Western Refining Southwest LLC
A subsidiary of Marathon Petroleum Corporation

September 11, 2023

Mr. Nelson Velez
EMNRD – Oil Conservation Division
1220 St. Francis Drive
Santa Fe, NM 87505

RE: Western Refining Southwest LLC
Marathon Wingate Facility
Annual Groundwater Report

Dear Mr. Velez:

Attached please find the 2023 Annual Groundwater Monitoring Report for the Western Refining Southwest LLC, Marathon Wingate Facility. If you have any questions or comments regarding the information contained herein, please do not hesitate to contact Ms. 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 Southwest LLC, Marathon Wingate Facility

Timothy J. Peterkoski
Director of Environment and Climate Strategy
Marathon Petroleum Company LP

Enclosure

pdfc: R. Maestas, NMED HWB
L. Tsinnajinnie, NMED HWB
K. Luka, Marathon Petroleum Company
H. Jones, Trihydro Corporation
L. Andress, NMED HWB
M. Suzuki, NMED HWB
J. Moore, Marathon Petroleum Company

ATTACHMENT

WESTERN REFINING SOUTHWEST LLC

MARATHON WINGATE FACILITY

ANNUAL GROUNDWATER REPORT

SEPTEMBER 11, 2023

Table of Contents

List of Figures

List of Tables

List of Appendices

List of Acronyms

AP-121	Abatement Plan No. 121
mg/L	milligrams per liter
NM	New Mexico
OCD	Oil Conservation Division
SPH	separate phase hydrocarbon
SVOC	semi-volatile organic compound
VOC	volatile organic compound
WQCC	Water Quality Control Commission

1.0 Introduction

This "Annual Groundwater Report" (Report) summarizes the groundwater monitoring activities conducted at the Western Refining Southwest LLC, Marathon Wingate Facility (Facility) in Gallup, New Mexico (NM). The Report is submitted in accordance with the technical specifications of Abatement Plan No. 121 (AP-121), dated October 1, 2015, as approved by the NM Oil Conservation Division (OCD) (NM OCD 2015). This Report describes water quality monitoring activities completed during 2023. Groundwater sampling is performed on an annual basis. The data are used to monitor the groundwater quality at the Facility.

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.

This Report summarizes the groundwater monitoring activities conducted at the Facility on July 27 and August 2, 2023. The following information is provided:

- Summary of the 2023 monitoring activities
- Summary table of analytical results
- Fluid level and potentiometric surface maps

2.0 Fluid Level Gauging

Trihydro Corporation (Trihydro) collected fluid level measurements from eleven monitoring wells at the Facility on July 27 and August 2, 2023. There are six wells located on site and five wells off site (Figure 2-1). Field logs for the 2023 monitoring event are included in Appendix A.

An oil-water surface interface probe was used to measure groundwater and separate phase hydrocarbon (SPH) depths, if present. SPH was not detected in the Facility's monitoring wells during the 2023 sampling event. The interface probe was decontaminated after use at each monitoring well location.

The 2023 groundwater elevations were calculated from the depth to groundwater and ground surface elevation measurements and are presented in Table 2-1. Groundwater depths for monitoring wells installed prior to 2023 were consistent with previous measurements. The groundwater elevations were used to develop the potentiometric surface map (Figure 2-2). Groundwater elevation versus time is presented on Figure 2-3. Groundwater generally flows towards the northeast and is consistent with previous monitoring events.

Two new monitoring wells were installed during 2023, WMW-10 and WMW-11. The measuring point elevations were surveyed in February 2023. These monitoring wells were installed south of the Facility to monitor potential off-site benzene impacts.

Because of a 10-foot discrepancy in the total depth gauged between the 2019 and 2020 gauging events, WMW-3 was proposed to be plugged and abandoned in 2020. Due to delays caused by the COVID-19 pandemic, this abandonment has not occurred. An access agreement with the Navajo Nation could not be secured in time to plug and abandon the well during the 2023 field activities. The Facility will continue to try to secure the access agreement for replacing WMW-3.

3.0 Groundwater Sampling

Groundwater samples were collected on July 27 and August 2, 2023, from the eleven monitoring wells. Groundwater samples were initially collected on July 26 and July 27, 2023; however, the samples for July 26 arrived at the laboratory outside the suggested temperature requirements and were discarded. Additional samples for those wells were collected August 2, 2023.

Samples were collected using a low-flow peristaltic pump with disposable tubing that was replaced between monitoring wells. Field parameters were collected at least every three minutes while groundwater from each well was extracted. The groundwater was extracted until the field parameters stabilized within 10 percent variability. Field parameters included temperature, pH, conductivity, total dissolved solids, salinity, oxidation-reduction potential, and dissolved oxygen. Following stabilization, the groundwater was collected in laboratory-prepared sample containers. Samples collected were analyzed for the following constituents:

- Volatile Organic Compounds (VOC) – Method 8260
- Semi-Volatile Organic Compounds (SVOC) – Method 8270
- Dissolved Metals – Method 6010
- Mercury – Method 7470
- Alkalinity, Total as Calcium Carbonate – Method SM2320B
- Total Dissolved Solids – Method SM2540C
- pH – Method 9040
- Chloride, Nitrogen, Nitrate, and Sulfate – Method 300.0
- Total Uranium – Method 200.8

Quality assurance/quality control samples (i.e., field duplicates, equipment blanks, and trip blanks) were collected and submitted under chain-of-custody controls for laboratory analysis. Two duplicate groundwater samples (WMW-2 and WMW-7), two field blanks, and two equipment blanks were collected. The duplicate samples and equipment blanks were analyzed for the same constituents as the monitoring wells. The field blanks were analyzed for VOCs. One trip blank was provided by the laboratory for each cooler and trip blanks were kept in the coolers during the entirety of sampling. The trip blanks were analyzed for VOCs.

