53 - 142*	*01/25/22 11:53*	*01/28/22 17:04*	*1*
Toluene-d8 (Surr)	*104*		*70 - 130*	*01/25/22 11:53*	*01/28/22 17:04*	*1*

Client Sample ID: BH-57 (26') Lab Sample ID: 860-19614-2

Date Collected: 01/21/22 16:00 **Matrix: Solid**
Date Received: 01/25/22 09:45 **Percent Solids: 88.2**

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000237	U	0.00114	0.000237	mg/Kg	☼	01/25/22 11:53	01/28/22 17:25	1
Toluene	<0.00114	U	0.00571	0.00114	mg/Kg	☼	01/25/22 11:53	01/28/22 17:25	1
Ethylbenzene	<0.000384	U	0.00114	0.000384	mg/Kg	☼	01/25/22 11:53	01/28/22 17:25	1
m,p-Xylenes	<0.000914	U	0.00229	0.000914	mg/Kg	☼	01/25/22 11:53	01/28/22 17:25	1
o-Xylene	<0.00113	U	0.00114	0.00113	mg/Kg	☼	01/25/22 11:53	01/28/22 17:25	1
Xylenes, Total	<0.00113	U	0.00229	0.00113	mg/Kg	☼	01/25/22 11:53	01/28/22 17:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*56 - 150*	*01/25/22 11:53*	*01/28/22 17:25*	*1*
4-Bromofluorobenzene (Surr)	*112*		*68 - 152*	*01/25/22 11:53*	*01/28/22 17:25*	*1*
Dibromofluoromethane (Surr)	*93*		*53 - 142*	*01/25/22 11:53*	*01/28/22 17:25*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*	*01/25/22 11:53*	*01/28/22 17:25*	*1*

Client Sample ID: DUP 01/21/2022 Lab Sample ID: 860-19614-3

Date Collected: 01/21/22 00:00 **Matrix: Solid**
Date Received: 01/25/22 09:45 **Percent Solids: 90.0**

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000232	U	0.00112	0.000232	mg/Kg	☼	01/25/22 11:53	01/28/22 17:46	1
Toluene	<0.00112	U	0.00560	0.00112	mg/Kg	☼	01/25/22 11:53	01/28/22 17:46	1
Ethylbenzene	<0.000376	U	0.00112	0.000376	mg/Kg	☼	01/25/22 11:53	01/28/22 17:46	1
m,p-Xylenes	<0.000896	U	0.00224	0.000896	mg/Kg	☼	01/25/22 11:53	01/28/22 17:46	1
o-Xylene	<0.00110	U	0.00112	0.00110	mg/Kg	☼	01/25/22 11:53	01/28/22 17:46	1
Xylenes, Total	<0.00110	U	0.00224	0.00110	mg/Kg	☼	01/25/22 11:53	01/28/22 17:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*56 - 150*	*01/25/22 11:53*	*01/28/22 17:46*	*1*
4-Bromofluorobenzene (Surr)	*108*		*68 - 152*	*01/25/22 11:53*	*01/28/22 17:46*	*1*
Dibromofluoromethane (Surr)	*94*		*53 - 142*	*01/25/22 11:53*	*01/28/22 17:46*	*1*
Toluene-d8 (Surr)	*105*		*70 - 130*	*01/25/22 11:53*	*01/28/22 17:46*	*1*

Client Sample Results

Client: Trihydro Corporation Job ID: 860-19614-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Client Sample ID: BH-58 (20') Lab Sample ID: 860-19614-4

Date Collected: 01/22/22 08:30 Matrix: Solid
Date Received: 01/25/22 09:45 Percent Solids: 87.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000240	U	0.00116	0.000240	mg/Kg	☼	01/25/22 11:53	01/28/22 18:07	1
Toluene	<0.00116	U	0.00579	0.00116	mg/Kg	☼	01/25/22 11:53	01/28/22 18:07	1
Ethylbenzene	<0.000389	U	0.00116	0.000389	mg/Kg	☼	01/25/22 11:53	01/28/22 18:07	1
m,p-Xylenes	<0.000927	U	0.00232	0.000927	mg/Kg	☼	01/25/22 11:53	01/28/22 18:07	1
o-Xylene	<0.00114	U	0.00116	0.00114	mg/Kg	☼	01/25/22 11:53	01/28/22 18:07	1
Xylenes, Total	<0.00114	U	0.00232	0.00114	mg/Kg	☼	01/25/22 11:53	01/28/22 18:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*56 - 150*	*01/25/22 11:53*	*01/28/22 18:07*	*1*
4-Bromofluorobenzene (Surr)	*107*		*68 - 152*	*01/25/22 11:53*	*01/28/22 18:07*	*1*
Dibromofluoromethane (Surr)	*95*		*53 - 142*	*01/25/22 11:53*	*01/28/22 18:07*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*	*01/25/22 11:53*	*01/28/22 18:07*	*1*

Client Sample ID: BH-55 (14') Lab Sample ID: 860-19614-5

Date Collected: 01/22/22 09:55 Matrix: Solid
Date Received: 01/25/22 09:45 Percent Solids: 90.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000229	U	0.00111	0.000229	mg/Kg	☼	01/25/22 11:53	01/28/22 18:28	1
Toluene	<0.00111	U	0.00554	0.00111	mg/Kg	☼	01/25/22 11:53	01/28/22 18:28	1
Ethylbenzene	<0.000372	U	0.00111	0.000372	mg/Kg	☼	01/25/22 11:53	01/28/22 18:28	1
m,p-Xylenes	<0.000887	U	0.00222	0.000887	mg/Kg	☼	01/25/22 11:53	01/28/22 18:28	1
o-Xylene	<0.00109	U	0.00111	0.00109	mg/Kg	☼	01/25/22 11:53	01/28/22 18:28	1
Xylenes, Total	<0.00109	U	0.00222	0.00109	mg/Kg	☼	01/25/22 11:53	01/28/22 18:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*56 - 150*	*01/25/22 11:53*	*01/28/22 18:28*	*1*
4-Bromofluorobenzene (Surr)	*107*		*68 - 152*	*01/25/22 11:53*	*01/28/22 18:28*	*1*
Dibromofluoromethane (Surr)	*94*		*53 - 142*	*01/25/22 11:53*	*01/28/22 18:28*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*	*01/25/22 11:53*	*01/28/22 18:28*	*1*

Client Sample ID: BH-53 (29') Lab Sample ID: 860-19614-6

Date Collected: 01/22/22 13:20 Matrix: Solid
Date Received: 01/25/22 09:45 Percent Solids: 82.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.0614**		0.0302	0.00625	mg/Kg	☼	01/31/22 10:41	01/31/22 18:46	25
Toluene	<0.0302	U	0.151	0.0302	mg/Kg	☼	01/31/22 10:41	01/31/22 18:46	25
Ethylbenzene	**0.189**		0.0302	0.0101	mg/Kg	☼	01/31/22 10:41	01/31/22 18:46	25
m,p-Xylenes	**1.28**		0.0604	0.0242	mg/Kg	☼	01/31/22 10:41	01/31/22 18:46	25
o-Xylene	**0.0976**		0.0302	0.0298	mg/Kg	☼	01/31/22 10:41	01/31/22 18:46	25
Xylenes, Total	**1.38**		0.0604	0.0298	mg/Kg	☼	01/31/22 10:41	01/31/22 18:46	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*56 - 150*	*01/31/22 10:41*	*01/31/22 18:46*	*25*
4-Bromofluorobenzene (Surr)	*115*		*68 - 152*	*01/31/22 10:41*	*01/31/22 18:46*	*25*
Dibromofluoromethane (Surr)	*97*		*53 - 142*	*01/31/22 10:41*	*01/31/22 18:46*	*25*
Toluene-d8 (Surr)	*111*		*70 - 130*	*01/31/22 10:41*	*01/31/22 18:46*	*25*

Client Sample Results

Client: Trihydro Corporation Job ID: 860-19614-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Client Sample ID: BH-54 (13')
Date Collected: 01/22/22 14:05
Date Received: 01/25/22 09:45

Lab Sample ID: 860-19614-7
Matrix: Solid
Percent Solids: 79.7

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.000731**	**J**	0.00127	0.000262	mg/Kg	☼	01/31/22 10:41	01/31/22 14:35	1
Toluene	<0.00127	U	0.00634	0.00127	mg/Kg	☼	01/31/22 10:41	01/31/22 14:35	1
Ethylbenzene	<0.000426	U	0.00127	0.000426	mg/Kg	☼	01/31/22 10:41	01/31/22 14:35	1
m,p-Xylenes	<0.00101	U	0.00253	0.00101	mg/Kg	☼	01/31/22 10:41	01/31/22 14:35	1
o-Xylene	<0.00125	U	0.00127	0.00125	mg/Kg	☼	01/31/22 10:41	01/31/22 14:35	1
Xylenes, Total	<0.00125	U	0.00253	0.00125	mg/Kg	☼	01/31/22 10:41	01/31/22 14:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*114*		*56 - 150*	*01/31/22 10:41*	*01/31/22 14:35*	*1*
4-Bromofluorobenzene (Surr)	*112*		*68 - 152*	*01/31/22 10:41*	*01/31/22 14:35*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 142*	*01/31/22 10:41*	*01/31/22 14:35*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*	*01/31/22 10:41*	*01/31/22 14:35*	*1*

Surrogate Summary

Client: Trihydro Corporation
Job ID: 860-19614-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(56-150)	(68-152)	(53-142)	(70-130)
860-19614-1	BH-56 (26')	101	111	97	104
860-19614-2	BH-57 (26')	104	112	93	103
860-19614-3	DUP 01/21/2022	109	108	94	105
860-19614-4	BH-58 (20')	106	107	95	103
860-19614-5	BH-55 (14')	108	107	94	103
860-19614-6	BH-53 (29')	107	115	97	111
860-19614-7	BH-54 (13')	114	112	100	103
LCS 860-39355/3	Lab Control Sample	104	110	100	102
LCS 860-39548/3	Lab Control Sample	112	107	99	101
LCSD 860-39355/4	Lab Control Sample Dup	113	112	99	103
LCSD 860-39548/4	Lab Control Sample Dup	104	109	100	99
MB 860-39355/8	Method Blank	107	107	96	101
MB 860-39548/8	Method Blank	107	109	97	103

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Trihydro Corporation
Job ID: 860-19614-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 860-39355/8
Matrix: Solid
Analysis Batch: 39355

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000207	U	0.00100	0.000207	mg/Kg			01/28/22 13:14	1
Toluene	<0.00100	U	0.00500	0.00100	mg/Kg			01/28/22 13:14	1
Ethylbenzene	<0.000336	U	0.00100	0.000336	mg/Kg			01/28/22 13:14	1
m,p-Xylenes	<0.000800	U	0.00200	0.000800	mg/Kg			01/28/22 13:14	1
o-Xylene	<0.000985	U	0.00100	0.000985	mg/Kg			01/28/22 13:14	1
Xylenes, Total	<0.000985	U	0.00200	0.000985	mg/Kg			01/28/22 13:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*56 - 150*		*01/28/22 13:14*	*1*
4-Bromofluorobenzene (Surr)	*107*		*68 - 152*		*01/28/22 13:14*	*1*
Dibromofluoromethane (Surr)	*96*		*53 - 142*		*01/28/22 13:14*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*01/28/22 13:14*	*1*

Lab Sample ID: LCS 860-39355/3
Matrix: Solid
Analysis Batch: 39355

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.04216		mg/Kg		84	66 - 142
Toluene	0.0500	0.04511		mg/Kg		90	74 - 130
Ethylbenzene	0.0500	0.04820		mg/Kg		96	80 - 130
m,p-Xylenes	0.0500	0.04554		mg/Kg		91	78 - 130
o-Xylene	0.0500	0.04812		mg/Kg		96	79 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*56 - 150*
4-Bromofluorobenzene (Surr)	*110*		*68 - 152*
Dibromofluoromethane (Surr)	*100*		*53 - 142*
Toluene-d8 (Surr)	*102*		*70 - 130*

Lab Sample ID: LCSD 860-39355/4
Matrix: Solid
Analysis Batch: 39355

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0500	0.04798		mg/Kg		96	66 - 142	13	25
Toluene	0.0500	0.05001		mg/Kg		100	74 - 130	10	25
Ethylbenzene	0.0500	0.05284		mg/Kg		106	80 - 130	9	25
m,p-Xylenes	0.0500	0.04991		mg/Kg		100	78 - 130	9	25
o-Xylene	0.0500	0.05343		mg/Kg		107	79 - 130	10	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*113*		*56 - 150*
4-Bromofluorobenzene (Surr)	*112*		*68 - 152*
Dibromofluoromethane (Surr)	*99*		*53 - 142*
Toluene-d8 (Surr)	*103*		*70 - 130*

QC Sample Results

Client: Trihydro Corporation
Job ID: 860-19614-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-39548/8
Matrix: Solid
Analysis Batch: 39548

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000207	U	0.00100	0.000207	mg/Kg			01/31/22 12:09	1
Toluene	<0.00100	U	0.00500	0.00100	mg/Kg			01/31/22 12:09	1
Ethylbenzene	<0.000336	U	0.00100	0.000336	mg/Kg			01/31/22 12:09	1
m,p-Xylenes	<0.000800	U	0.00200	0.000800	mg/Kg			01/31/22 12:09	1
o-Xylene	<0.000985	U	0.00100	0.000985	mg/Kg			01/31/22 12:09	1
Xylenes, Total	<0.000985	U	0.00200	0.000985	mg/Kg			01/31/22 12:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*56 - 150*		*01/31/22 12:09*	*1*
4-Bromofluorobenzene (Surr)	*109*		*68 - 152*		*01/31/22 12:09*	*1*
Dibromofluoromethane (Surr)	*97*		*53 - 142*		*01/31/22 12:09*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*		*01/31/22 12:09*	*1*

Lab Sample ID: LCS 860-39548/3
Matrix: Solid
Analysis Batch: 39548

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.04792		mg/Kg		96	66 - 142
Toluene	0.0500	0.04968		mg/Kg		99	74 - 130
Ethylbenzene	0.0500	0.05219		mg/Kg		104	80 - 130
m,p-Xylenes	0.0500	0.04978		mg/Kg		100	78 - 130
o-Xylene	0.0500	0.05195		mg/Kg		104	79 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*112*		*56 - 150*
4-Bromofluorobenzene (Surr)	*107*		*68 - 152*
Dibromofluoromethane (Surr)	*99*		*53 - 142*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 860-39548/4
Matrix: Solid
Analysis Batch: 39548

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0500	0.04789		mg/Kg		96	66 - 142	0	25
Toluene	0.0500	0.04911		mg/Kg		98	74 - 130	1	25
Ethylbenzene	0.0500	0.05313		mg/Kg		106	80 - 130	2	25
m,p-Xylenes	0.0500	0.04944		mg/Kg		99	78 - 130	1	25
o-Xylene	0.0500	0.05164		mg/Kg		103	79 - 130	1	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*56 - 150*
4-Bromofluorobenzene (Surr)	*109*		*68 - 152*
Dibromofluoromethane (Surr)	*100*		*53 - 142*
Toluene-d8 (Surr)	*99*		*70 - 130*

QC Association Summary

Client: Trihydro Corporation
Job ID: 860-19614-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

GC/MS VOA

Prep Batch: 38785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-19614-1	BH-56 (26')	Total/NA	Solid	5035	
860-19614-2	BH-57 (26')	Total/NA	Solid	5035	
860-19614-3	DUP 01/21/2022	Total/NA	Solid	5035	
860-19614-4	BH-58 (20')	Total/NA	Solid	5035	
860-19614-5	BH-55 (14')	Total/NA	Solid	5035	

Analysis Batch: 39355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-19614-1	BH-56 (26')	Total/NA	Solid	8260C	38785
860-19614-2	BH-57 (26')	Total/NA	Solid	8260C	38785
860-19614-3	DUP 01/21/2022	Total/NA	Solid	8260C	38785
860-19614-4	BH-58 (20')	Total/NA	Solid	8260C	38785
860-19614-5	BH-55 (14')	Total/NA	Solid	8260C	38785
MB 860-39355/8	Method Blank	Total/NA	Solid	8260C	
LCS 860-39355/3	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 860-39355/4	Lab Control Sample Dup	Total/NA	Solid	8260C	

Analysis Batch: 39548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-19614-6	BH-53 (29')	Total/NA	Solid	8260C	39586
860-19614-7	BH-54 (13')	Total/NA	Solid	8260C	39586
MB 860-39548/8	Method Blank	Total/NA	Solid	8260C	
LCS 860-39548/3	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 860-39548/4	Lab Control Sample Dup	Total/NA	Solid	8260C	