4.0 Analytical Results

The groundwater samples were analyzed by Hall Environmental Laboratory of Albuquerque, NM. Analytical laboratory reports are provided in Appendix B.

The 2023 groundwater analytical results for VOCs, SVOCs, metals, and general chemistry analytes are provided in Tables 4-1, 4-2, 4-3, and 4-4, respectively. The commonly noted constituents of concern that have historically exceeded regulatory standards are shown on Figure 4-1. Sulfate concentrations versus time for the monitoring wells are shown on Figure 4-2. Total dissolved solids concentrations versus time for the monitoring wells are shown on Figure 4-3. Benzene concentrations versus time for monitoring wells WMW-2 and WMW-9 are shown on Figure 4-4, and total xylenes concentrations versus time in monitoring well WMW-2 is shown on Figure 4-5.

Analytical results were compared to the New Mexico Water Quality Control Commission (WQCC) groundwater quality standards, as presented in New Mexico Administrative Code 20.6.2.3103. Analytical results that exceeded their respective standards are shown in bold text in Tables 4-1 through 4-4.

The concentration of benzene in monitoring well WMW-2 (28 milligrams per liter [mg/L]) continues to exceed the groundwater quality standard (0.005 mg/L). The groundwater samples from monitoring wells WMW-9 and WMW-10 also exceeded the groundwater standard of benzene (4.4 mg/L and 2.9 mg/L, respectively). Multiple investigations have taken place to delineate dissolved-phase benzene near WMW-2, including the installation of WMW-9 through WMW-11. These monitoring wells will continue to be included in the annual groundwater monitoring program moving forward.

Naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene were all analyzed by methods for VOCs and SVOCs. AP-121 does not specify which method for analytes that can be analyzed by several methods. Both methods are included in the analytical tables and discussion below. Naphthalene was the only other VOC to exceed the WQCC groundwater quality standard in monitoring wells WMW-2 (0.058 mg/L) and WMW-9 (an estimated concentration of 0.046 mg/L). Naphthalene was detected in the SVOC method; however, it did not exceed the WQCC groundwater quality standard. There were no SVOC detections exceeding the WQCC groundwater quality standards during 2023. Two metals exceeded their respective standards during 2023: dissolved arsenic exceeded in WMW-1R, and total uranium exceeded in WMW-1R, WMW-3, and WMW-11. Total chloride, total dissolved solids, and

sulfate have historically exceeded the WQCC groundwater quality standards across the Facility, and exceedances for these analytes were identified in 2023 as well. These exceedances are generally consistent with historical monitoring. It should also be noted that several detection limits exceed their applicable standards. All data provided by analyses where the limit of detection values exceed standard values are considered data quality exceptions and will not be used to demonstrate compliance.

The analytical data underwent Tier I and Tier II data validation. Data qualifiers are included in Tables 4-1 through 4-4, if applicable. The Tier II data validation reports are provided in Appendix C. The data completeness measure was calculated at 100% and is acceptable.

5.0 Summary

Groundwater monitoring activities at the Facility occurred on July 27 and August 2, 2023. Activities included fluid level gauging and groundwater sampling. Analytical results were compared against WQCC groundwater quality standards and exceedances were noted in Section 4.0.

Groundwater exceedances across the site are consistent with historical results. Benzene continues to exceed the WQCC groundwater quality standard in the southwest portion of the site.

Trihydro has completed several follow-on investigations to delineate the dissolved-phase benzene at the Facility. A sixth investigation was conducted during 2022 and 2023. This included the installation of two new monitoring wells, WMW-10 and WMW-11. The Facility plans to continue to delineate the dissolved-phase benzene with a seventh investigation to be completed before the end of 2023. Following the delineation of benzene in groundwater, a report summarizing the investigation activities will be submitted to NM OCD. That report will include potential remediation options for the dissolved benzene in the groundwater.

Additionally, WMW-3 is still scheduled to be plugged, abandoned, and replaced, after an access agreement with the Navajo Nation is obtained.

6.0 References

New Mexico Oil Conservation Division (NM OCD). 2015. Abatement Plan No. 121.