Prep Batch: 39586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-19614-6	BH-53 (29')	Total/NA	Solid	5035	
860-19614-7	BH-54 (13')	Total/NA	Solid	5035	

General Chemistry

Analysis Batch: 39178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-19614-1	BH-56 (26')	Total/NA	Solid	Moisture	
860-19614-2	BH-57 (26')	Total/NA	Solid	Moisture	
860-19614-3	DUP 01/21/2022	Total/NA	Solid	Moisture	
860-19614-4	BH-58 (20')	Total/NA	Solid	Moisture	
860-19614-5	BH-55 (14')	Total/NA	Solid	Moisture	
860-19614-6	BH-53 (29')	Total/NA	Solid	Moisture	
860-19614-7	BH-54 (13')	Total/NA	Solid	Moisture	
MB 860-39178/1	Method Blank	Total/NA	Solid	Moisture	
860-19614-1 DU	BH-56 (26')	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Trihydro Corporation Job ID: 860-19614-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Client Sample ID: BH-56 (26') Lab Sample ID: 860-19614-1
Date Collected: 01/21/22 11:00 **Matrix: Solid**
Date Received: 01/25/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			39178	01/27/22 10:48	JM	XEN STF

Client Sample ID: BH-56 (26') Lab Sample ID: 860-19614-1
Date Collected: 01/21/22 11:00 **Matrix: Solid**
Date Received: 01/25/22 09:45 **Percent Solids: 85.6**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	38785	01/25/22 11:53	CSP	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	39355	01/28/22 17:04	CSP	XEN STF

Client Sample ID: BH-57 (26') Lab Sample ID: 860-19614-2
Date Collected: 01/21/22 16:00 **Matrix: Solid**
Date Received: 01/25/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			39178	01/27/22 10:48	JM	XEN STF

Client Sample ID: BH-57 (26') Lab Sample ID: 860-19614-2
Date Collected: 01/21/22 16:00 **Matrix: Solid**
Date Received: 01/25/22 09:45 **Percent Solids: 88.2**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	38785	01/25/22 11:53	CSP	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	39355	01/28/22 17:25	CSP	XEN STF

Client Sample ID: DUP 01/21/2022 Lab Sample ID: 860-19614-3
Date Collected: 01/21/22 00:00 **Matrix: Solid**
Date Received: 01/25/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			39178	01/27/22 10:48	JM	XEN STF

Client Sample ID: DUP 01/21/2022 Lab Sample ID: 860-19614-3
Date Collected: 01/21/22 00:00 **Matrix: Solid**
Date Received: 01/25/22 09:45 **Percent Solids: 90.0**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	38785	01/25/22 11:53	CSP	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	39355	01/28/22 17:46	CSP	XEN STF

Client Sample ID: BH-58 (20') Lab Sample ID: 860-19614-4
Date Collected: 01/22/22 08:30 **Matrix: Solid**
Date Received: 01/25/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			39178	01/27/22 10:48	JM	XEN STF

Lab Chronicle

Client: Trihydro Corporation Job ID: 860-19614-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Client Sample ID: BH-58 (20') Lab Sample ID: 860-19614-4
Date Collected: 01/22/22 08:30 **Matrix: Solid**
Date Received: 01/25/22 09:45 **Percent Solids: 87.0**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	38785	01/25/22 11:53	CSP	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	39355	01/28/22 18:07	CSP	XEN STF

Client Sample ID: BH-55 (14') Lab Sample ID: 860-19614-5
Date Collected: 01/22/22 09:55 **Matrix: Solid**
Date Received: 01/25/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			39178	01/27/22 10:48	JM	XEN STF

Client Sample ID: BH-55 (14') Lab Sample ID: 860-19614-5
Date Collected: 01/22/22 09:55 **Matrix: Solid**
Date Received: 01/25/22 09:45 **Percent Solids: 90.0**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	38785	01/25/22 11:53	CSP	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	39355	01/28/22 18:28	CSP	XEN STF

Client Sample ID: BH-53 (29') Lab Sample ID: 860-19614-6
Date Collected: 01/22/22 13:20 **Matrix: Solid**
Date Received: 01/25/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			39178	01/27/22 10:48	JM	XEN STF

Client Sample ID: BH-53 (29') Lab Sample ID: 860-19614-6
Date Collected: 01/22/22 13:20 **Matrix: Solid**
Date Received: 01/25/22 09:45 **Percent Solids: 82.6**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	39586	01/31/22 10:41	CSP	XEN STF
Total/NA	Analysis	8260C		25	5 mL	5 mL	39548	01/31/22 18:46	CSP	XEN STF

Client Sample ID: BH-54 (13') Lab Sample ID: 860-19614-7
Date Collected: 01/22/22 14:05 **Matrix: Solid**
Date Received: 01/25/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			39178	01/27/22 10:48	JM	XEN STF

Lab Chronicle

Client: Trihydro Corporation
Job ID: 860-19614-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Client Sample ID: BH-54 (13')
Date Collected: 01/22/22 14:05
Date Received: 01/25/22 09:45

Lab Sample ID: 860-19614-7
Matrix: Solid
Percent Solids: 79.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	39586	01/31/22 10:41	CSP	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	39548	01/31/22 14:35	CSP	XEN STF

Laboratory References:

XEN STF = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Accreditation/Certification Summary

Client: Trihydro Corporation Job ID: 860-19614-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Laboratory: Eurofins Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215-21-44	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Solids

Method Summary

Client: Trihydro Corporation
Job ID: 860-19614-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	XEN STF
Moisture	Percent Moisture	EPA	XEN STF
5035	Closed System Purge and Trap	SW846	XEN STF

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

XEN STF = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Sample Summary

Client: Trihydro Corporation
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Job ID: 860-19614-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
860-19614-1	BH-56 (26')	Solid	01/21/22 11:00	01/25/22 09:45
860-19614-2	BH-57 (26')	Solid	01/21/22 16:00	01/25/22 09:45
860-19614-3	DUP 01/21/2022	Solid	01/21/22 00:00	01/25/22 09:45
860-19614-4	BH-58 (20')	Solid	01/22/22 08:30	01/25/22 09:45
860-19614-5	BH-55 (14')	Solid	01/22/22 09:55	01/25/22 09:45
860-19614-6	BH-53 (29')	Solid	01/22/22 13:20	01/25/22 09:45
860-19614-7	BH-54 (13')	Solid	01/22/22 14:05	01/25/22 09:45

Received by OCD: 3/7/2024 4:58:12 PM Page 392 of 477

145 Greenbriar Dr
Stafford TX 77477
Phone (281) 240-4200

Chain of Custody Record

eurofins | Environment Testing America

2/1/2022 (Rev. 1)

Client Information	Sampler:	Lab PM: Kudchadkar Sachin G	Carrier Tracking No(s):	COC No: 860-7826-2721 1
Client Contact: Brian McLoughlin	Phone: 808-640-1823	E-Mail: Sachin.Kudchadkar@Eurofinset.com	State of Origin:	Page: Page
Company: Trihydro Corporation	PWSID:			Job #:
Address: 252 Commerce Drive	Due Date Requested:			
City: Laramie	TAT Requested (days):			
State, Zip: WY 82070	Compliance Project: Δ Yes Δ No			
Phone: 307-745-7474(Tel)	PO #:			
Email: mcloughlin@trihydro.com	WO #:			
Project Name: Marathon Wingate Benzene Investigation Phase 5	Project #: 86002766			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C - BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
BH-56 (26')	1/21/22	11.00	G	S			X		
BH-57 (26')	1/21/22	16:00	G	S			X		
DUP 1/21/2022	1/21/22	-	G	S			X		
BH-58 (20')	1/22/22	8:30	G	S			X		
BH-55 (14')	1/22/22	9:55	G	S			X		
BH-53 (29')	1/22/22	13.20	G	S			X		
BH-54 (13')	1/22/22	14:05	G	S			X		

860-19614 Chain of Custody

Temp: 2.6 IR ID:HOU-223
C/F: -0.2
Corrected Temp: 2.4

Page 19 of 20

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I II III IV Other (specify)

Special Instructions/QC Requirements: ON ICE 5.2°

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Hlair Tej	1-24 22 1050			1/24/22 10 00	EETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	1/24/22 Fedex	EETA	FEX		
Relinquished by: FEX	Date/Time:	Company	Received by:	Date/Time: 1/25/22 9:45	Company EX

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Released to Imaging: 8/16/2024 2:26:48 PM

Login Sample Receipt Checklist

Client: Trihydro Corporation Job Number: 860-19614-1

Login Number: 19614 **List Source: Eurofins Houston**
List Number: 1
Creator: Palmar, Pedro

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins Houston
4145 Greenbriar Dr
Stafford, TX 77477
Tel: (281)240-4200

Laboratory Job ID: 860-19618-1
Client Project/Site: Marathon Wingate Benzene Investigation Phase 5

For:
Trihydro Corporation
1252 Commerce Drive
Laramie, Wyoming 82070

Attn: Brian McLoughlin

Authorized for release by:
1/28/2022 6:10:50 PM

Sachin Kudchadkar, Senior Project Manager
(713)690-4444
Sachin.Kudchadkar@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Trihydro Corporation
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Laboratory Job ID: 860-19618-1

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Client Sample Results 6
Surrogate Summary 10
QC Sample Results 11
QC Association Summary 17
Lab Chronicle 18
Certification Summary 20
Method Summary 21
Sample Summary 22
Chain of Custody 23
Receipt Checklists 24

Definitions/Glossary

Client: Trihydro Corporation Job ID: 860-19618-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*3	ISTD response or retention time outside acceptable limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Trihydro Corporation Job ID: 860-19618-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Job ID: 860-19618-1

Laboratory: Eurofins Houston

Narrative

Job Narrative
860-19618-1

Receipt
The samples were received on 1/25/2022 9:45 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.4°C

GC/MS VOA
Method 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: BH-53 (860-19618-6), BH-54 (860-19618-7) and DUP 01/22/2022 (860-19618-9). Elevated reporting limits (RLs) are provided.

Method 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: BH-54 (860-19618-7) and DUP 01/22/2022 (860-19618-9). Elevated reporting limits (RLs) are provided.

Method 8260C: The following sample(s) was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The samples were analyzed within the 7-day holding time specified for unpreserved samples: BH-54 (860-19618-7) and DUP 01/22/2022 (860-19618-9). Note: pH 5.

Method 8260C: Internal standard (ISTD) response (1,4-Dichlorobenzene-d4) for the following samples in analytical batch 860-39285 was outside acceptance criteria: (MB 860-39285/8) and (860-19796-A-9). This ISTD does not correspond to any of the requested target compounds reported from this analytical batch; therefore, the data have been reported.

Method 8260C: Surrogate 4-Bromofluorobenzene (Surrogate) recovery for the following sample was outside control limits: BH-53 (860-19618-6). This surrogate does not correspond to any of the requested target compounds reported from this analytical batch; Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8260C: The following sample(s) was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The sample was analyzed within the 7-day holding time specified for unpreserved samples: BH-53 (860-19618-6). Note: pH 5.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Trihydro Corporation Job ID: 860-19618-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Client Sample ID: BH-56 Lab Sample ID: 860-19618-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.00531	J	0.0100	0.00214	mg/L	10		8260C	Total/NA
Ethylbenzene	0.0193		0.0100	0.00515	mg/L	10		8260C	Total/NA
Toluene	0.104		0.0100	0.00500	mg/L	10		8260C	Total/NA
Xylenes, Total	0.121		0.100	0.00330	mg/L	10		8260C	Total/NA
m,p-Xylenes	0.0814	J	0.100	0.00330	mg/L	10		8260C	Total/NA
o-Xylene	0.0395		0.0100	0.00192	mg/L	10		8260C	Total/NA

Client Sample ID: BH-57 Lab Sample ID: 860-19618-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.000341	J	0.00100	0.000214	mg/L	1		8260C	Total/NA

Client Sample ID: FB 01/21/2022 Lab Sample ID: 860-19618-3

No Detections.

Client Sample ID: BH-58 Lab Sample ID: 860-19618-4

No Detections.

Client Sample ID: BH-55 Lab Sample ID: 860-19618-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.000305	J	0.00100	0.000214	mg/L	1		8260C	Total/NA

Client Sample ID: BH-53 Lab Sample ID: 860-19618-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	0.112		0.00100	0.000515	mg/L	1		8260C	Total/NA
o-Xylene	0.0328		0.00100	0.000192	mg/L	1		8260C	Total/NA
Benzene - DL	4.33		0.0500	0.0107	mg/L	50		8260C	Total/NA
Xylenes, Total - DL	0.505		0.100	0.00330	mg/L	10		8260C	Total/NA
m,p-Xylenes - DL	0.478		0.100	0.00330	mg/L	10		8260C	Total/NA

Client Sample ID: BH-54 Lab Sample ID: 860-19618-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	0.135		0.00100	0.000515	mg/L	1		8260C	Total/NA
Toluene	0.00158		0.00100	0.000500	mg/L	1		8260C	Total/NA
o-Xylene	0.0637		0.00100	0.000192	mg/L	1		8260C	Total/NA
Xylenes, Total - DL	0.292		0.100	0.00330	mg/L	10		8260C	Total/NA
m,p-Xylenes - DL	0.229		0.100	0.00330	mg/L	10		8260C	Total/NA
Benzene - DL2	0.921		0.0500	0.0107	mg/L	50		8260C	Total/NA

Client Sample ID: FB 01/22/2022 Lab Sample ID: 860-19618-8

No Detections.

Client Sample ID: DUP 01/22/2022 Lab Sample ID: 860-19618-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	0.0733		0.00100	0.000515	mg/L	1		8260C	Total/NA
o-Xylene	0.0249		0.00100	0.000192	mg/L	1		8260C	Total/NA
Xylenes, Total - DL	0.352		0.100	0.00330	mg/L	10		8260C	Total/NA
m,p-Xylenes - DL	0.329		0.100	0.00330	mg/L	10		8260C	Total/NA
Benzene - DL2	3.58		0.0500	0.0107	mg/L	50		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Client Sample Results

Client: Trihydro Corporation Job ID: 860-19618-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Client Sample ID: BH-56 Lab Sample ID: 860-19618-1

Date Collected: 01/21/22 15:00 **Matrix: Water**
Date Received: 01/25/22 09:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00531	J	0.0100	0.00214	mg/L			01/26/22 12:55	10
Ethylbenzene	0.0193		0.0100	0.00515	mg/L			01/26/22 12:55	10
Toluene	0.104		0.0100	0.00500	mg/L			01/26/22 12:55	10
Xylenes, Total	0.121		0.100	0.00330	mg/L			01/26/22 12:55	10
m,p-Xylenes	0.0814	J	0.100	0.00330	mg/L			01/26/22 12:55	10
o-Xylene	0.0395		0.0100	0.00192	mg/L			01/26/22 12:55	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*63 - 144*		*01/26/22 12:55*	*10*
4-Bromofluorobenzene (Surr)	*99*		*74 - 124*		*01/26/22 12:55*	*10*
Dibromofluoromethane (Surr)	*91*		*75 - 131*		*01/26/22 12:55*	*10*
Toluene-d8 (Surr)	*101*		*80 - 117*		*01/26/22 12:55*	*10*

Client Sample ID: BH-57 Lab Sample ID: 860-19618-2

Date Collected: 01/21/22 17:00 **Matrix: Water**
Date Received: 01/25/22 09:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.000341	J	0.00100	0.000214	mg/L			01/26/22 13:36	1
Ethylbenzene	<0.000515	U	0.00100	0.000515	mg/L			01/26/22 13:36	1
Toluene	<0.000500	U	0.00100	0.000500	mg/L			01/26/22 13:36	1
Xylenes, Total	<0.000330	U	0.0100	0.000330	mg/L			01/26/22 13:36	1
m,p-Xylenes	<0.000330	U	0.0100	0.000330	mg/L			01/26/22 13:36	1
o-Xylene	<0.000192	U	0.00100	0.000192	mg/L			01/26/22 13:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*63 - 144*		*01/26/22 13:36*	*1*
4-Bromofluorobenzene (Surr)	*101*		*74 - 124*		*01/26/22 13:36*	*1*
Dibromofluoromethane (Surr)	*90*		*75 - 131*		*01/26/22 13:36*	*1*
Toluene-d8 (Surr)	*98*		*80 - 117*		*01/26/22 13:36*	*1*