Figures

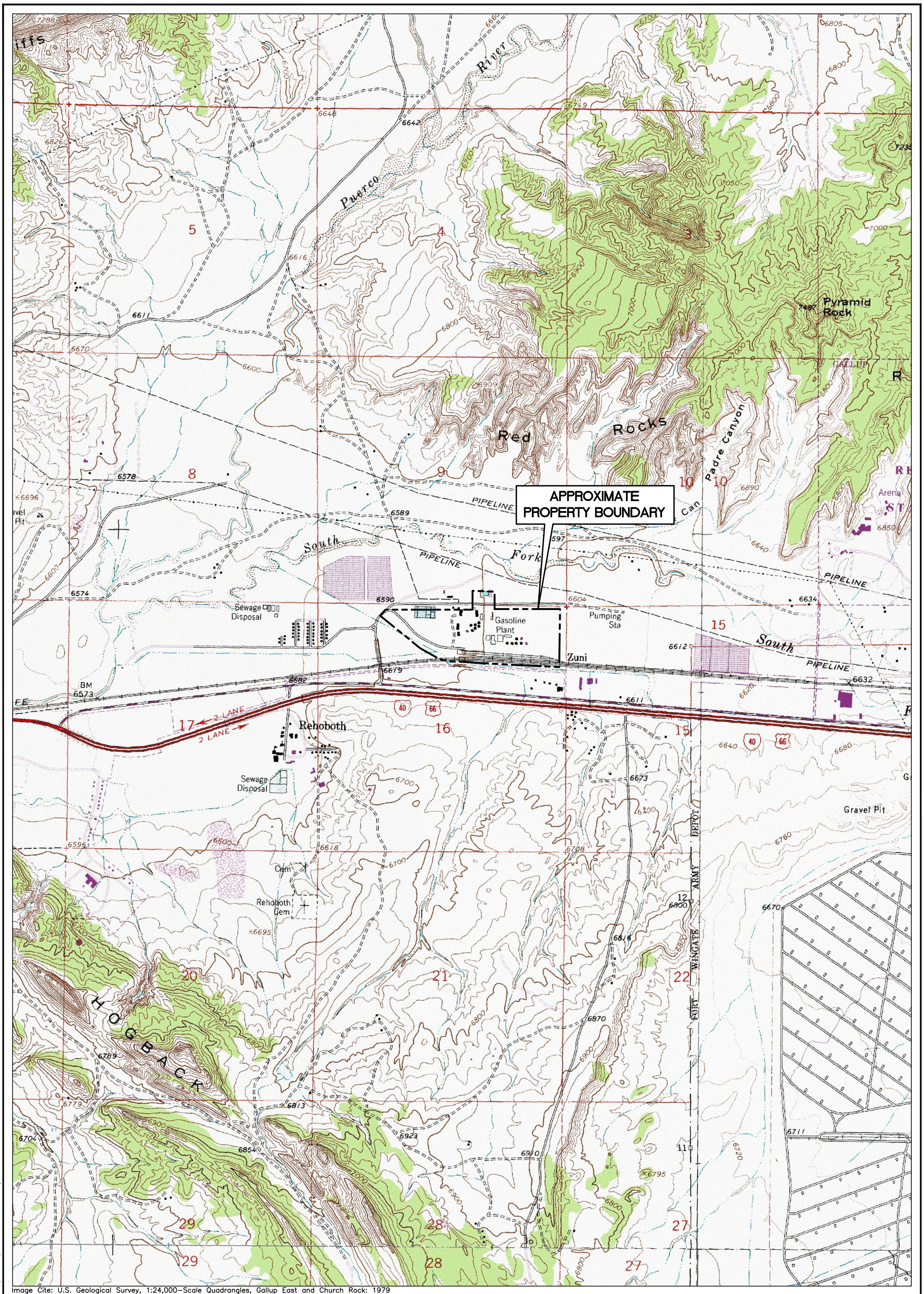
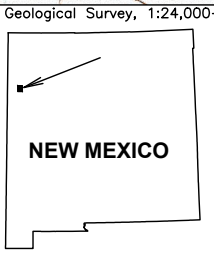


Image Cite: U.S. Geological Survey, 1:24,000–Scale Quadrangles, Gallup East and Church Rock: 1979



QUADRANGLE LOCATION

N

0 2,000'

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

FIGURE 1-1

SITE LOCATION MAP

WINGATE 2023 GROUNDWATER REPORT, WESTERN REFINING SOUTHWEST LLC, MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Drawn By: SB	Checked By: CF	Scale: 1" = 2,000'	Date: 8/30/2023	File: 697-WIN_SITELOCATIONMAP

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NOTE:

WMW-3R NOT INSTALLED DURING 2023, PENDING ACCESS AGREEMENT WITH NAVAJO NATION

EXPLANATION

WMW-11 — MONITORING WELL AND DESIGNATION

WMW-3R — PROPOSED MONITORING WELL AND DESIGNATION

APPROXIMATE PROPERTY BOUNDARY

N

0 300'

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

FIGURE 2-1

FACILITY MAP

WINGATE 2023 GROUNDWATER REPORT, WESTERN REFINING SOUTHWEST LLC,MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Drawn By: SB	Checked By: JW	Scale: 1" = 300'	Date: 8/25/23	File: 697-WIN_SITEPLAN

\\TRIHYDRO.COM\CLIENTS\TOM MARATHON\CADD\WINGATE_COREFILES-BASEMAPS\697-WIN_SITEPLAN

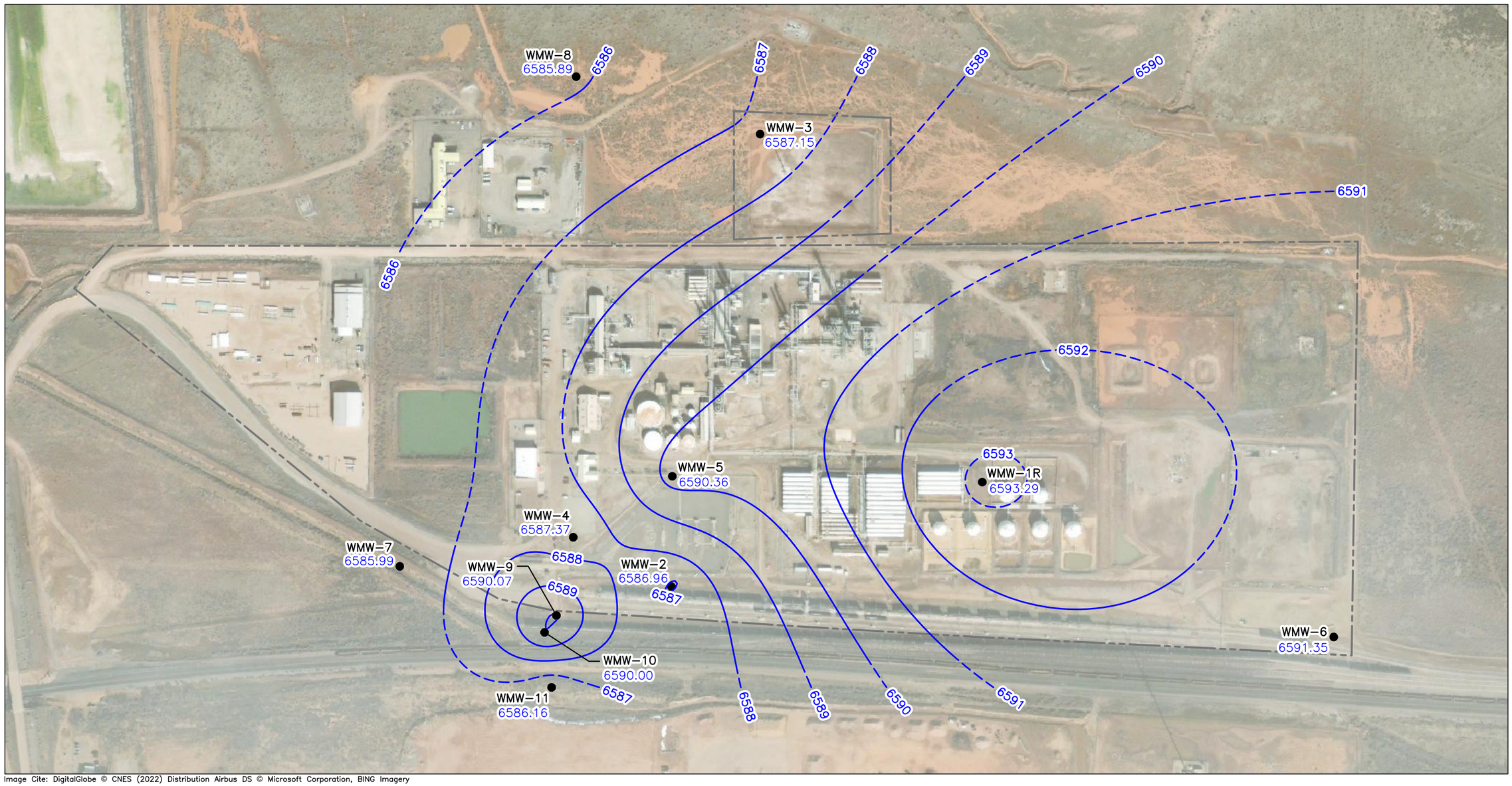

Image Cite: DigitalGlobe © CNES (2022) Distribution Airbus DS © Microsoft Corporation, BING Imagery

EXPLANATION

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

NOTE:

WMW-2 CONTOUR ENLARGED TO SHOW DETAIL.

N

0 300'

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

FIGURE 2-2

POTENTIOMETRIC SURFACE MAP

WINGATE 2023 GROUNDWATER REPORT, WESTERN REFINING SOUTHWEST LLC, MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Drawn By: SB	Checked By: BN	Scale: 1" = 300'	Date: 8/30/23	File: 697-WIN_PSMAP-2023