Client Sample ID: FB 01/21/2022 Lab Sample ID: 860-19618-3

Date Collected: 01/21/22 17:00 **Matrix: Water**
Date Received: 01/25/22 09:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000214	U	0.00100	0.000214	mg/L			01/26/22 12:14	1
Ethylbenzene	<0.000515	U	0.00100	0.000515	mg/L			01/26/22 12:14	1
Toluene	<0.000500	U	0.00100	0.000500	mg/L			01/26/22 12:14	1
Xylenes, Total	<0.000330	U	0.0100	0.000330	mg/L			01/26/22 12:14	1
m,p-Xylenes	<0.000330	U	0.0100	0.000330	mg/L			01/26/22 12:14	1
o-Xylene	<0.000192	U	0.00100	0.000192	mg/L			01/26/22 12:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*63 - 144*		*01/26/22 12:14*	*1*
4-Bromofluorobenzene (Surr)	*98*		*74 - 124*		*01/26/22 12:14*	*1*
Dibromofluoromethane (Surr)	*91*		*75 - 131*		*01/26/22 12:14*	*1*
Toluene-d8 (Surr)	*99*		*80 - 117*		*01/26/22 12:14*	*1*

Client Sample Results

Client: Trihydro Corporation Job ID: 860-19618-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Client Sample ID: BH-58 Lab Sample ID: 860-19618-4

Date Collected: 01/22/22 09:05 **Matrix: Water**
Date Received: 01/25/22 09:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000214	U	0.00100	0.000214	mg/L			01/28/22 13:07	1
Ethylbenzene	<0.000515	U	0.00100	0.000515	mg/L			01/28/22 13:07	1
Toluene	<0.000500	U	0.00100	0.000500	mg/L			01/28/22 13:07	1
Xylenes, Total	<0.000330	U	0.0100	0.000330	mg/L			01/28/22 13:07	1
m,p-Xylenes	<0.000330	U	0.0100	0.000330	mg/L			01/28/22 13:07	1
o-Xylene	<0.000192	U	0.00100	0.000192	mg/L			01/28/22 13:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*63 - 144*		*01/28/22 13:07*	*1*
4-Bromofluorobenzene (Surr)	*103*		*74 - 124*		*01/28/22 13:07*	*1*
Dibromofluoromethane (Surr)	*93*		*75 - 131*		*01/28/22 13:07*	*1*
Toluene-d8 (Surr)	*100*		*80 - 117*		*01/28/22 13:07*	*1*

Client Sample ID: BH-55 Lab Sample ID: 860-19618-5

Date Collected: 01/22/22 10:25 **Matrix: Water**
Date Received: 01/25/22 09:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.000305**	**J**	0.00100	0.000214	mg/L			01/26/22 12:55	1
Ethylbenzene	<0.000515	U	0.00100	0.000515	mg/L			01/26/22 12:55	1
Toluene	<0.000500	U	0.00100	0.000500	mg/L			01/26/22 12:55	1
Xylenes, Total	<0.000330	U	0.0100	0.000330	mg/L			01/26/22 12:55	1
m,p-Xylenes	<0.000330	U	0.0100	0.000330	mg/L			01/26/22 12:55	1
o-Xylene	<0.000192	U	0.00100	0.000192	mg/L			01/26/22 12:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*63 - 144*		*01/26/22 12:55*	*1*
4-Bromofluorobenzene (Surr)	*100*		*74 - 124*		*01/26/22 12:55*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 131*		*01/26/22 12:55*	*1*
Toluene-d8 (Surr)	*108*		*80 - 117*		*01/26/22 12:55*	*1*

Client Sample ID: BH-53 Lab Sample ID: 860-19618-6

Date Collected: 01/22/22 13:45 **Matrix: Water**
Date Received: 01/25/22 09:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	**0.112**		0.00100	0.000515	mg/L			01/26/22 14:44	1
Toluene	<0.000500	U	0.00100	0.000500	mg/L			01/26/22 14:44	1
o-Xylene	**0.0328**		0.00100	0.000192	mg/L			01/26/22 14:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*63 - 144*		*01/26/22 14:44*	*1*
4-Bromofluorobenzene (Surr)	*107*		*74 - 124*		*01/26/22 14:44*	*1*
Dibromofluoromethane (Surr)	*76*		*75 - 131*		*01/26/22 14:44*	*1*
Toluene-d8 (Surr)	*111*		*80 - 117*		*01/26/22 14:44*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**4.33**		0.0500	0.0107	mg/L			01/28/22 11:48	50

Client Sample Results

Client: Trihydro Corporation Job ID: 860-19618-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Client Sample ID: BH-53 Lab Sample ID: 860-19618-6

Date Collected: 01/22/22 13:45 **Matrix: Water**
Date Received: 01/25/22 09:45

Method: 8260C - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	0.505		0.100	0.00330	mg/L			01/26/22 15:06	10
m,p-Xylenes	0.478		0.100	0.00330	mg/L			01/26/22 15:06	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*63 - 144*		*01/26/22 15:06*	*10*
1,2-Dichloroethane-d4 (Surr)	*102*		*63 - 144*		*01/28/22 11:48*	*50*
4-Bromofluorobenzene (Surr)	*102*		*74 - 124*		*01/26/22 15:06*	*10*
4-Bromofluorobenzene (Surr)	*131*	*S1+*	*74 - 124*		*01/28/22 11:48*	*50*
Dibromofluoromethane (Surr)	*95*		*75 - 131*		*01/26/22 15:06*	*10*
Dibromofluoromethane (Surr)	*99*		*75 - 131*		*01/28/22 11:48*	*50*
Toluene-d8 (Surr)	*105*		*80 - 117*		*01/26/22 15:06*	*10*
Toluene-d8 (Surr)	*88*		*80 - 117*		*01/28/22 11:48*	*50*

Client Sample ID: BH-54 Lab Sample ID: 860-19618-7

Date Collected: 01/22/22 14:50 **Matrix: Water**
Date Received: 01/25/22 09:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	0.135		0.00100	0.000515	mg/L			01/26/22 13:17	1
Toluene	0.00158		0.00100	0.000500	mg/L			01/26/22 13:17	1
o-Xylene	0.0637		0.00100	0.000192	mg/L			01/26/22 13:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*63 - 144*		*01/26/22 13:17*	*1*
4-Bromofluorobenzene (Surr)	*108*		*74 - 124*		*01/26/22 13:17*	*1*
Dibromofluoromethane (Surr)	*81*		*75 - 131*		*01/26/22 13:17*	*1*
Toluene-d8 (Surr)	*108*		*80 - 117*		*01/26/22 13:17*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	0.292		0.100	0.00330	mg/L			01/26/22 13:38	10
m,p-Xylenes	0.229		0.100	0.00330	mg/L			01/26/22 13:38	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*63 - 144*		*01/26/22 13:38*	*10*
4-Bromofluorobenzene (Surr)	*102*		*74 - 124*		*01/26/22 13:38*	*10*
Dibromofluoromethane (Surr)	*99*		*75 - 131*		*01/26/22 13:38*	*10*
Toluene-d8 (Surr)	*104*		*80 - 117*		*01/26/22 13:38*	*10*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.921		0.0500	0.0107	mg/L			01/27/22 17:10	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*63 - 144*		*01/27/22 17:10*	*50*
4-Bromofluorobenzene (Surr)	*97*		*74 - 124*		*01/27/22 17:10*	*50*
Dibromofluoromethane (Surr)	*102*		*75 - 131*		*01/27/22 17:10*	*50*
Toluene-d8 (Surr)	*95*		*80 - 117*		*01/27/22 17:10*	*50*

Client Sample Results

Client: Trihydro Corporation Job ID: 860-19618-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Client Sample ID: FB 01/22/2022 Lab Sample ID: 860-19618-8

Date Collected: 01/22/22 11:00 **Matrix: Water**
Date Received: 01/25/22 09:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000214	U	0.00100	0.000214	mg/L			01/26/22 12:34	1
Ethylbenzene	<0.000515	U	0.00100	0.000515	mg/L			01/26/22 12:34	1
Toluene	<0.000500	U	0.00100	0.000500	mg/L			01/26/22 12:34	1
Xylenes, Total	<0.000330	U	0.0100	0.000330	mg/L			01/26/22 12:34	1
m,p-Xylenes	<0.000330	U	0.0100	0.000330	mg/L			01/26/22 12:34	1
o-Xylene	<0.000192	U	0.00100	0.000192	mg/L			01/26/22 12:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*63 - 144*		*01/26/22 12:34*	*1*
4-Bromofluorobenzene (Surr)	*101*		*74 - 124*		*01/26/22 12:34*	*1*
Dibromofluoromethane (Surr)	*89*		*75 - 131*		*01/26/22 12:34*	*1*
Toluene-d8 (Surr)	*100*		*80 - 117*		*01/26/22 12:34*	*1*

Client Sample ID: DUP 01/22/2022 Lab Sample ID: 860-19618-9

Date Collected: 01/22/22 00:00 **Matrix: Water**
Date Received: 01/25/22 09:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	**0.0733**		0.00100	0.000515	mg/L			01/26/22 14:00	1
Toluene	<0.000500	U	0.00100	0.000500	mg/L			01/26/22 14:00	1
o-Xylene	**0.0249**		0.00100	0.000192	mg/L			01/26/22 14:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*63 - 144*		*01/26/22 14:00*	*1*
4-Bromofluorobenzene (Surr)	*105*		*74 - 124*		*01/26/22 14:00*	*1*
Dibromofluoromethane (Surr)	*78*		*75 - 131*		*01/26/22 14:00*	*1*
Toluene-d8 (Surr)	*107*		*80 - 117*		*01/26/22 14:00*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	**0.352**		0.100	0.00330	mg/L			01/26/22 14:22	10
m,p-Xylenes	**0.329**		0.100	0.00330	mg/L			01/26/22 14:22	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*63 - 144*		*01/26/22 14:22*	*10*
4-Bromofluorobenzene (Surr)	*106*		*74 - 124*		*01/26/22 14:22*	*10*
Dibromofluoromethane (Surr)	*95*		*75 - 131*		*01/26/22 14:22*	*10*
Toluene-d8 (Surr)	*106*		*80 - 117*		*01/26/22 14:22*	*10*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**3.58**		0.0500	0.0107	mg/L			01/27/22 17:31	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*63 - 144*		*01/27/22 17:31*	*50*
4-Bromofluorobenzene (Surr)	*98*		*74 - 124*		*01/27/22 17:31*	*50*
Dibromofluoromethane (Surr)	*100*		*75 - 131*		*01/27/22 17:31*	*50*
Toluene-d8 (Surr)	*96*		*80 - 117*		*01/27/22 17:31*	*50*

Surrogate Summary

Client: Trihydro Corporation
Job ID: 860-19618-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(63-144)	(74-124)	(75-131)	(80-117)
860-19618-1	BH-56	95	99	91	101
860-19618-2	BH-57	95	101	90	98
860-19618-3	FB 01/21/2022	94	98	91	99
860-19618-4	BH-58	96	103	93	100
860-19618-4 MS	BH-58	92	94	89	98
860-19618-5	BH-55	112	100	98	108
860-19618-6	BH-53	96	107	76	111
860-19618-6 - DL	BH-53	101	102	95	105
860-19618-6 - DL	BH-53	102	131 S1+	99	88
860-19618-7	BH-54	100	108	81	108
860-19618-7 - DL	BH-54	111	102	99	104
860-19618-7 - DL2	BH-54	95	97	102	95
860-19618-8	FB 01/22/2022	96	101	89	100
860-19618-9	DUP 01/22/2022	98	105	78	107
860-19618-9 - DL	DUP 01/22/2022	106	106	95	106
860-19618-9 - DL2	DUP 01/22/2022	96	98	100	96
LCS 860-38877/3	Lab Control Sample	91	93	86	98
LCS 860-38878/3	Lab Control Sample	106	98	103	94
LCS 860-39058/3	Lab Control Sample	94	96	102	95
LCS 860-39285/3	Lab Control Sample	105	101	107	99
LCS 860-39323/3	Lab Control Sample	94	96	87	99
LCSD 860-38877/4	Lab Control Sample Dup	92	93	87	99
LCSD 860-38878/4	Lab Control Sample Dup	104	98	106	98
LCSD 860-39058/4	Lab Control Sample Dup	95	97	101	96
LCSD 860-39285/4	Lab Control Sample Dup	100	97	103	96
LCSD 860-39323/4	Lab Control Sample Dup	102	95	88	99
MB 860-38877/7	Method Blank	93	98	88	100
MB 860-38878/7	Method Blank	111	96	102	101
MB 860-39058/10	Method Blank	95	99	101	95
MB 860-39285/8	Method Blank	110	104 *3	103	108
MB 860-39323/8	Method Blank	94	100	93	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Trihydro Corporation Job ID: 860-19618-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 860-38877/7 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 38877

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000214	U	0.00100	0.000214	mg/L			01/26/22 10:11	1
Ethylbenzene	<0.000515	U	0.00100	0.000515	mg/L			01/26/22 10:11	1
Toluene	<0.000500	U	0.00100	0.000500	mg/L			01/26/22 10:11	1
Xylenes, Total	<0.000330	U	0.0100	0.000330	mg/L			01/26/22 10:11	1
m,p-Xylenes	<0.000330	U	0.0100	0.000330	mg/L			01/26/22 10:11	1
o-Xylene	<0.000192	U	0.00100	0.000192	mg/L			01/26/22 10:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*63 - 144*		*01/26/22 10:11*	*1*
4-Bromofluorobenzene (Surr)	*98*		*74 - 124*		*01/26/22 10:11*	*1*
Dibromofluoromethane (Surr)	*88*		*75 - 131*		*01/26/22 10:11*	*1*
Toluene-d8 (Surr)	*100*		*80 - 117*		*01/26/22 10:11*	*1*

Lab Sample ID: LCS 860-38877/3 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 38877

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.0500	0.04262		mg/L		85	66 - 142		
Ethylbenzene			0.0500	0.05060		mg/L		101	75 - 125		
Toluene			0.0500	0.04931		mg/L		99	59 - 139		
m,p-Xylenes			0.0500	0.05109		mg/L		102	75 - 125		
o-Xylene			0.0500	0.05157		mg/L		103	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*63 - 144*
4-Bromofluorobenzene (Surr)	*93*		*74 - 124*
Dibromofluoromethane (Surr)	*86*		*75 - 131*
Toluene-d8 (Surr)	*98*		*80 - 117*

Lab Sample ID: LCSD 860-38877/4 **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 38877

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.0500	0.04104		mg/L		82	66 - 142	4	25
Ethylbenzene			0.0500	0.04831		mg/L		97	75 - 125	5	25
Toluene			0.0500	0.04769		mg/L		95	59 - 139	3	25
m,p-Xylenes			0.0500	0.04834		mg/L		97	75 - 125	6	25
o-Xylene			0.0500	0.04918		mg/L		98	75 - 125	5	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*63 - 144*
4-Bromofluorobenzene (Surr)	*93*		*74 - 124*
Dibromofluoromethane (Surr)	*87*		*75 - 131*
Toluene-d8 (Surr)	*99*		*80 - 117*

QC Sample Results

Client: Trihydro Corporation Job ID: 860-19618-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-38878/7 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 38878

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000214	U	0.00100	0.000214	mg/L			01/26/22 10:44	1
Ethylbenzene	<0.000515	U	0.00100	0.000515	mg/L			01/26/22 10:44	1
Toluene	<0.000500	U	0.00100	0.000500	mg/L			01/26/22 10:44	1
Xylenes, Total	<0.000330	U	0.0100	0.000330	mg/L			01/26/22 10:44	1
m,p-Xylenes	<0.000330	U	0.0100	0.000330	mg/L			01/26/22 10:44	1
o-Xylene	<0.000192	U	0.00100	0.000192	mg/L			01/26/22 10:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*63 - 144*		*01/26/22 10:44*	*1*
4-Bromofluorobenzene (Surr)	*96*		*74 - 124*		*01/26/22 10:44*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 131*		*01/26/22 10:44*	*1*
Toluene-d8 (Surr)	*101*		*80 - 117*		*01/26/22 10:44*	*1*

Lab Sample ID: LCS 860-38878/3 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 38878

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.0500	0.04905		mg/L		98	66 - 142		
Ethylbenzene			0.0500	0.04597		mg/L		92	75 - 125		
Toluene			0.0500	0.04380		mg/L		88	59 - 139		
m,p-Xylenes			0.0500	0.04695		mg/L		94	75 - 125		
o-Xylene			0.0500	0.04761		mg/L		95	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*63 - 144*
4-Bromofluorobenzene (Surr)	*98*		*74 - 124*
Dibromofluoromethane (Surr)	*103*		*75 - 131*
Toluene-d8 (Surr)	*94*		*80 - 117*