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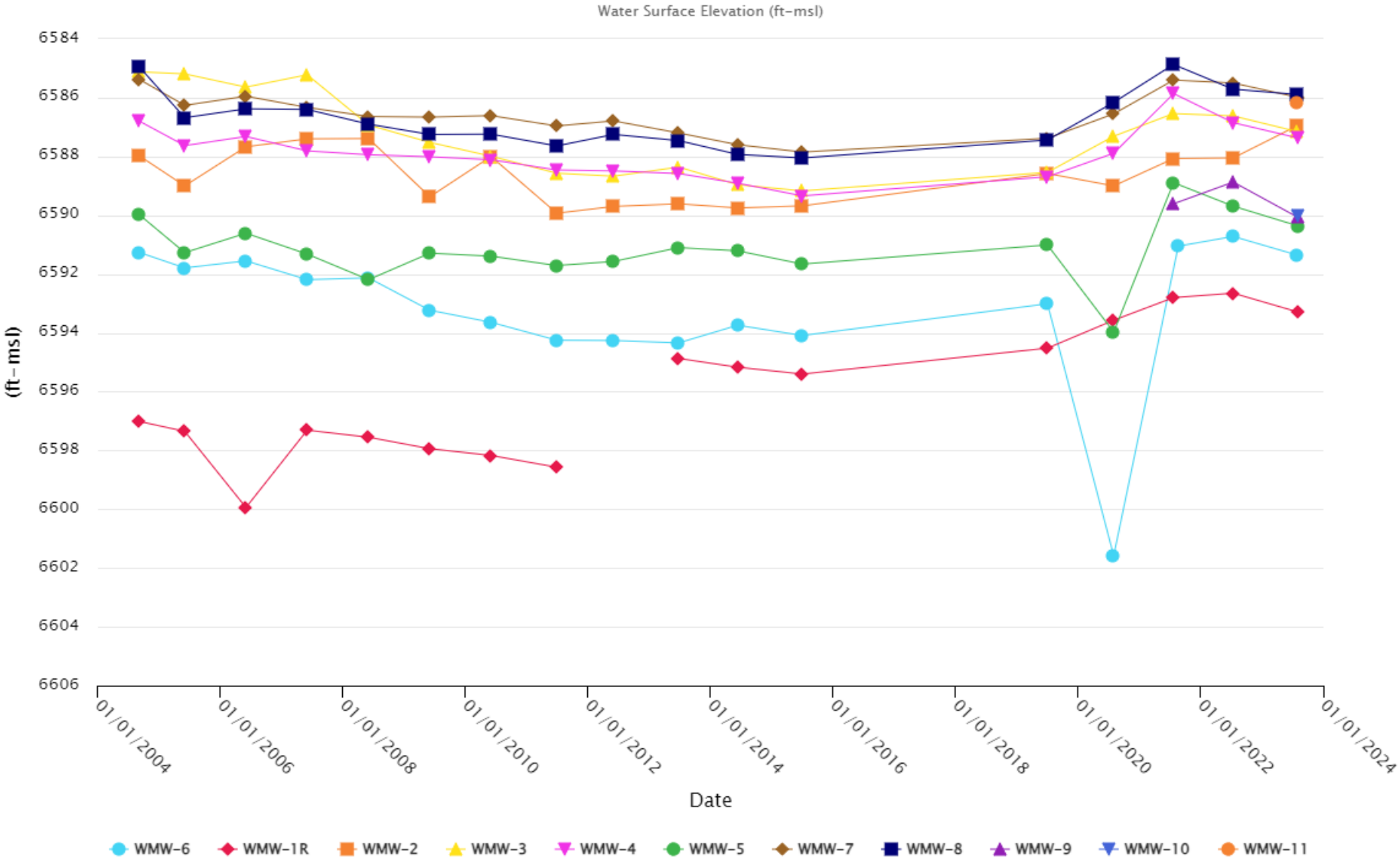
FIGURE 2-3. GROUNDWATER ELEVATION VS. TIME
WINGATE 2023 GROUNDWATER REPORT
WESTERN REFINING SOUTHWEST LLC, MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO



ft msl = feet mean seal level

Enflection RK:15

ENFLECTION

ANALYTE TABLE EXPLANATION

	WMW–1R	8/2/2023
WELL DESIGNATION →	B	0.005
BENZENE →	T	1
TOLUENE →	E	0.7
ETHYLBENZENE →	X	0.62
XYLENES, TOTAL →	As	0.01
TOTAL ARSENIC →	U	0.03
URANIUM →	Cl–	250
CHLORIDE →	SO4	600
SULFATE →	TDS	1000
TOTAL DISSOLVED SOLIDS →		

← SAMPLE DATE

VALUES SHOWN ARE NEW MEXICO'S GROUNDWATER CLEANUP TARGET LEVELS

WMW–8	7/27/2023
B	0.00028 J
T	ND(0.001)
E	ND(0.001)
X	ND(0.0015)
As	ND(0.005)
U	0.013
Cl–	31
SO4	160
TDS	834

WMW–3	7/27/2023
B	0.001
T	ND(0.001)
E	ND(0.001)
X	ND(0.0015)
As	ND(0.005)
U	**0.058**
Cl–	**1,200**
SO4	**2,100**
TDS	**6,290**

WMW–5	8/2/2023
B	ND(0.001)
T	ND(0.001)
E	ND(0.001)
X	ND(0.0015)
As	ND(0.005)
U	0.022
Cl–	**480**
SO4	**2,100**
TDS	**4,490**

WMW–1R	8/2/2023
B	ND(0.001)
T	ND(0.001)
E	ND(0.001)
X	ND(0.0015)
As	**0.022**
U	**0.04**
Cl–	**400**
SO4	**1,200**
TDS	**3,080**

WMW–4	8/2/2023
B	ND(0.001)
T	ND(0.001)
E	ND(0.001)
X	ND(0.0015)
As	ND(0.005)
U	0.0013
Cl–	170
SO4	380
TDS	**1,700**

WMW–2	7/27/2023
B	**28**
T	0.092
E	0.092
X	0.13
As	ND(0.005)
U	0.000083 J
Cl–	**820**
SO4	ND(2.5)
TDS	**3,680**

WMW–7	8/2/2023
B	ND(0.001)
T	ND(0.001)
E	ND(0.001)
X	ND(0.0015)
As	ND(0.005)
U	0.028
Cl–	190
SO4	**880**
TDS	**2,460**

WMW–6	7/27/2023
B	0.002
T	ND(0.001)
E	ND(0.001)
X	ND(0.0015)
As	ND(0.005)
U	0.0085
Cl–	65
SO4	260
TDS	996

WMW–9	8/2/2023
B	**4.4**
T	0.039 J
E	0.039 J
X	0.052 J
As	0.0058
U	0.0091
Cl–	380
SO4	15
TDS	**2,170**

WMW–10	8/2/2023
B	**2.9**
T	0.0088
E	0.0088
X	0.013
As	0.0059
U	0.003
Cl–	**500**
SO4	74
TDS	**2,370**

WMW–11	7/27/2023
B	0.00035 J
T	ND(0.001)
E	ND(0.001)
X	ND(0.0015)
As	0.0028 J
U	**0.078**
Cl–	**1,200**
SO4	**2,500**
TDS	**6,380**

N

0 300'

EXPLANATION

- WMW–7 — MONITORING WELL AND DESIGNATION
- APPROXIMATE PROPERTY BOUNDARY
- ND — NOT DETECTED

NOTES:

1. SITE FEATURES ARE APPROXIMATE.
2. ALL VALUES ARE IN MILLIGRAMS PER LITER (mg/L).
3. VALUES SHOWN IN **BOLD FONT AND BLACK COLOR** EXCEED NEW MEXICO'S GROUNDWATER CLEANUP TARGET LEVELS.
4. SAMPLE DATES ARE ALL FORMATTED AS MONTH/DAY/YEAR.
5. J = ESTIMATED CONCENTRATION
6. WMW-3R NOT INSTALLED DURING 2023, PENDING ACCESS AGREEMENT WITH NAVAJO NATION

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

FIGURE 4-1

GROUNDWATER ANALYTICAL SUMMARY

WINGATE 2023 GROUNDWATER REPORT, WESTERN REFINING SOUTHWEST LLC, MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Drawn By: SB	Checked By: BN	Scale: 1" = 300'	Date: 9/5/23	File: 697-WIN_ANALYTICAL-2023