Lab Sample ID: LCSD 860-38878/4 **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 38878

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.0500	0.05053		mg/L		101	66 - 142	3	25
Ethylbenzene			0.0500	0.04922		mg/L		98	75 - 125	7	25
Toluene			0.0500	0.04814		mg/L		96	59 - 139	9	25
m,p-Xylenes			0.0500	0.05135		mg/L		103	75 - 125	9	25
o-Xylene			0.0500	0.05215		mg/L		104	75 - 125	9	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*63 - 144*
4-Bromofluorobenzene (Surr)	*98*		*74 - 124*
Dibromofluoromethane (Surr)	*106*		*75 - 131*
Toluene-d8 (Surr)	*98*		*80 - 117*

QC Sample Results

Client: Trihydro Corporation Job ID: 860-19618-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-39058/10 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 39058

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000214	U	0.00100	0.000214	mg/L			01/27/22 11:22	1
Ethylbenzene	<0.000515	U	0.00100	0.000515	mg/L			01/27/22 11:22	1
Toluene	<0.000500	U	0.00100	0.000500	mg/L			01/27/22 11:22	1
Xylenes, Total	<0.000330	U	0.0100	0.000330	mg/L			01/27/22 11:22	1
m,p-Xylenes	<0.000330	U	0.0100	0.000330	mg/L			01/27/22 11:22	1
o-Xylene	<0.000192	U	0.00100	0.000192	mg/L			01/27/22 11:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*63 - 144*		*01/27/22 11:22*	*1*
4-Bromofluorobenzene (Surr)	*99*		*74 - 124*		*01/27/22 11:22*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 131*		*01/27/22 11:22*	*1*
Toluene-d8 (Surr)	*95*		*80 - 117*		*01/27/22 11:22*	*1*

Lab Sample ID: LCS 860-39058/3 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 39058

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.0500	0.05313		mg/L		106	66 - 142		
Ethylbenzene			0.0500	0.05141		mg/L		103	75 - 125		
Toluene			0.0500	0.05093		mg/L		102	59 - 139		
m,p-Xylenes			0.0500	0.05110		mg/L		102	75 - 125		
o-Xylene			0.0500	0.05170		mg/L		103	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*63 - 144*
4-Bromofluorobenzene (Surr)	*96*		*74 - 124*
Dibromofluoromethane (Surr)	*102*		*75 - 131*
Toluene-d8 (Surr)	*95*		*80 - 117*

Lab Sample ID: LCSD 860-39058/4 **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 39058

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.0500	0.05224		mg/L		104	66 - 142	2	25
Ethylbenzene			0.0500	0.05088		mg/L		102	75 - 125	1	25
Toluene			0.0500	0.05025		mg/L		100	59 - 139	1	25
m,p-Xylenes			0.0500	0.05061		mg/L		101	75 - 125	1	25
o-Xylene			0.0500	0.05152		mg/L		103	75 - 125	0	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*63 - 144*
4-Bromofluorobenzene (Surr)	*97*		*74 - 124*
Dibromofluoromethane (Surr)	*101*		*75 - 131*
Toluene-d8 (Surr)	*96*		*80 - 117*

QC Sample Results

Client: Trihydro Corporation Job ID: 860-19618-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-39285/8 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 39285

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000214	U	0.00100	0.000214	mg/L			01/28/22 11:04	1
Ethylbenzene	<0.000515	U	0.00100	0.000515	mg/L			01/28/22 11:04	1
Toluene	<0.000500	U	0.00100	0.000500	mg/L			01/28/22 11:04	1
Xylenes, Total	<0.000330	U	0.0100	0.000330	mg/L			01/28/22 11:04	1
m,p-Xylenes	<0.000330	U	0.0100	0.000330	mg/L			01/28/22 11:04	1
o-Xylene	<0.000192	U	0.00100	0.000192	mg/L			01/28/22 11:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*63 - 144*		*01/28/22 11:04*	*1*
4-Bromofluorobenzene (Surr)	*104*	**3*	*74 - 124*		*01/28/22 11:04*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 131*		*01/28/22 11:04*	*1*
Toluene-d8 (Surr)	*108*		*80 - 117*		*01/28/22 11:04*	*1*

Lab Sample ID: LCS 860-39285/3 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 39285

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.0500	0.05454		mg/L		109	66 - 142		
Ethylbenzene			0.0500	0.05313		mg/L		106	75 - 125		
Toluene			0.0500	0.05222		mg/L		104	59 - 139		
m,p-Xylenes			0.0500	0.05408		mg/L		108	75 - 125		
o-Xylene			0.0500	0.05560		mg/L		111	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*63 - 144*
4-Bromofluorobenzene (Surr)	*101*		*74 - 124*
Dibromofluoromethane (Surr)	*107*		*75 - 131*
Toluene-d8 (Surr)	*99*		*80 - 117*

Lab Sample ID: LCSD 860-39285/4 **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 39285

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.0500	0.05234		mg/L		105	66 - 142	4	25
Ethylbenzene			0.0500	0.05141		mg/L		103	75 - 125	3	25
Toluene			0.0500	0.05018		mg/L		100	59 - 139	4	25
m,p-Xylenes			0.0500	0.05297		mg/L		106	75 - 125	2	25
o-Xylene			0.0500	0.05339		mg/L		107	75 - 125	4	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*63 - 144*
4-Bromofluorobenzene (Surr)	*97*		*74 - 124*
Dibromofluoromethane (Surr)	*103*		*75 - 131*
Toluene-d8 (Surr)	*96*		*80 - 117*

QC Sample Results

Client: Trihydro Corporation Job ID: 860-19618-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-39323/8 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 39323

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000214	U	0.00100	0.000214	mg/L			01/28/22 12:05	1
Ethylbenzene	<0.000515	U	0.00100	0.000515	mg/L			01/28/22 12:05	1
Toluene	<0.000500	U	0.00100	0.000500	mg/L			01/28/22 12:05	1
Xylenes, Total	<0.000330	U	0.0100	0.000330	mg/L			01/28/22 12:05	1
m,p-Xylenes	<0.000330	U	0.0100	0.000330	mg/L			01/28/22 12:05	1
o-Xylene	<0.000192	U	0.00100	0.000192	mg/L			01/28/22 12:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*63 - 144*		*01/28/22 12:05*	*1*
4-Bromofluorobenzene (Surr)	*100*		*74 - 124*		*01/28/22 12:05*	*1*
Dibromofluoromethane (Surr)	*93*		*75 - 131*		*01/28/22 12:05*	*1*
Toluene-d8 (Surr)	*100*		*80 - 117*		*01/28/22 12:05*	*1*

Lab Sample ID: LCS 860-39323/3 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 39323

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.0500	0.04244		mg/L		85	66 - 142		
Ethylbenzene			0.0500	0.05102		mg/L		102	75 - 125		
Toluene			0.0500	0.04954		mg/L		99	59 - 139		
m,p-Xylenes			0.0500	0.05098		mg/L		102	75 - 125		
o-Xylene			0.0500	0.05199		mg/L		104	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*63 - 144*
4-Bromofluorobenzene (Surr)	*96*		*74 - 124*
Dibromofluoromethane (Surr)	*87*		*75 - 131*
Toluene-d8 (Surr)	*99*		*80 - 117*

Lab Sample ID: LCSD 860-39323/4 **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 39323

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.0500	0.04063		mg/L		81	66 - 142	4	25
Ethylbenzene			0.0500	0.04955		mg/L		99	75 - 125	3	25
Toluene			0.0500	0.04815		mg/L		96	59 - 139	3	25
m,p-Xylenes			0.0500	0.04971		mg/L		99	75 - 125	3	25
o-Xylene			0.0500	0.05037		mg/L		101	75 - 125	3	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*63 - 144*
4-Bromofluorobenzene (Surr)	*95*		*74 - 124*
Dibromofluoromethane (Surr)	*88*		*75 - 131*
Toluene-d8 (Surr)	*99*		*80 - 117*

QC Sample Results

Client: Trihydro Corporation Job ID: 860-19618-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 860-19618-4 MS **Client Sample ID: BH-58**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 39323

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.000214	U	0.0500	0.04234		mg/L		85	66 - 142
Ethylbenzene	<0.000515	U	0.0500	0.05172		mg/L		103	75 - 125
Toluene	<0.000500	U	0.0500	0.05078		mg/L		102	59 - 139
m,p-Xylenes	<0.000330	U	0.0500	0.05155		mg/L		103	75 - 125
o-Xylene	<0.000192	U	0.0500	0.05281		mg/L		106	75 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*63 - 144*
4-Bromofluorobenzene (Surr)	*94*		*74 - 124*
Dibromofluoromethane (Surr)	*89*		*75 - 131*
Toluene-d8 (Surr)	*98*		*80 - 117*

QC Association Summary

Client: Trihydro Corporation Job ID: 860-19618-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

GC/MS VOA

Analysis Batch: 38877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-19618-1	BH-56	Total/NA	Water	8260C	
860-19618-2	BH-57	Total/NA	Water	8260C	
860-19618-3	FB 01/21/2022	Total/NA	Water	8260C	
860-19618-8	FB 01/22/2022	Total/NA	Water	8260C	
MB 860-38877/7	Method Blank	Total/NA	Water	8260C	
LCS 860-38877/3	Lab Control Sample	Total/NA	Water	8260C	
LCSD 860-38877/4	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 38878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-19618-5	BH-55	Total/NA	Water	8260C	
860-19618-6	BH-53	Total/NA	Water	8260C	
860-19618-6 - DL	BH-53	Total/NA	Water	8260C	
860-19618-7	BH-54	Total/NA	Water	8260C	
860-19618-7 - DL	BH-54	Total/NA	Water	8260C	
860-19618-9	DUP 01/22/2022	Total/NA	Water	8260C	
860-19618-9 - DL	DUP 01/22/2022	Total/NA	Water	8260C	
MB 860-38878/7	Method Blank	Total/NA	Water	8260C	
LCS 860-38878/3	Lab Control Sample	Total/NA	Water	8260C	
LCSD 860-38878/4	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 39058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-19618-7 - DL2	BH-54	Total/NA	Water	8260C	
860-19618-9 - DL2	DUP 01/22/2022	Total/NA	Water	8260C	
MB 860-39058/10	Method Blank	Total/NA	Water	8260C	
LCS 860-39058/3	Lab Control Sample	Total/NA	Water	8260C	
LCSD 860-39058/4	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 39285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-19618-6 - DL	BH-53	Total/NA	Water	8260C	
MB 860-39285/8	Method Blank	Total/NA	Water	8260C	
LCS 860-39285/3	Lab Control Sample	Total/NA	Water	8260C	
LCSD 860-39285/4	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 39323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-19618-4	BH-58	Total/NA	Water	8260C	
MB 860-39323/8	Method Blank	Total/NA	Water	8260C	
LCS 860-39323/3	Lab Control Sample	Total/NA	Water	8260C	
LCSD 860-39323/4	Lab Control Sample Dup	Total/NA	Water	8260C	
860-19618-4 MS	BH-58	Total/NA	Water	8260C	

Lab Chronicle

Client: Trihydro Corporation Job ID: 860-19618-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Client Sample ID: BH-56 Lab Sample ID: 860-19618-1

Date Collected: 01/21/22 15:00 **Matrix: Water**
Date Received: 01/25/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	5 mL	5 mL	38877	01/26/22 12:55	AN	XEN STF

Client Sample ID: BH-57 Lab Sample ID: 860-19618-2

Date Collected: 01/21/22 17:00 **Matrix: Water**
Date Received: 01/25/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	38877	01/26/22 13:36	AN	XEN STF

Client Sample ID: FB 01/21/2022 Lab Sample ID: 860-19618-3

Date Collected: 01/21/22 17:00 **Matrix: Water**
Date Received: 01/25/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	38877	01/26/22 12:14	AN	XEN STF

Client Sample ID: BH-58 Lab Sample ID: 860-19618-4

Date Collected: 01/22/22 09:05 **Matrix: Water**
Date Received: 01/25/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	39323	01/28/22 13:07	AN	XEN STF

Client Sample ID: BH-55 Lab Sample ID: 860-19618-5

Date Collected: 01/22/22 10:25 **Matrix: Water**
Date Received: 01/25/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	38878	01/26/22 12:55	AN	XEN STF

Client Sample ID: BH-53 Lab Sample ID: 860-19618-6

Date Collected: 01/22/22 13:45 **Matrix: Water**
Date Received: 01/25/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	38878	01/26/22 14:44	AN	XEN STF
Total/NA	Analysis	8260C	DL	10	5 mL	5 mL	38878	01/26/22 15:06	AN	XEN STF
Total/NA	Analysis	8260C	DL	50	5 mL	5 mL	39285	01/28/22 11:48	AN	XEN STF

Client Sample ID: BH-54 Lab Sample ID: 860-19618-7

Date Collected: 01/22/22 14:50 **Matrix: Water**
Date Received: 01/25/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	38878	01/26/22 13:17	AN	XEN STF
Total/NA	Analysis	8260C	DL	10	5 mL	5 mL	38878	01/26/22 13:38	AN	XEN STF

Lab Chronicle

Client: Trihydro Corporation Job ID: 860-19618-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Client Sample ID: BH-54 Lab Sample ID: 860-19618-7

Date Collected: 01/22/22 14:50 **Matrix: Water**
Date Received: 01/25/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C	DL2	50	5 mL	5 mL	39058	01/27/22 17:10	TTD	XEN STF

Client Sample ID: FB 01/22/2022 Lab Sample ID: 860-19618-8

Date Collected: 01/22/22 11:00 **Matrix: Water**
Date Received: 01/25/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	38877	01/26/22 12:34	AN	XEN STF

Client Sample ID: DUP 01/22/2022 Lab Sample ID: 860-19618-9

Date Collected: 01/22/22 00:00 **Matrix: Water**
Date Received: 01/25/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	38878	01/26/22 14:00	AN	XEN STF
Total/NA	Analysis	8260C	DL	10	5 mL	5 mL	38878	01/26/22 14:22	AN	XEN STF
Total/NA	Analysis	8260C	DL2	50	5 mL	5 mL	39058	01/27/22 17:31	TTD	XEN STF

Laboratory References:

XEN STF = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Accreditation/Certification Summary

Client: Trihydro Corporation
Job ID: 860-19618-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Laboratory: Eurofins Houston

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215-21-44	06-30-22

Method Summary

Client: Trihydro Corporation Job ID: 860-19618-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	XEN STF
5030C	Purge and Trap	SW846	XEN STF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

XEN STF = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Sample Summary

Client: Trihydro Corporation Job ID: 860-19618-1
Project/Site: Marathon Wingate Benzene Investigation Phase 5

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
860-19618-1	BH-56	Water	01/21/22 15:00	01/25/22 09:45
860-19618-2	BH-57	Water	01/21/22 17:00	01/25/22 09:45
860-19618-3	FB 01/21/2022	Water	01/21/22 17:00	01/25/22 09:45
860-19618-4	BH-58	Water	01/22/22 09:05	01/25/22 09:45
860-19618-5	BH-55	Water	01/22/22 10:25	01/25/22 09:45
860-19618-6	BH-53	Water	01/22/22 13:45	01/25/22 09:45
860-19618-7	BH-54	Water	01/22/22 14:50	01/25/22 09:45
860-19618-8	FB 01/22/2022	Water	01/22/22 11:00	01/25/22 09:45
860-19618-9	DUP 01/22/2022	Water	01/22/22 00:00	01/25/22 09:45

Page 416 of 477

45 Greenbriar Dr
afford TX 77477
hone (281) 240-4200

Chain of Custody Record

eurofins | Environment Testing America

1/28/2022

Client Information	Sampler	Lab PM: Kudchadkar Sachin G	Carrier Tracking No(s):	COC No: 860-7826-2721 1
Client Contact: Brian McLoughlin	Phone: 808-640-1823	E-Mail: Sachin.Kudchadkar@Eurofinset.com	State of Origin:	Page: Page
Company: Trihydro Corporation	PWSID:			Job #:
Address: 252 Commerce Drive	Due Date Requested:			
City: Laramie	TAT Requested (days):			
State, Zip: WY 82070	Compliance Project: Δ Yes Δ No			
Phone: 307 745-7474(Tel)	PO #:			
Email: jmcloughlin@trihydro.com	WO #:			
Project Name: Marathon Wingate Benzene Investigation Phase 5	Project #: 86002766			
Site:	SSOW#:			

Analysis Requested

860-19618 Chain of Custody

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C- BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
BH-56	1/21/22	15:00	G	W			X		could only get 1 VOA, very sandy and reactive to HCl
BH-57	1/21/22	17:00	G	W			X		could only get 2 VOAs, very sandy and reactive to HCl
TB 1/21/2022	1/21/22	17:00	G	W			X		
BH-58	1/22/22	9:05	G	W			X		Highly reactive to HCl headspace issue
BH-55	1/22/22	10:25	G	W			X		Highly reactive to HCl headspace issue
BH-53	1/22/22	13:45	G	W			X		Highly reactive to HCl, headspace issue
BH-54	1/22/22	14.50	G	W			X		Highly reactive to HCl headspace issue
TB 1/22/2022	1/22/22	11 00	G	W			X		
DUP 1/22/2022	1/22/22		G	W			X		Highly reactive to HCl headspace issue

Temp. 2.6 IR ID HOU-223
C/F:-0 2
Corrected Temp: 2.4

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I II III IV Other (specify)

Special Instructions/QC Requirements. ON ICE 5.2°

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
H.Hang Tuy	1-24-22 10:00			1/24/22 10:00	EETA
	1/24/22 Fedex	EETA	FEx		
FEx				1/25/22 945	EX

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.