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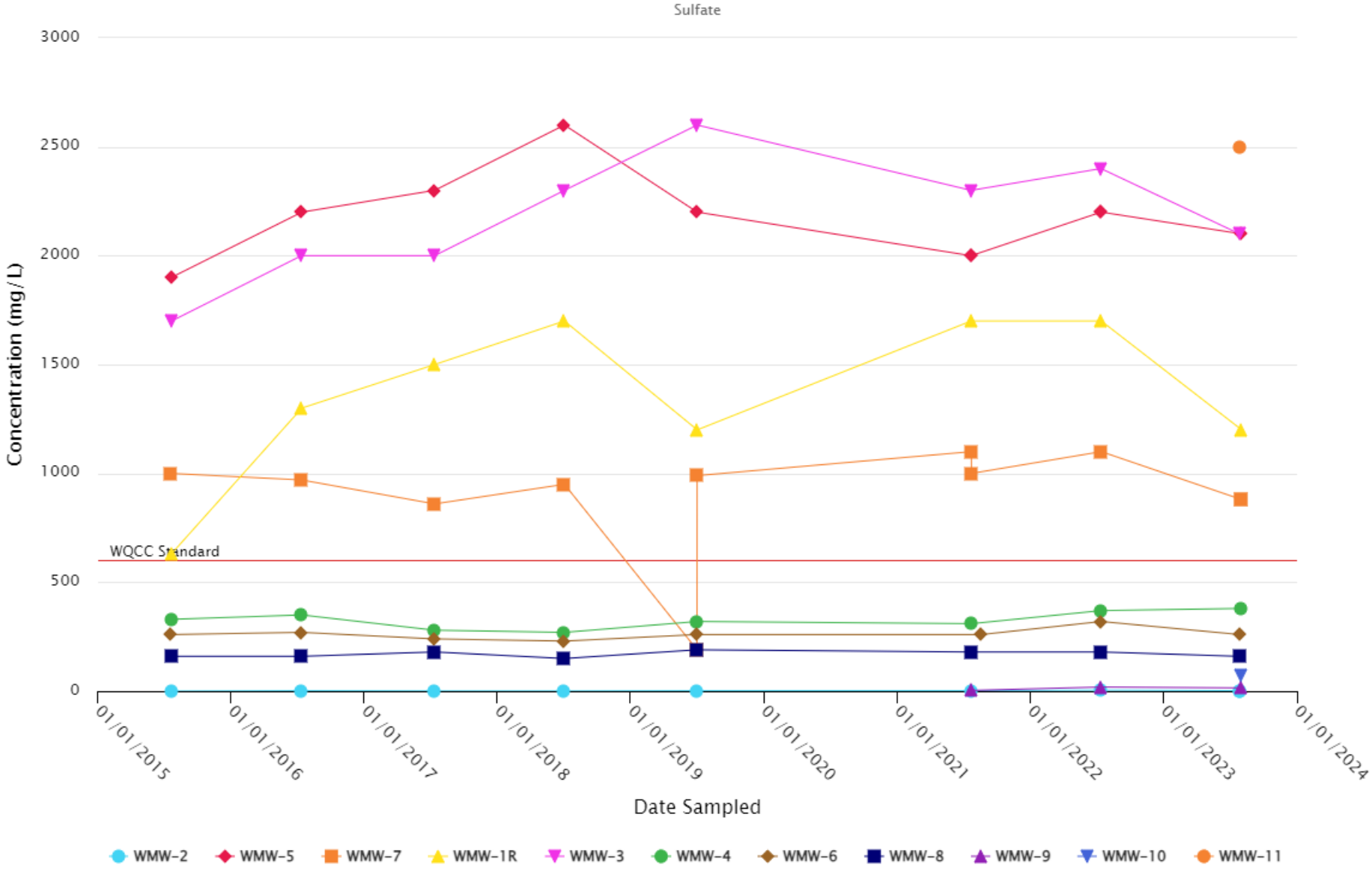
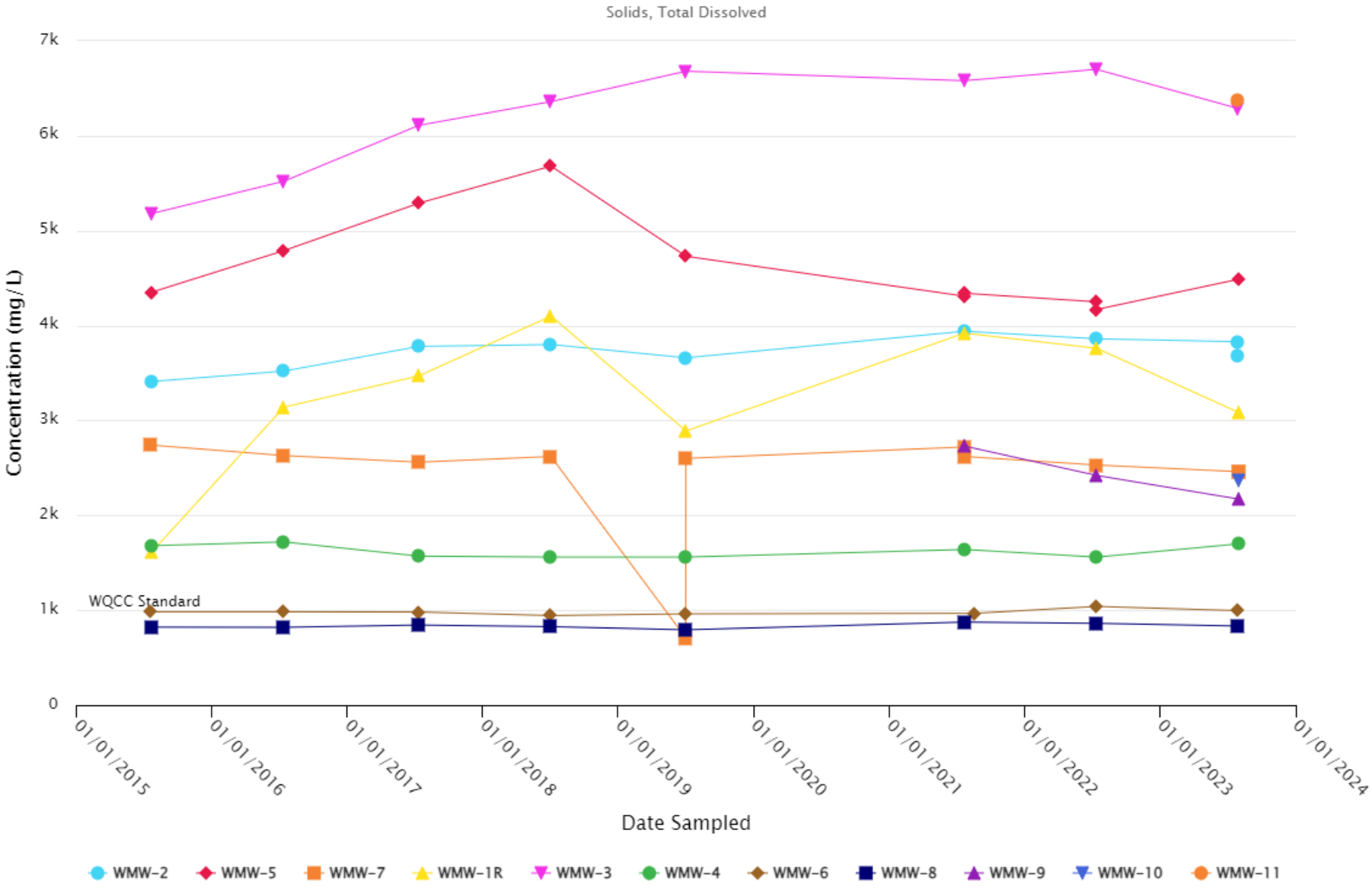
FIGURE 4-2. SULFATE CONCENTRATION VS. TIME
WINGATE 2023 GROUNDWATER REPORT
WESTERN REFINING SOUTHWEST LLC, MARATHON WINGATE FAICLITY, GALLUP, NEW MEXICO