Cooler Temperature(s) °C and Other Remarks:

Page 23 of 24

Received by OCD: 3/7/2024 4:58:12 PM

Released to Imaging: 8/16/2024 2:26:48 PM

Login Sample Receipt Checklist

Client: Trihydro Corporation Job Number: 860-19618-1

Login Number: 19618 **List Source: Eurofins Houston**
List Number: 1
Creator: Palmar, Pedro

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

C-6. – Phase VI Laboratory Analytical Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 14, 2022

Brian McLoughlin

Marathon
92 Giant Crossing Rd
Gallup, NM 87301
TEL:
FAX:

RE: Wingate Phase 6 OrderNo.: 2207034

Dear Brian McLoughlin:

Hall Environmental Analysis Laboratory received 9 sample(s) on 7/1/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2207034**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-63
Project: Wingate Phase 6 **Collection Date:** 6/28/2022 12:15:00 PM
Lab ID: 2207034-001 **Matrix:** GROUNDWA **Received Date:** 7/1/2022 6:50:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **RAA**	
71-43-2	Benzene	2700	23	100		µg/L	100	7/7/2022 5:57:46 PM
108-88-3	Toluene	2.2	0.40	1.0		µg/L	2	7/7/2022 10:42:34 AM
100-41-4	Ethylbenzene	120	0.43	1.0		µg/L	2	7/7/2022 10:42:34 AM
1330-20-7	Xylenes, Total	360	0.74	1.6		µg/L	2	7/7/2022 10:42:34 AM
17060-07-0	Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	2	7/7/2022 10:42:34 AM
460-00-4	Surr: 4-Bromofluorobenzene	97.4	0	70-130		%Rec	2	7/7/2022 10:42:34 AM
1868-53-7	Surr: Dibromofluoromethane	108	0	70-130		%Rec	2	7/7/2022 10:42:34 AM
2037-26-5	Surr: Toluene-d8	98.4	0	70-130		%Rec	2	7/7/2022 10:42:34 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2207034**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** FB-WG-6/28/22
Project: Wingate Phase 6 **Collection Date:** 6/28/2022 12:15:00 PM
Lab ID: 2207034-002 **Matrix:** AQUEOUS **Received Date:** 7/1/2022 6:50:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST								Analyst: **RAA**
71-43-2	Benzene	0.71	0.23	1.0	J	µg/L	1	7/7/2022 11:11:08 AM
108-88-3	Toluene	ND	0.20	1.0		µg/L	1	7/7/2022 11:11:08 AM
100-41-4	Ethylbenzene	ND	0.21	1.0		µg/L	1	7/7/2022 11:11:08 AM
1330-20-7	Xylenes, Total	ND	0.37	1.5		µg/L	1	7/7/2022 11:11:08 AM
17060-07-0	Surr: 1,2-Dichloroethane-d4	110	0	70-130		%Rec	1	7/7/2022 11:11:08 AM
460-00-4	Surr: 4-Bromofluorobenzene	108	0	70-130		%Rec	1	7/7/2022 11:11:08 AM
1868-53-7	Surr: Dibromofluoromethane	113	0	70-130		%Rec	1	7/7/2022 11:11:08 AM
2037-26-5	Surr: Toluene-d8	97.6	0	70-130		%Rec	1	7/7/2022 11:11:08 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2207034**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** FB-WG-6/29/22
Project: Wingate Phase 6 **Collection Date:** 6/29/2022 9:25:00 AM
Lab ID: 2207034-003 **Matrix:** AQUEOUS **Received Date:** 7/1/2022 6:50:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST								Analyst: **RAA**
71-43-2	Benzene	0.31	0.23	1.0	J	µg/L	1	7/7/2022 11:39:40 AM
108-88-3	Toluene	0.22	0.20	1.0	J	µg/L	1	7/7/2022 11:39:40 AM
100-41-4	Ethylbenzene	ND	0.21	1.0		µg/L	1	7/7/2022 11:39:40 AM
1330-20-7	Xylenes, Total	ND	0.37	1.5		µg/L	1	7/7/2022 11:39:40 AM
17060-07-0	Surr: 1,2-Dichloroethane-d4	109	0	70-130		%Rec	1	7/7/2022 11:39:40 AM
460-00-4	Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	1	7/7/2022 11:39:40 AM
1868-53-7	Surr: Dibromofluoromethane	116	0	70-130		%Rec	1	7/7/2022 11:39:40 AM
2037-26-5	Surr: Toluene-d8	99.6	0	70-130		%Rec	1	7/7/2022 11:39:40 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2207034**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-62
Project: Wingate Phase 6 **Collection Date:** 6/29/2022 9:25:00 AM
Lab ID: 2207034-004 **Matrix:** GROUNDWA **Received Date:** 7/1/2022 6:50:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST								Analyst: **RAA**
71-43-2	Benzene	0.55	0.45	1.0	J	µg/L	2	7/7/2022 12:08:13 PM
108-88-3	Toluene	ND	0.40	1.0		µg/L	2	7/7/2022 12:08:13 PM
100-41-4	Ethylbenzene	ND	0.43	1.0		µg/L	2	7/7/2022 12:08:13 PM
1330-20-7	Xylenes, Total	ND	0.74	1.6		µg/L	2	7/7/2022 12:08:13 PM
17060-07-0	Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	2	7/7/2022 12:08:13 PM
460-00-4	Surr: 4-Bromofluorobenzene	108	0	70-130		%Rec	2	7/7/2022 12:08:13 PM
1868-53-7	Surr: Dibromofluoromethane	114	0	70-130		%Rec	2	7/7/2022 12:08:13 PM
2037-26-5	Surr: Toluene-d8	97.2	0	70-130		%Rec	2	7/7/2022 12:08:13 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2207034**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-61
Project: Wingate Phase 6 **Collection Date:** 6/29/2022 11:35:00 AM
Lab ID: 2207034-005 **Matrix:** GROUNDWA **Received Date:** 7/1/2022 6:50:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST								Analyst: **RAA**
71-43-2	Benzene	0.49	0.45	1.0	JP	µg/L	2	7/7/2022 12:36:47 PM
108-88-3	Toluene	ND	0.40	1.0	P	µg/L	2	7/7/2022 12:36:47 PM
100-41-4	Ethylbenzene	ND	0.43	1.0	P	µg/L	2	7/7/2022 12:36:47 PM
1330-20-7	Xylenes, Total	ND	0.74	1.6	P	µg/L	2	7/7/2022 12:36:47 PM
17060-07-0	Surr: 1,2-Dichloroethane-d4	108	0	70-130	P	%Rec	2	7/7/2022 12:36:47 PM
460-00-4	Surr: 4-Bromofluorobenzene	105	0	70-130	P	%Rec	2	7/7/2022 12:36:47 PM
1868-53-7	Surr: Dibromofluoromethane	113	0	70-130	P	%Rec	2	7/7/2022 12:36:47 PM
2037-26-5	Surr: Toluene-d8	98.5	0	70-130	P	%Rec	2	7/7/2022 12:36:47 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2207034**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-60
Project: Wingate Phase 6 **Collection Date:** 6/29/2022 4:40:00 PM
Lab ID: 2207034-006 **Matrix:** GROUNDWA **Received Date:** 7/1/2022 6:50:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST								Analyst: **RAA**
71-43-2	Benzene	7800	110	500		µg/L	500	7/7/2022 6:26:34 PM
108-88-3	Toluene	6.5	0.80	1.6	P	µg/L	4	7/7/2022 1:05:27 PM
100-41-4	Ethylbenzene	31	0.85	1.6	P	µg/L	4	7/7/2022 1:05:27 PM
1330-20-7	Xylenes, Total	200	1.5	3.2	P	µg/L	4	7/7/2022 1:05:27 PM
17060-07-0	Surr: 1,2-Dichloroethane-d4	93.8	0	70-130	P	%Rec	4	7/7/2022 1:05:27 PM
460-00-4	Surr: 4-Bromofluorobenzene	108	0	70-130	P	%Rec	4	7/7/2022 1:05:27 PM
1868-53-7	Surr: Dibromofluoromethane	99.2	0	70-130	P	%Rec	4	7/7/2022 1:05:27 PM
2037-26-5	Surr: Toluene-d8	100	0	70-130	P	%Rec	4	7/7/2022 1:05:27 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2207034**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-59
Project: Wingate Phase 6 **Collection Date:** 6/29/2022 6:40:00 PM
Lab ID: 2207034-007 **Matrix:** GROUNDWA **Received Date:** 7/1/2022 6:50:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST								Analyst: **RAA**
71-43-2	Benzene	990	2.3	4.0	P	µg/L	10	7/7/2022 6:55:20 PM
108-88-3	Toluene	ND	2.0	4.0	P	µg/L	10	7/7/2022 6:55:20 PM
100-41-4	Ethylbenzene	22	2.1	4.0	P	µg/L	10	7/7/2022 6:55:20 PM
1330-20-7	Xylenes, Total	64	3.7	8.0	P	µg/L	10	7/7/2022 6:55:20 PM
17060-07-0	Surr: 1,2-Dichloroethane-d4	98.5	0	70-130	P	%Rec	10	7/7/2022 6:55:20 PM
460-00-4	Surr: 4-Bromofluorobenzene	108	0	70-130	P	%Rec	10	7/7/2022 6:55:20 PM
1868-53-7	Surr: Dibromofluoromethane	107	0	70-130	P	%Rec	10	7/7/2022 6:55:20 PM
2037-26-5	Surr: Toluene-d8	96.9	0	70-130	P	%Rec	10	7/7/2022 6:55:20 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2207034**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-WG-6/29/22
Project: Wingate Phase 6 **Collection Date:** 6/29/2022
Lab ID: 2207034-008 **Matrix:** GROUNDWA **Received Date:** 7/1/2022 6:50:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **RAA**	
71-43-2	Benzene	0.56	0.45	1.0	J	µg/L	2	7/7/2022 7:24:09 PM
108-88-3	Toluene	ND	0.40	1.0		µg/L	2	7/7/2022 7:24:09 PM
100-41-4	Ethylbenzene	ND	0.43	1.0		µg/L	2	7/7/2022 7:24:09 PM
1330-20-7	Xylenes, Total	ND	0.74	1.6		µg/L	2	7/7/2022 7:24:09 PM
17060-07-0	Surr: 1,2-Dichloroethane-d4	111	0	70-130		%Rec	2	7/7/2022 7:24:09 PM
460-00-4	Surr: 4-Bromofluorobenzene	111	0	70-130		%Rec	2	7/7/2022 7:24:09 PM
1868-53-7	Surr: Dibromofluoromethane	119	0	70-130		%Rec	2	7/7/2022 7:24:09 PM
2037-26-5	Surr: Toluene-d8	95.5	0	70-130		%Rec	2	7/7/2022 7:24:09 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2207034**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** TRIP BLANK
Project: Wingate Phase 6 **Collection Date:**
Lab ID: 2207034-009 **Matrix:** GROUNDWA **Received Date:** 7/1/2022 6:50:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **RAA**	
71-43-2	Benzene	ND	0.23	1.0		µg/L	1	7/7/2022 7:52:56 PM
108-88-3	Toluene	0.21	0.20	1.0	J	µg/L	1	7/7/2022 7:52:56 PM
100-41-4	Ethylbenzene	ND	0.21	1.0		µg/L	1	7/7/2022 7:52:56 PM
1330-20-7	Xylenes, Total	ND	0.37	1.5		µg/L	1	7/7/2022 7:52:56 PM
17060-07-0	Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	1	7/7/2022 7:52:56 PM
460-00-4	Surr: 4-Bromofluorobenzene	107	0	70-130		%Rec	1	7/7/2022 7:52:56 PM
1868-53-7	Surr: Dibromofluoromethane	113	0	70-130		%Rec	1	7/7/2022 7:52:56 PM
2037-26-5	Surr: Toluene-d8	95.9	0	70-130		%Rec	1	7/7/2022 7:52:56 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2207034**

14-Jul-22

Client: Marathon

Project: Wingate Phase 6

Sample ID: **100ng lcs2** SampType: **LCS** TestCode: **EPA Method 8260: Volatiles Short List**

Client ID: **LCSW** Batch ID: **SL89293** RunNo: **89293**

Prep Date: Analysis Date: **7/7/2022** SeqNo: **3175816** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	70	130			
Toluene	20	1.0	20.00	0	98.1	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		99.8	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	11		10.00		111	70	130			
Surr: Toluene-d8	9.7		10.00		97.0	70	130			

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**

Client ID: **PBW** Batch ID: **SL89293** RunNo: **89293**

Prep Date: Analysis Date: **7/7/2022** SeqNo: **3175823** 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	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130			
Surr: Dibromofluoromethane	11		10.00		111	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260: Volatiles Short List**

Client ID: **LCSW** Batch ID: **SL89321** RunNo: **89321**

Prep Date: Analysis Date: **7/7/2022** SeqNo: **3176728** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	11		10.00		115	70	130			
Surr: Toluene-d8	9.5		10.00		94.5	70	130			

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**

Client ID: **PBW** Batch ID: **SL89321** RunNo: **89321**

Prep Date: Analysis Date: **7/7/2022** SeqNo: **3176734** 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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2207034**

14-Jul-22

Client: Marathon

Project: Wingate Phase 6

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SL89321**	RunNo: **89321**
Prep Date:	Analysis Date: **7/7/2022**	SeqNo: **3176734** 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	11		10.00		109	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Dibromofluoromethane	12		10.00		116	70	130			
Surr: Toluene-d8	9.5		10.00		94.7	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Marathon | Work Order Number: 2207034 | RcptNo: 1

Received By: Juan Rojas 7/1/2022 6:50:00 AM

Completed By: Sean Livingston 7/1/2022 10:31:51 AM

Reviewed By: JR 7/1/22

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☑ No ☐ NA ☐
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
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: CMC 7/1/22

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	2.4	Good				

Released to Imaging: 8/16/2024 2:26:48 PM
Received by OCD: 3/7/2024 4:58:12 PM

Chain of Custody Record

Client: Marathon Gallup Refinery	X Standard Rush
Mailing Address: 92 Giant Crossing Road	Project Name: **Wingate Phase 6**
Jamesto NM,87301	Project #: **697-072-004**
Phone #: 808-640-1823	
email or Fax#:	Project Manager: Jim Hageman/Brian McLoughlin
QA/QC Package: X Standard ☐ Level 4 (Full Validation)	
Accreditation: ☐ Az Compliance ☐ NELAC ☐ Other	Sampler:
X EDD (Type)	On Ice: ☐ Yes ☐ No
	# of Coolers: 1
	Cooler Temp(including CF): 2.5-0.1=2.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2207034	BTEX
6/28/2022	12:15	GW	BH-63	3	HCl	001	X
6/28/2022	12:15	water	FB-WG-6/28/22	3	HCl	002	X
6/29/2022	9:25	water	FB-WG-6/29/22	3	HCl	003	X
6/29/2022	9:25	GW	BH-62	3	HCl	004	X
6/29/2022	11:35	GW	BH-61	3	HCl	005	X
6/29/2022	16:40	GW	BH-60	3	HCl	006	X
6/29/2022	18:40	GW	BH-59	3	HCl	007	X
6/29/2022		GW	DUP-WG-6/29/22	3	HCl	008	X

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
6/30	13:00			courier	7/1/22	6:50
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 13, 2022

Brian McLoughlin

Marathon
92 Giant Crossing Rd
Gallup, NM 87301
TEL:
FAX:

RE: Wingate Phase 6 OrderNo.: 2207036

Dear Brian McLoughlin:

Hall Environmental Analysis Laboratory received 6 sample(s) on 7/1/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2207036**
Date Reported: **7/13/2022**

CLIENT: Marathon
Client Sample ID: BH-63 (11.5')
Project: Wingate Phase 6
Collection Date: 6/28/2022 10:35:00 AM
Lab ID: 2207036-001
Matrix: MEOH (SOIL)
Received Date: 7/1/2022 6:50:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES SHORT LIST								Analyst: **RAA**
71-43-2	Benzene	ND	0.0048	0.012		mg/Kg	1	7/7/2022 1:00:57 PM
108-88-3	Toluene	ND	0.0032	0.025		mg/Kg	1	7/7/2022 1:00:57 PM
100-41-4	Ethylbenzene	ND	0.0060	0.025		mg/Kg	1	7/7/2022 1:00:57 PM
1330-20-7	Xylenes, Total	ND	0.013	0.050		mg/Kg	1	7/7/2022 1:00:57 PM
17060-07-0	Surr: 1,2-Dichloroethane-d4	92.9		70-130		%Rec	1	7/7/2022 1:00:57 PM
460-00-4	Surr: 4-Bromofluorobenzene	103		70-130		%Rec	1	7/7/2022 1:00:57 PM
1868-53-7	Surr: Dibromofluoromethane	101		70-130		%Rec	1	7/7/2022 1:00:57 PM
2037-26-5	Surr: Toluene-d8	101		70-130		%Rec	1	7/7/2022 1:00:57 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2207036**
Date Reported: **7/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-62 (10.5')
Project: Wingate Phase 6 **Collection Date:** 6/29/2022 8:50:00 AM
Lab ID: 2207036-002 **Matrix:** MEOH (SOIL) **Received Date:** 7/1/2022 6:50:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES SHORT LIST								Analyst: **RAA**
71-43-2	Benzene	ND	0.0049	0.013		mg/Kg	1	7/7/2022 5:04:19 AM
108-88-3	Toluene	ND	0.0033	0.026		mg/Kg	1	7/7/2022 5:04:19 AM
100-41-4	Ethylbenzene	ND	0.0062	0.026		mg/Kg	1	7/7/2022 5:04:19 AM
1330-20-7	Xylenes, Total	ND	0.013	0.051		mg/Kg	1	7/7/2022 5:04:19 AM
17060-07-0	Surr: 1,2-Dichloroethane-d4	95.5		70-130		%Rec	1	7/7/2022 5:04:19 AM
460-00-4	Surr: 4-Bromofluorobenzene	101		70-130		%Rec	1	7/7/2022 5:04:19 AM
1868-53-7	Surr: Dibromofluoromethane	103		70-130		%Rec	1	7/7/2022 5:04:19 AM
2037-26-5	Surr: Toluene-d8	100		70-130		%Rec	1	7/7/2022 5:04:19 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2207036**
Date Reported: **7/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-61 (15')
Project: Wingate Phase 6 **Collection Date:** 6/29/2022 11:35:00 AM
Lab ID: 2207036-003 **Matrix:** MEOH (SOIL) **Received Date:** 7/1/2022 6:50:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES SHORT LIST								Analyst: **RAA**
71-43-2	Benzene	ND	0.0052	0.014		mg/Kg	1	7/7/2022 5:31:15 AM
108-88-3	Toluene	ND	0.0035	0.027		mg/Kg	1	7/7/2022 5:31:15 AM
100-41-4	Ethylbenzene	ND	0.0066	0.027		mg/Kg	1	7/7/2022 5:31:15 AM
1330-20-7	Xylenes, Total	ND	0.014	0.054		mg/Kg	1	7/7/2022 5:31:15 AM
17060-07-0	Surr: 1,2-Dichloroethane-d4	92.5		70-130		%Rec	1	7/7/2022 5:31:15 AM
460-00-4	Surr: 4-Bromofluorobenzene	96.1		70-130		%Rec	1	7/7/2022 5:31:15 AM
1868-53-7	Surr: Dibromofluoromethane	98.5		70-130		%Rec	1	7/7/2022 5:31:15 AM
2037-26-5	Surr: Toluene-d8	102		70-130		%Rec	1	7/7/2022 5:31:15 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2207036**
Date Reported: **7/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-60 (13')
Project: Wingate Phase 6 **Collection Date:** 6/29/2022 2:50:00 PM
Lab ID: 2207036-004 **Matrix:** MEOH (SOIL) **Received Date:** 7/1/2022 6:50:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES SHORT LIST								Analyst: **RAA**
71-43-2	Benzene	ND	0.0041	0.011		mg/Kg	1	7/7/2022 5:58:20 AM
108-88-3	Toluene	ND	0.0028	0.022		mg/Kg	1	7/7/2022 5:58:20 AM
100-41-4	Ethylbenzene	ND	0.0052	0.022		mg/Kg	1	7/7/2022 5:58:20 AM
1330-20-7	Xylenes, Total	ND	0.011	0.043		mg/Kg	1	7/7/2022 5:58:20 AM
17060-07-0	Surr: 1,2-Dichloroethane-d4	96.8		70-130		%Rec	1	7/7/2022 5:58:20 AM
460-00-4	Surr: 4-Bromofluorobenzene	97.3		70-130		%Rec	1	7/7/2022 5:58:20 AM
1868-53-7	Surr: Dibromofluoromethane	102		70-130		%Rec	1	7/7/2022 5:58:20 AM
2037-26-5	Surr: Toluene-d8	103		70-130		%Rec	1	7/7/2022 5:58:20 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2207036**
Date Reported: **7/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-59 (8')
Project: Wingate Phase 6 **Collection Date:** 6/29/2022 6:10:00 PM
Lab ID: 2207036-005 **Matrix:** MEOH (SOIL) **Received Date:** 7/1/2022 6:50:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES SHORT LIST								Analyst: **RAA**
71-43-2	Benzene	0.25	0.026	0.054	D	mg/Kg	5	7/7/2022 6:25:25 AM
108-88-3	Toluene	0.076	0.018	0.054	D	mg/Kg	5	7/7/2022 6:25:25 AM
100-41-4	Ethylbenzene	0.046	0.033	0.054	JD	mg/Kg	5	7/7/2022 6:25:25 AM
1330-20-7	Xylenes, Total	0.46	0.071	0.16	D	mg/Kg	5	7/7/2022 6:25:25 AM
17060-07-0	Surr: 1,2-Dichloroethane-d4	94.6		70-130	D	%Rec	5	7/7/2022 6:25:25 AM
460-00-4	Surr: 4-Bromofluorobenzene	110		70-130	D	%Rec	5	7/7/2022 6:25:25 AM
1868-53-7	Surr: Dibromofluoromethane	108		70-130	D	%Rec	5	7/7/2022 6:25:25 AM
2037-26-5	Surr: Toluene-d8	100		70-130	D	%Rec	5	7/7/2022 6:25:25 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2207036**
Date Reported: **7/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** Dup2-WG-6/29/22
Project: Wingate Phase 6 **Collection Date:** 6/29/2022
Lab ID: 2207036-006 **Matrix:** MEOH (SOIL) **Received Date:** 7/1/2022 6:50:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES SHORT LIST								Analyst: **RAA**
71-43-2	Benzene	0.33	0.025	0.052	D	mg/Kg	5	7/7/2022 6:52:24 AM
108-88-3	Toluene	ND	0.017	0.052	D	mg/Kg	5	7/7/2022 6:52:24 AM
100-41-4	Ethylbenzene	0.097	0.032	0.052	D	mg/Kg	5	7/7/2022 6:52:24 AM
1330-20-7	Xylenes, Total	1.1	0.068	0.16	D	mg/Kg	5	7/7/2022 6:52:24 AM
17060-07-0	Surr: 1,2-Dichloroethane-d4	82.6		70-130	D	%Rec	5	7/7/2022 6:52:24 AM
460-00-4	Surr: 4-Bromofluorobenzene	104		70-130	D	%Rec	5	7/7/2022 6:52:24 AM
1868-53-7	Surr: Dibromofluoromethane	93.8		70-130	D	%Rec	5	7/7/2022 6:52:24 AM
2037-26-5	Surr: Toluene-d8	95.8		70-130	D	%Rec	5	7/7/2022 6:52:24 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2207036**

13-Jul-22

Client: Marathon

Project: Wingate Phase 6

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS**	Batch ID: **R89280**	RunNo: **89280**
Prep Date:	Analysis Date: **7/6/2022**	SeqNo: **3174866** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	112	70	130			
Toluene	1.0	0.050	1.000	0	99.7	70	130			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		103	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		104	70	130			
Surr: Dibromofluoromethane	0.55		0.5000		111	70	130			
Surr: Toluene-d8	0.49		0.5000		97.5	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **R89280**	RunNo: **89280**
Prep Date:	Analysis Date: **7/6/2022**	SeqNo: **3174873** 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								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		91.6	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		103	70	130			
Surr: Dibromofluoromethane	0.53		0.5000		106	70	130			
Surr: Toluene-d8	0.50		0.5000		99.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Marathon | Work Order Number: 2207036 | RcptNo: 1

Received By: Juan Rojas 7/1/2022 6:50:00 AM

Completed By: Sean Livingston 7/1/2022 10:49:42 AM

Reviewed By: CMC 7/1/22

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☑ No ☐ NA ☐
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
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: SCL 7/1/22

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	2.4	Good				

Released to Imaging: 8/10/2024 12:26:48 PM

Received by OCD: 3/7/2024 4:58:12 PM

Chain of Custody Record

Client: Marathon Gallup Refinery

Mailing Address: 92 Giant Crossing Road
Jamestown NM,87301

Phone #: 808-640-1823

Email or Fax#:

QA/QC Package:
X Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

X EDD (Type)

X Standard Rush

Project Name:
Wingate Phase 6

Project #: **697-072-004**

Project Manager:
Jim Hageman/Brian McLoughlin

Sampler:

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.5-6.1=2.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2207036	BTEX
6/28/2022	10:35	Soil	BH-63 (11.5')	2	1-Methonal	001	x
6/29/2022	8:50	Soil	BH-62 (10.5')	2	1-Methonal	002	x
6/29/2022	11:35	Soil	BH-61 (15')	2	1-Methonal	003	x
6/29/2022	14:50	Soil	BH-60 (13')	2	1-Methonal	004	x
6/29/2022	18:10	Soil	BH-59 (8')	2	1-Methonal	005	x
6/29/2022		Soil	Dup2-WG-6/29/22	2	1-Methonal	006	x

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
6/30	13:00			Courier	7/1/22	6:50
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

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.

C-7. – Phase VII Laboratory Analytical Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 30, 2023

Caitlin Fields

Marathon
92 Giant Crossing Rd
Gallup, NM 87301
TEL:
FAX:

RE: Wingate BTEX OrderNo.: 2310601

Dear Caitlin Fields:

Hall Environmental Analysis Laboratory received 9 sample(s) on 10/12/2023 for the analyses presented in the following report.

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

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

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

Sincerely,



Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2310601**
Date Reported: **10/30/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-75(10-12)
Project: Wingate BTEX **Collection Date:** 10/10/2023 4:50:00 PM
Lab ID: 2310601-002 **Matrix:** MEOH (SOIL) **Received Date:** 10/12/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JR**	
Benzene	ND	0.025		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Toluene	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Ethylbenzene	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Naphthalene	ND	0.10		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Acetone	ND	0.75		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Bromobenzene	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Bromodichloromethane	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Bromoform	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Bromomethane	ND	0.20		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
2-Butanone	ND	0.50		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Carbon disulfide	ND	0.50		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Carbon tetrachloride	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Chlorobenzene	ND	0.10		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Chloroethane	ND	0.10		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Chloroform	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Chloromethane	ND	0.15		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
2-Chlorotoluene	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
4-Chlorotoluene	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
cis-1,2-DCE	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Dibromochloromethane	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Dibromomethane	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1,1-Dichloroethane	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1,1-Dichloroethene	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1,2-Dichloropropane	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1,3-Dichloropropane	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
2,2-Dichloropropane	ND	0.10		mg/Kg	1	10/16/2023 7:26:27 PM	R100485

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

Qualifiers:

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

Analytical Report
Lab Order **2310601**
Date Reported: **10/30/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-75(10-12)
Project: Wingate BTEX **Collection Date:** 10/10/2023 4:50:00 PM
Lab ID: 2310601-002 **Matrix:** MEOH (SOIL) **Received Date:** 10/12/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JR**	
1,1-Dichloropropene	ND	0.10		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Hexachlorobutadiene	ND	0.10		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
2-Hexanone	ND	0.50		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Isopropylbenzene	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
4-Isopropyltoluene	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Methylene chloride	ND	0.15		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
n-Butylbenzene	ND	0.15		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
n-Propylbenzene	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
sec-Butylbenzene	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Styrene	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
tert-Butylbenzene	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
trans-1,2-DCE	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Trichlorofluoromethane	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Vinyl chloride	ND	0.050		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Xylenes, Total	ND	0.10		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
1,4-Dioxane	ND	0.50		mg/Kg	1	10/16/2023 7:26:27 PM	R100485
Surr: Dibromofluoromethane	107	73-145		%Rec	1	10/16/2023 7:26:27 PM	R100485
Surr: 1,2-Dichloroethane-d4	98.8	64.8-147		%Rec	1	10/16/2023 7:26:27 PM	R100485
Surr: Toluene-d8	98.2	70-130		%Rec	1	10/16/2023 7:26:27 PM	R100485
Surr: 4-Bromofluorobenzene	102	62.1-144		%Rec	1	10/16/2023 7:26:27 PM	R100485

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

Qualifiers:

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

Analytical Report
Lab Order **2310601**
Date Reported: **10/30/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-74
Project: Wingate BTEX **Collection Date:** 10/10/2023 3:00:00 PM
Lab ID: 2310601-003 **Matrix:** AQUEOUS **Received Date:** 10/12/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	2.0	P	µg/L	2	10/20/2023 11:14:16 AM	SL10064
Toluene	ND	2.0	P	µg/L	2	10/20/2023 11:14:16 AM	SL10064
Ethylbenzene	ND	2.0	P	µg/L	2	10/20/2023 11:14:16 AM	SL10064
Methyl tert-butyl ether (MTBE)	ND	2.0	P	µg/L	2	10/20/2023 11:14:16 AM	SL10064
Xylenes, Total	ND	3.0	P	µg/L	2	10/20/2023 11:14:16 AM	SL10064
Surr: 1,2-Dichloroethane-d4	88.3	70-130	P	%Rec	2	10/20/2023 11:14:16 AM	SL10064
Surr: 4-Bromofluorobenzene	103	70-130	P	%Rec	2	10/20/2023 11:14:16 AM	SL10064
Surr: Dibromofluoromethane	95.9	70-130	P	%Rec	2	10/20/2023 11:14:16 AM	SL10064
Surr: Toluene-d8	92.1	70-130	P	%Rec	2	10/20/2023 11:14:16 AM	SL10064

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

Qualifiers:

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

Analytical Report
Lab Order **2310601**
Date Reported: **10/30/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-74(12-14)
Project: Wingate BTEX **Collection Date:** 10/10/2023 2:30:00 PM
Lab ID: 2310601-004 **Matrix:** MEOH (SOIL) **Received Date:** 10/12/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JR**	
Benzene	ND	0.025		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Toluene	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Ethylbenzene	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Naphthalene	ND	0.10		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Acetone	ND	0.75		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Bromobenzene	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Bromodichloromethane	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Bromoform	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Bromomethane	ND	0.20		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
2-Butanone	ND	0.50		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Carbon disulfide	ND	0.50		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Carbon tetrachloride	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Chlorobenzene	ND	0.10		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Chloroethane	ND	0.10		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Chloroform	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Chloromethane	ND	0.15		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
2-Chlorotoluene	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
4-Chlorotoluene	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
cis-1,2-DCE	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Dibromochloromethane	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Dibromomethane	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1,1-Dichloroethane	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1,1-Dichloroethene	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1,2-Dichloropropane	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1,3-Dichloropropane	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
2,2-Dichloropropane	ND	0.10		mg/Kg	1	10/16/2023 7:54:26 PM	R100485

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

Qualifiers:

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

Analytical Report
Lab Order **2310601**
Date Reported: **10/30/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BH-74(12-14)
Project: Wingate BTEX **Collection Date:** 10/10/2023 2:30:00 PM
Lab ID: 2310601-004 **Matrix:** MEOH (SOIL) **Received Date:** 10/12/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JR**	
1,1-Dichloropropene	ND	0.10		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Hexachlorobutadiene	ND	0.10		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
2-Hexanone	ND	0.50		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Isopropylbenzene	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
4-Isopropyltoluene	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Methylene chloride	ND	0.15		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
n-Butylbenzene	ND	0.15		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
n-Propylbenzene	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
sec-Butylbenzene	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Styrene	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
tert-Butylbenzene	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
trans-1,2-DCE	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Trichlorofluoromethane	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Vinyl chloride	ND	0.050		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Xylenes, Total	ND	0.10		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
1,4-Dioxane	ND	0.50		mg/Kg	1	10/16/2023 7:54:26 PM	R100485
Surr: Dibromofluoromethane	103	73-145		%Rec	1	10/16/2023 7:54:26 PM	R100485
Surr: 1,2-Dichloroethane-d4	91.2	64.8-147		%Rec	1	10/16/2023 7:54:26 PM	R100485
Surr: Toluene-d8	96.6	70-130		%Rec	1	10/16/2023 7:54:26 PM	R100485
Surr: 4-Bromofluorobenzene	102	62.1-144		%Rec	1	10/16/2023 7:54:26 PM	R100485

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

Qualifiers:

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

Analytical Report
Lab Order **2310601**
Date Reported: **10/30/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** FB-1
Project: Wingate BTEX **Collection Date:** 10/10/2023 4:20:00 PM
Lab ID: 2310601-005 **Matrix:** AQUEOUS **Received Date:** 10/12/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	10/20/2023 11:42:30 AM	SL10064
Toluene	ND	1.0		µg/L	1	10/20/2023 11:42:30 AM	SL10064
Ethylbenzene	ND	1.0		µg/L	1	10/20/2023 11:42:30 AM	SL10064
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/20/2023 11:42:30 AM	SL10064
Xylenes, Total	ND	1.5		µg/L	1	10/20/2023 11:42:30 AM	SL10064
Surr: 1,2-Dichloroethane-d4	82.5	70-130		%Rec	1	10/20/2023 11:42:30 AM	SL10064
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	10/20/2023 11:42:30 AM	SL10064
Surr: Dibromofluoromethane	96.6	70-130		%Rec	1	10/20/2023 11:42:30 AM	SL10064
Surr: Toluene-d8	93.2	70-130		%Rec	1	10/20/2023 11:42:30 AM	SL10064

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

Qualifiers:

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

Analytical Report
Lab Order **2310601**
Date Reported: **10/30/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** EB-1
Project: Wingate BTEX **Collection Date:** 10/11/2023 8:50:00 AM
Lab ID: 2310601-006 **Matrix:** AQUEOUS **Received Date:** 10/12/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	10/20/2023 12:10:39 PM	SL10064
Toluene	ND	1.0		µg/L	1	10/20/2023 12:10:39 PM	SL10064
Ethylbenzene	ND	1.0		µg/L	1	10/20/2023 12:10:39 PM	SL10064
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/20/2023 12:10:39 PM	SL10064
Xylenes, Total	ND	1.5		µg/L	1	10/20/2023 12:10:39 PM	SL10064
Surr: 1,2-Dichloroethane-d4	85.7	70-130		%Rec	1	10/20/2023 12:10:39 PM	SL10064
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	10/20/2023 12:10:39 PM	SL10064
Surr: Dibromofluoromethane	97.6	70-130		%Rec	1	10/20/2023 12:10:39 PM	SL10064
Surr: Toluene-d8	90.4	70-130		%Rec	1	10/20/2023 12:10:39 PM	SL10064

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

Qualifiers:

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

Analytical Report
Lab Order **2310601**
Date Reported: **10/30/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** FB-2
Project: Wingate BTEX **Collection Date:** 10/11/2023 7:30:00 AM
Lab ID: 2310601-007 **Matrix:** AQUEOUS **Received Date:** 10/12/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	10/20/2023 12:38:46 PM	SL10064
Toluene	ND	1.0		µg/L	1	10/20/2023 12:38:46 PM	SL10064
Ethylbenzene	ND	1.0		µg/L	1	10/20/2023 12:38:46 PM	SL10064
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/20/2023 12:38:46 PM	SL10064
Xylenes, Total	ND	1.5		µg/L	1	10/20/2023 12:38:46 PM	SL10064
Surr: 1,2-Dichloroethane-d4	86.0	70-130		%Rec	1	10/20/2023 12:38:46 PM	SL10064
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	10/20/2023 12:38:46 PM	SL10064
Surr: Dibromofluoromethane	99.1	70-130		%Rec	1	10/20/2023 12:38:46 PM	SL10064
Surr: Toluene-d8	93.9	70-130		%Rec	1	10/20/2023 12:38:46 PM	SL10064

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

Qualifiers:

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

Analytical Report
Lab Order **2310601**
Date Reported: **10/30/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: TRIP BLANK
Project: Wingate BTEX
Collection Date: 10/11/2023 10:30:00 AM
Lab ID: 2310601-009 **Matrix:** AQUEOUS **Received Date:** 10/12/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	10/20/2023 1:07:01 PM	SL10064
Toluene	ND	1.0		µg/L	1	10/20/2023 1:07:01 PM	SL10064
Ethylbenzene	ND	1.0		µg/L	1	10/20/2023 1:07:01 PM	SL10064
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/20/2023 1:07:01 PM	SL10064
Xylenes, Total	ND	1.5		µg/L	1	10/20/2023 1:07:01 PM	SL10064
Surr: 1,2-Dichloroethane-d4	87.5	70-130		%Rec	1	10/20/2023 1:07:01 PM	SL10064
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	10/20/2023 1:07:01 PM	SL10064
Surr: Dibromofluoromethane	97.0	70-130		%Rec	1	10/20/2023 1:07:01 PM	SL10064
Surr: Toluene-d8	94.1	70-130		%Rec	1	10/20/2023 1:07:01 PM	SL10064

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2310601**

30-Oct-23

Client: Marathon

Project: Wingate BTEX

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **SL100646**	RunNo: **100646**
Prep Date:	Analysis Date: **10/20/2023**	SeqNo: **3690799** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	8.8		10.00		88.4	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.6	70	130			
Surr: Toluene-d8	9.4		10.00		94.4	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SL100646**	RunNo: **100646**
Prep Date:	Analysis Date: **10/20/2023**	SeqNo: **3690819** 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								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.3		10.00		83.4	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.0	70	130			
Surr: Toluene-d8	9.2		10.00		92.1	70	130			

Qualifiers:

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

Page 455 of 477

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Marathon | Work Order Number: 2310601 | RcptNo: 1

Received By: Tracy Casarrubias 10/12/2023 7:30:00 AM

Completed By: Tracy Casarrubias 10/12/2023 9:11:25 AM

Reviewed By: SCM 10/12/23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☐	No ☑	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☑	No ☐	NA ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: CM 10/12/23

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: Email/Fax are missing on COC- TMC 10/12/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	Good	Yes	Yogi		

Received by OCD: 3/7/2024 4:58:12 PM

Released to Imaging: 8/16/2024 2:26:48 PM

Chain-of-Custody Record

Client: Marathon Petroleum

Mailing Address: 92 Giant crossing Gallup, NM

Phone #: (505) 430-9118

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Wingate BTEX

Project #: 00697-072-0060

Project Manager: LaitlinFields

Sampler:

On Ice: ☒ Yes ☐ No 4 of 4

# of Coolers: 1

Cooler Temp(Including CF): 1.7 - 0 = 1.7 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2310601	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	8260 skinerlist
10/10/23	16:30	W	BH-75	40ml/3	HCL	001	X	← Un for	Hold "BH 74"	tf follow per	recvd A.F.	- time 10/12/23					
10/10/23	16:50	S	BH-75 (10-12)	4oz/1	—	002								X			X
10/10/23	16:50	S	BH-75 (10-12)	2VOA	MEOH	1								X			
10/10/23	15:00	W	BH-74	40ml/3	HCL	003	X										
10/10/23	14:30	S	BH-74 (12-14)	4oz/1	—	004											X
10/10/23	14:30	S	BH-74 (12-14)	2VOA	MeOH	1								X			
10/10/23	16:20	W	FB-1	40ml/3	HCL	005	X										
10/11/23	8:50	W	EB-1	40ml/3	HCL	006	X										
10/11/23	7:30	W	FB-2	40ml/3	HCL	007	X										
~~10/11/23~~	~~0900~~	~~W~~	~~BH-72~~	~~40ml/3~~	~~HCL~~	008	X										
10/11/23	10:30	W	Trip Blank	2		009	X										

See Remarks

Date	Time	Relinquished by	Received by	Via	Date	Time
10/11	12:00	Hilario Trejo		Courier		
					10/12/23	7:30
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks: sample was ment to be on different W.O. Moved to 2310695 005A per Client. - tmc 10/13/23

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 25, 2023

Caitlin Fields

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

RE: Wingate BTEX OrderNo.: 2310693

Dear Caitlin Fields:

Hall Environmental Analysis Laboratory received 7 sample(s) on 10/13/2023 for the analyses presented in the following report.

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

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

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

Sincerely,



Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2310693**
Date Reported: **10/25/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: FB-3
Project: Wingate BTEX
Collection Date: 10/12/2023 7:45:00 AM
Lab ID: 2310693-001 **Matrix:** AQUEOUS **Received Date:** 10/13/2023 7:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: **JR**	
Benzene	ND	0.23	1.0		µg/L	1	10/18/2023 10:50:04 PM	SL1005
Toluene	ND	0.20	1.0		µg/L	1	10/18/2023 10:50:04 PM	SL1005
Ethylbenzene	ND	0.21	1.0		µg/L	1	10/18/2023 10:50:04 PM	SL1005
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	10/18/2023 10:50:04 PM	SL1005
Xylenes, Total	ND	0.37	1.5		µg/L	1	10/18/2023 10:50:04 PM	SL1005
Surr: 1,2-Dichloroethane-d4	90.8	0	70-130		%Rec	1	10/18/2023 10:50:04 PM	SL1005
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	1	10/18/2023 10:50:04 PM	SL1005
Surr: Dibromofluoromethane	95.7	0	70-130		%Rec	1	10/18/2023 10:50:04 PM	SL1005
Surr: Toluene-d8	94.9	0	70-130		%Rec	1	10/18/2023 10:50:04 PM	SL1005

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

Qualifiers:

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

Analytical Report
Lab Order **2310693**
Date Reported: **10/25/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: EB-2
Project: Wingate BTEX
Collection Date: 10/12/2023 7:55:00 AM
Lab ID: 2310693-002 **Matrix:** AQUEOUS **Received Date:** 10/13/2023 7:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: **JR**	
Benzene	6.7	0.23	1.0		µg/L	1	10/18/2023 11:18:24 PM	SL1005
Toluene	0.96	0.20	1.0	J	µg/L	1	10/18/2023 11:18:24 PM	SL1005
Ethylbenzene	0.27	0.21	1.0	J	µg/L	1	10/18/2023 11:18:24 PM	SL1005
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	10/18/2023 11:18:24 PM	SL1005
Xylenes, Total	1.2	0.37	1.5	J	µg/L	1	10/18/2023 11:18:24 PM	SL1005
Surr: 1,2-Dichloroethane-d4	90.1	0	70-130		%Rec	1	10/18/2023 11:18:24 PM	SL1005
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	1	10/18/2023 11:18:24 PM	SL1005
Surr: Dibromofluoromethane	95.0	0	70-130		%Rec	1	10/18/2023 11:18:24 PM	SL1005
Surr: Toluene-d8	95.2	0	70-130		%Rec	1	10/18/2023 11:18:24 PM	SL1005

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

Qualifiers:

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

Analytical Report
Lab Order **2310693**
Date Reported: **10/25/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: BH-65
Project: Wingate BTEX
Collection Date: 10/12/2023 10:00:00 AM
Lab ID: 2310693-003 **Matrix:** AQUEOUS **Received Date:** 10/13/2023 7:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: **JR**	
Benzene	ND	0.45	2.0	D	µg/L	2	10/18/2023 11:46:24 PM	SL1005
Toluene	ND	0.40	2.0	D	µg/L	2	10/18/2023 11:46:24 PM	SL1005
Ethylbenzene	ND	0.43	2.0	D	µg/L	2	10/18/2023 11:46:24 PM	SL1005
Methyl tert-butyl ether (MTBE)	ND	0.79	2.0	D	µg/L	2	10/18/2023 11:46:24 PM	SL1005
Xylenes, Total	ND	0.75	3.0	D	µg/L	2	10/18/2023 11:46:24 PM	SL1005
Surr: 1,2-Dichloroethane-d4	89.5	0	70-130	D	%Rec	2	10/18/2023 11:46:24 PM	SL1005
Surr: 4-Bromofluorobenzene	107	0	70-130	D	%Rec	2	10/18/2023 11:46:24 PM	SL1005
Surr: Dibromofluoromethane	95.1	0	70-130	D	%Rec	2	10/18/2023 11:46:24 PM	SL1005
Surr: Toluene-d8	95.3	0	70-130	D	%Rec	2	10/18/2023 11:46:24 PM	SL1005

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

Qualifiers:

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

Analytical Report
Lab Order **2310693**
Date Reported: **10/25/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: BH-67
Project: Wingate BTEX
Collection Date: 10/12/2023 8:55:00 AM
Lab ID: 2310693-004 **Matrix:** AQUEOUS **Received Date:** 10/13/2023 7:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: **JR**	
Benzene	ND	0.45	2.0	PD	µg/L	2	10/19/2023 12:14:37 AM	SL1005
Toluene	ND	0.40	2.0	PD	µg/L	2	10/19/2023 12:14:37 AM	SL1005
Ethylbenzene	ND	0.43	2.0	PD	µg/L	2	10/19/2023 12:14:37 AM	SL1005
Methyl tert-butyl ether (MTBE)	ND	0.79	2.0	PD	µg/L	2	10/19/2023 12:14:37 AM	SL1005
Xylenes, Total	ND	0.75	3.0	PD	µg/L	2	10/19/2023 12:14:37 AM	SL1005
Surr: 1,2-Dichloroethane-d4	92.4	0	70-130	PD	%Rec	2	10/19/2023 12:14:37 AM	SL1005
Surr: 4-Bromofluorobenzene	102	0	70-130	PD	%Rec	2	10/19/2023 12:14:37 AM	SL1005
Surr: Dibromofluoromethane	97.4	0	70-130	PD	%Rec	2	10/19/2023 12:14:37 AM	SL1005
Surr: Toluene-d8	92.8	0	70-130	PD	%Rec	2	10/19/2023 12:14:37 AM	SL1005

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

Qualifiers:

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

Analytical Report
Lab Order **2310693**
Date Reported: **10/25/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** BD-2
Project: Wingate BTEX **Collection Date:** 10/12/2023
Lab ID: 2310693-006 **Matrix:** AQUEOUS **Received Date:** 10/13/2023 7:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: **JR**	
Benzene	ND	0.45	2.0	PD	µg/L	2	10/19/2023 12:42:54 AM	SL1005
Toluene	ND	0.40	2.0	PD	µg/L	2	10/19/2023 12:42:54 AM	SL1005
Ethylbenzene	ND	0.43	2.0	PD	µg/L	2	10/19/2023 12:42:54 AM	SL1005
Methyl tert-butyl ether (MTBE)	ND	0.79	2.0	PD	µg/L	2	10/19/2023 12:42:54 AM	SL1005
Xylenes, Total	ND	0.75	3.0	PD	µg/L	2	10/19/2023 12:42:54 AM	SL1005
Surr: 1,2-Dichloroethane-d4	89.4	0	70-130	PD	%Rec	2	10/19/2023 12:42:54 AM	SL1005
Surr: 4-Bromofluorobenzene	102	0	70-130	PD	%Rec	2	10/19/2023 12:42:54 AM	SL1005
Surr: Dibromofluoromethane	95.9	0	70-130	PD	%Rec	2	10/19/2023 12:42:54 AM	SL1005
Surr: Toluene-d8	93.6	0	70-130	PD	%Rec	2	10/19/2023 12:42:54 AM	SL1005

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

Qualifiers:

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

Analytical Report
Lab Order **2310693**
Date Reported: **10/25/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon
Client Sample ID: Trip Blank
Project: Wingate BTEX
Collection Date:
Lab ID: 2310693-007
Matrix: TRIP BLANK
Received Date: 10/13/2023 7:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: **JR**	
Benzene	ND	0.23	1.0		µg/L	1	10/19/2023 1:10:57 AM	SL1005
Toluene	ND	0.20	1.0		µg/L	1	10/19/2023 1:10:57 AM	SL1005
Ethylbenzene	ND	0.21	1.0		µg/L	1	10/19/2023 1:10:57 AM	SL1005
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	10/19/2023 1:10:57 AM	SL1005
Xylenes, Total	ND	0.37	1.5		µg/L	1	10/19/2023 1:10:57 AM	SL1005
Surr: 1,2-Dichloroethane-d4	86.6	0	70-130		%Rec	1	10/19/2023 1:10:57 AM	SL1005
Surr: 4-Bromofluorobenzene	98.2	0	70-130		%Rec	1	10/19/2023 1:10:57 AM	SL1005
Surr: Dibromofluoromethane	96.1	0	70-130		%Rec	1	10/19/2023 1:10:57 AM	SL1005
Surr: Toluene-d8	94.1	0	70-130		%Rec	1	10/19/2023 1:10:57 AM	SL1005

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2310693**

25-Oct-23

Client: Marathon

Project: Wingate BTEX

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **SL100563**	RunNo: **100563**
Prep Date:	Analysis Date: **10/18/2023**	SeqNo: **3685760** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.5	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	9.0		10.00		89.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.9		10.00		98.7	70	130			
Surr: Toluene-d8	9.7		10.00		97.4	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SL100563**	RunNo: **100563**
Prep Date:	Analysis Date: **10/18/2023**	SeqNo: **3685767** 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								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.1		10.00		90.8	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.2	70	130			
Surr: Toluene-d8	9.9		10.00		98.5	70	130			

Qualifiers:

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

Page 465 of 477

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Marathon | Work Order Number: 2310693 | RcptNo: 1

Received By: Tracy Casarrubias 10/13/2023 7:30:00 AM

Completed By: Tracy Casarrubias 10/13/2023 9:13:09 AM

Reviewed By: TMC 10/13/23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☐	No ☑	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☑	No ☐	NA ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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: TMC 10-13-23

Special Handling (if applicable)

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

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions: Email/Fax are missing on COC - TMC 10/13/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.6	Good	Yes	Yogi		

Received by OCD: 3/7/2024 4:58:12 PM

Released to Imaging: 8/16/2024 2:26:48 PM

Chain-of-Custody Record

Client: Marathon Petroleum

Mailing Address: 92 Giant Crossing, Gallup NM

Phone #: 505-930-9485

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: Wingate BTEX

00697-072-0060

Project #:

Project Manager: Caitlin Fields

Sampler:

On Ice: ☒ Yes ☐ No 4pgi

# of Coolers: 1

Cooler Temp (including CF): 3.6-0=3.6 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2310693	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
10/12/23	7:45	W	FB-3	40 mL/3	HCL	001	X									
10/12/23	7:55	W	EB-2	40 mL/3	HCL	002	X									
[illegible]																
10/12/23	10:00	W	BH-65	40 mL/3	HCL	003	X									
10/12/23	9:55	W	BH-67	40 mL/3	HCL	004	X									
10/12/23	11:40	W	BH-64	40 mL/3	HCL	005	X									
10/12/23	—	W	BD-2	40 mL/3	HCL	006	X									
			Trip Blank			007										
			JF 10-13-23													

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
10/12/23	1150	[signature]	[signature]	courier	10/13/23	7:30
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 31, 2023

Caitlin Fields

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

RE: Wingate BTEX OrderNo.: 2310695

Dear Caitlin Fields:

Hall Environmental Analysis Laboratory received 8 sample(s) on 10/13/2023 for the analyses presented in the following report.

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

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

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

Sincerely,



Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order: **2310695**
Date Reported: **10/31/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Lab Order:** 2310695
Project: Wingate BTEX

Lab ID: 2310695-001 **Collection Date:** 10/11/2023 4:15:00 PM
Client Sample ID: BH-70 **Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: **JR**	
Benzene	7300	1100	5000		µg/L	5000	10/23/2023 9:13:43 PM	SL100E
Toluene	ND	0.40	2.0		µg/L	2	10/20/2023 2:31:32 PM	SL100E
Ethylbenzene	170	0.43	2.0		µg/L	2	10/20/2023 2:31:32 PM	SL100E
Xylenes, Total	340	0.75	3.0		µg/L	2	10/20/2023 2:31:32 PM	SL100E
Surr: 1,2-Dichloroethane-d4	86.0	0	70-130		%Rec	2	10/20/2023 2:31:32 PM	SL100E
Surr: 4-Bromofluorobenzene	99.0	0	70-130		%Rec	2	10/20/2023 2:31:32 PM	SL100E
Surr: Dibromofluoromethane	93.1	0	70-130		%Rec	2	10/20/2023 2:31:32 PM	SL100E
Surr: Toluene-d8	91.7	0	70-130		%Rec	2	10/20/2023 2:31:32 PM	SL100E

Lab ID: 2310695-002 **Collection Date:** 10/11/2023 3:25:00 PM
Client Sample ID: BH-68 **Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: **JR**	
Benzene	13	1.1	5.0	P	µg/L	5	10/23/2023 9:41:45 PM	SL100E
Toluene	ND	1.0	5.0	P	µg/L	5	10/23/2023 9:41:45 PM	SL100E
Ethylbenzene	ND	1.1	5.0	P	µg/L	5	10/23/2023 9:41:45 PM	SL100E
Xylenes, Total	ND	1.9	7.5	P	µg/L	5	10/23/2023 9:41:45 PM	SL100E
Surr: 1,2-Dichloroethane-d4	89.6	0	70-130	P	%Rec	5	10/23/2023 9:41:45 PM	SL100E
Surr: 4-Bromofluorobenzene	100	0	70-130	P	%Rec	5	10/23/2023 9:41:45 PM	SL100E
Surr: Dibromofluoromethane	92.9	0	70-130	P	%Rec	5	10/23/2023 9:41:45 PM	SL100E
Surr: Toluene-d8	99.8	0	70-130	P	%Rec	5	10/23/2023 9:41:45 PM	SL100E

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

Qualifiers:

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

Analytical Report
Lab Order: **2310695**
Date Reported: **10/31/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Lab Order:** 2310695
Project: Wingate BTEX

Lab ID: 2310695-003 **Collection Date:** 10/11/2023 3:00:00 PM
Client Sample ID: BH-69 **Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: **CCM**	
Benzene	3700	45	200	HP	µg/L	200	10/27/2023 1:55:00 PM	SL1007
Toluene	ND	0.40	2.0	H	µg/L	2	10/26/2023 3:10:00 PM	SL1007
Ethylbenzene	4.9	0.43	2.0	H	µg/L	2	10/26/2023 3:10:00 PM	SL1007
Xylenes, Total	71	0.75	3.0	H	µg/L	2	10/26/2023 3:10:00 PM	SL1007
Surr: 1,2-Dichloroethane-d4	83.3	0	70-130	H	%Rec	2	10/26/2023 3:10:00 PM	SL1007
Surr: 4-Bromofluorobenzene	105	0	70-130	H	%Rec	2	10/26/2023 3:10:00 PM	SL1007
Surr: Dibromofluoromethane	83.3	0	70-130	H	%Rec	2	10/26/2023 3:10:00 PM	SL1007
Surr: Toluene-d8	105	0	70-130	H	%Rec	2	10/26/2023 3:10:00 PM	SL1007

Lab ID: 2310695-005 **Collection Date:** 10/11/2023 9:00:00 AM
Client Sample ID: BH-72 **Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: **RAA**	
Benzene	1.4	0.45	2.0	JP	µg/L	2	10/20/2023 3:27:50 PM	SL1006
Toluene	ND	0.40	2.0	P	µg/L	2	10/20/2023 3:27:50 PM	SL1006
Ethylbenzene	ND	0.43	2.0	P	µg/L	2	10/20/2023 3:27:50 PM	SL1006
Xylenes, Total	ND	0.75	3.0	P	µg/L	2	10/20/2023 3:27:50 PM	SL1006
Surr: 1,2-Dichloroethane-d4	86.3	0	70-130	P	%Rec	2	10/20/2023 3:27:50 PM	SL1006
Surr: 4-Bromofluorobenzene	103	0	70-130	P	%Rec	2	10/20/2023 3:27:50 PM	SL1006
Surr: Dibromofluoromethane	101	0	70-130	P	%Rec	2	10/20/2023 3:27:50 PM	SL1006
Surr: Toluene-d8	92.4	0	70-130	P	%Rec	2	10/20/2023 3:27:50 PM	SL1006

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

Qualifiers:

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

Analytical Report
Lab Order: **2310695**
Date Reported: **10/31/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Lab Order:** 2310695
Project: Wingate BTEX

Lab ID: 2310695-006 **Collection Date:** 10/11/2023 2:10:00 PM
Client Sample ID: BH-71 **Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: **CCM**	
Benzene	ND	0.45	2.0	HP	µg/L	2	10/27/2023 1:30:00 PM	SL1007
Toluene	ND	0.40	2.0	HP	µg/L	2	10/27/2023 1:30:00 PM	SL1007
Ethylbenzene	ND	0.43	2.0	HP	µg/L	2	10/27/2023 1:30:00 PM	SL1007
Xylenes, Total	ND	0.75	3.0	HP	µg/L	2	10/27/2023 1:30:00 PM	SL1007
Surr: 1,2-Dichloroethane-d4	96.4	0	70-130	HP	%Rec	2	10/27/2023 1:30:00 PM	SL1007
Surr: 4-Bromofluorobenzene	102	0	70-130	HP	%Rec	2	10/27/2023 1:30:00 PM	SL1007
Surr: Dibromofluoromethane	91.3	0	70-130	HP	%Rec	2	10/27/2023 1:30:00 PM	SL1007
Surr: Toluene-d8	105	0	70-130	HP	%Rec	2	10/27/2023 1:30:00 PM	SL1007

Lab ID: 2310695-007 **Collection Date:** 10/11/2023
Client Sample ID: BD-1 **Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: **RAA**	
Benzene	0.87	0.45	2.0	JP	µg/L	2	10/20/2023 3:56:02 PM	SL1006
Toluene	ND	0.40	2.0	P	µg/L	2	10/20/2023 3:56:02 PM	SL1006
Ethylbenzene	ND	0.43	2.0	P	µg/L	2	10/20/2023 3:56:02 PM	SL1006
Xylenes, Total	ND	0.75	3.0	P	µg/L	2	10/20/2023 3:56:02 PM	SL1006
Surr: 1,2-Dichloroethane-d4	87.2	0	70-130	P	%Rec	2	10/20/2023 3:56:02 PM	SL1006
Surr: 4-Bromofluorobenzene	103	0	70-130	P	%Rec	2	10/20/2023 3:56:02 PM	SL1006
Surr: Dibromofluoromethane	97.2	0	70-130	P	%Rec	2	10/20/2023 3:56:02 PM	SL1006
Surr: Toluene-d8	93.8	0	70-130	P	%Rec	2	10/20/2023 3:56:02 PM	SL1006

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

Qualifiers:

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

Analytical Report
Lab Order: **2310695**
Date Reported: **10/31/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Lab Order:** 2310695
Project: Wingate BTEX

Lab ID: 2310695-008 **Collection Date:**
Client Sample ID: Trip Blank **Matrix:** TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: **RAA**	
Benzene	0.26	0.23	1.0	J	µg/L	1	10/20/2023 4:24:09 PM	SL100E
Toluene	ND	0.20	1.0		µg/L	1	10/20/2023 4:24:09 PM	SL100E
Ethylbenzene	ND	0.21	1.0		µg/L	1	10/20/2023 4:24:09 PM	SL100E
Xylenes, Total	ND	0.37	1.5		µg/L	1	10/20/2023 4:24:09 PM	SL100E
Surr: 1,2-Dichloroethane-d4	82.9	0	70-130		%Rec	1	10/20/2023 4:24:09 PM	SL100E
Surr: 4-Bromofluorobenzene	106	0	70-130		%Rec	1	10/20/2023 4:24:09 PM	SL100E
Surr: Dibromofluoromethane	98.0	0	70-130		%Rec	1	10/20/2023 4:24:09 PM	SL100E
Surr: Toluene-d8	91.8	0	70-130		%Rec	1	10/20/2023 4:24:09 PM	SL100E

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2310695**

31-Oct-23

Client: Marathon

Project: Wingate BTEX

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **SL100646**	RunNo: **100646**
Prep Date:	Analysis Date: **10/20/2023**	SeqNo: **3690799** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	8.8		10.00		88.4	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.6	70	130			
Surr: Toluene-d8	9.4		10.00		94.4	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SL100646**	RunNo: **100646**
Prep Date:	Analysis Date: **10/20/2023**	SeqNo: **3690819** 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								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.3		10.00		83.4	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.0	70	130			
Surr: Toluene-d8	9.2		10.00		92.1	70	130			

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **SL100664**	RunNo: **100664**
Prep Date:	Analysis Date: **10/23/2023**	SeqNo: **3691375** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	87.7	70	130			
Toluene	19	1.0	20.00	0	96.4	70	130			
Surr: 1,2-Dichloroethane-d4	8.9		10.00		89.1	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Dibromofluoromethane	9.2		10.00		92.4	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2310695**

31-Oct-23

Client: Marathon

Project: Wingate BTEX

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SL100664**	RunNo: **100664**
Prep Date:	Analysis Date: **10/23/2023**	SeqNo: **3691378** 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	8.4		10.00		84.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	9.2		10.00		92.5	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SL100750**	RunNo: **100750**
Prep Date:	Analysis Date: **10/26/2023**	SeqNo: **3696408** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	9.0		10.00		89.6	70	130			
Surr: Toluene-d8	10		10.00		105	70	130			

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **SL100750**	RunNo: **100750**
Prep Date:	Analysis Date: **10/26/2023**	SeqNo: **3696409** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	19	1.0	20.00	0	96.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	8.6		10.00		85.7	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **SL100787**	RunNo: **100787**
Prep Date:	Analysis Date: **10/27/2023**	SeqNo: **3697070** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	84.8	70	130			
Toluene	20	1.0	20.00	0	102	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2310695**

31-Oct-23

Client: Marathon

Project: Wingate BTEX

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **SL100787**	RunNo: **100787**
Prep Date:	Analysis Date: **10/27/2023**	SeqNo: **3697070** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.4	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	8.8		10.00		88.3	70	130			
Surr: Toluene-d8	11		10.00		105	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SL100787**	RunNo: **100787**
Prep Date:	Analysis Date: **10/27/2023**	SeqNo: **3697071** 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	9.5		10.00		95.2	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	8.6		10.00		86.2	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Qualifiers:

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

Page 475 of 477

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Marathon | Work Order Number: 2310695 | RcptNo: 1

Received By: **Tracy Casarrubias** 10/13/2023 7:30:00 AM

Completed By: **Tracy Casarrubias** 10/13/2023 9:22:14 AM

Reviewed By: TM 10/13/23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☐	No ☑	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☑	No ☐	NA ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: SCM 10/13/23

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: Email/Fax are missing on COC - TMC 10/13/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good	Yes	Yogi		

Received by OCD: 3/7/2024 4:58:12 PM

Released to Imaging: 8/16/2024 2:26:48 PM

Chain-of-Custody Record

Client: Marathon Petroleum

Mailing Address: 92 Giant crossing Gallup NM

Phone #: 505-430-9485

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Wingate BTEX

Project #: 00697-072-0060

Project Manager: Caitlin Fields

Sampler:

On Ice: ☒ Yes ☐ No 4 0gi

# of Coolers:

Cooler Temp(including CF): 2.4-0=2.4 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2310695
10/1/23	16:15	W	BH-70	40ml/3	HCL	001
10/1/23	15:25	W	BH-68	40ml/3	HCL	002
10/1/23	15:00	W	BH-69	40ml/3	HCL	003
10/1/23	11:10	W	BH-73	40ml/3	HCL	004
10/1/23	0900	W	BH-72	40ml/3	HCL	005
10/1/23	14:10	W	BH-71	40ml/3	HCL	006
10/1/23	—	W	BD-1	40ml/3	HCL	007
10/1/23		W	Trip Blank	40ml/2		008

Analysis Request

(BTEX) MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
X									
X									
X									
X									
X									
X									
X									
X									

Date:	Time:	Relinquished by:	Received by:	Via: Courier	Date	Time
10/2/23	630				10/3/23	7:30
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 321441

CONDITIONS

Operator: Western Refining Southwest LLC 539 South Main Street Findlay, OH 45840	OGRID: 267595
	Action Number: 321441
	Action Type: [UF-DP] Discharge Permit (DISCHARGE PERMIT)

CONDITIONS

Created By	Condition	Condition Date
joel.stone	Approved for OCD record retention purposes.	8/16/2024