WQCC Standard - New Mexico Water Quality Control Commission groundwater quality standards

ENFLECTION powered by Trihydro

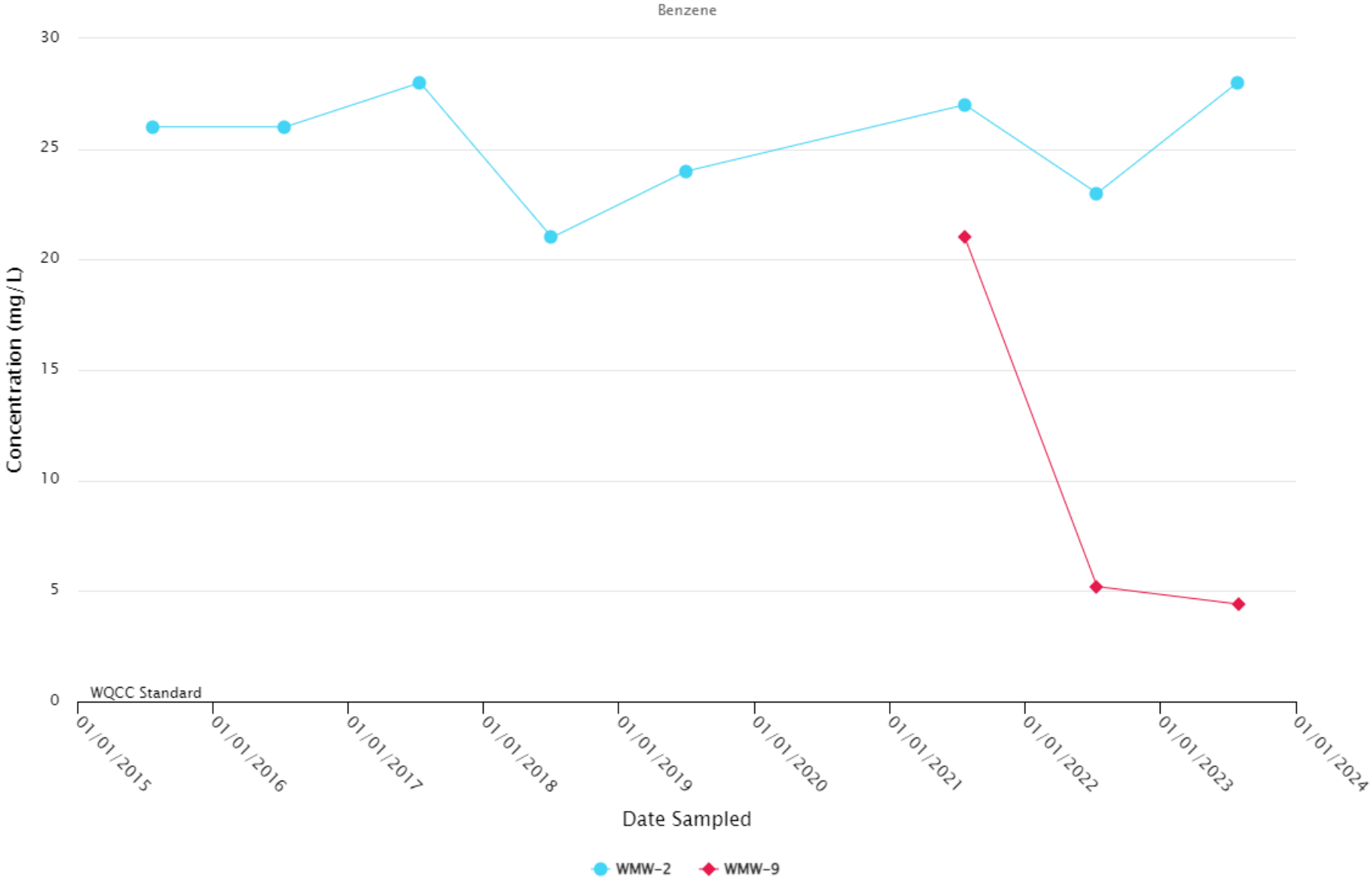
FIGURE 4-3. TOTAL DISSOLVED SOLIDS CONCENTRATION VS. TIME
WINGATE 2023 GROUNDWATER REPORT
WESTERN REFINING SOUTHWEST LLC, MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO



WQCC Standard - New Mexico Water Quality Control Commissions groundwater quality standard

ENFLECTION powered by Trihydro

FIGURE 4-4. BENZENE CONCENTRATIONS OF WMW-2 AND WMW-9 VS. TIME
WINGATE 2023 GROUNDWATER REPORT
WESTERN REFINING SOUTHWEST LLC, MARATHON WINGATE FAICLITY, GALLUP, NEW MEXICO



WQCC Standard - New Mexico Water Quality Control Commission groundwater quality standards

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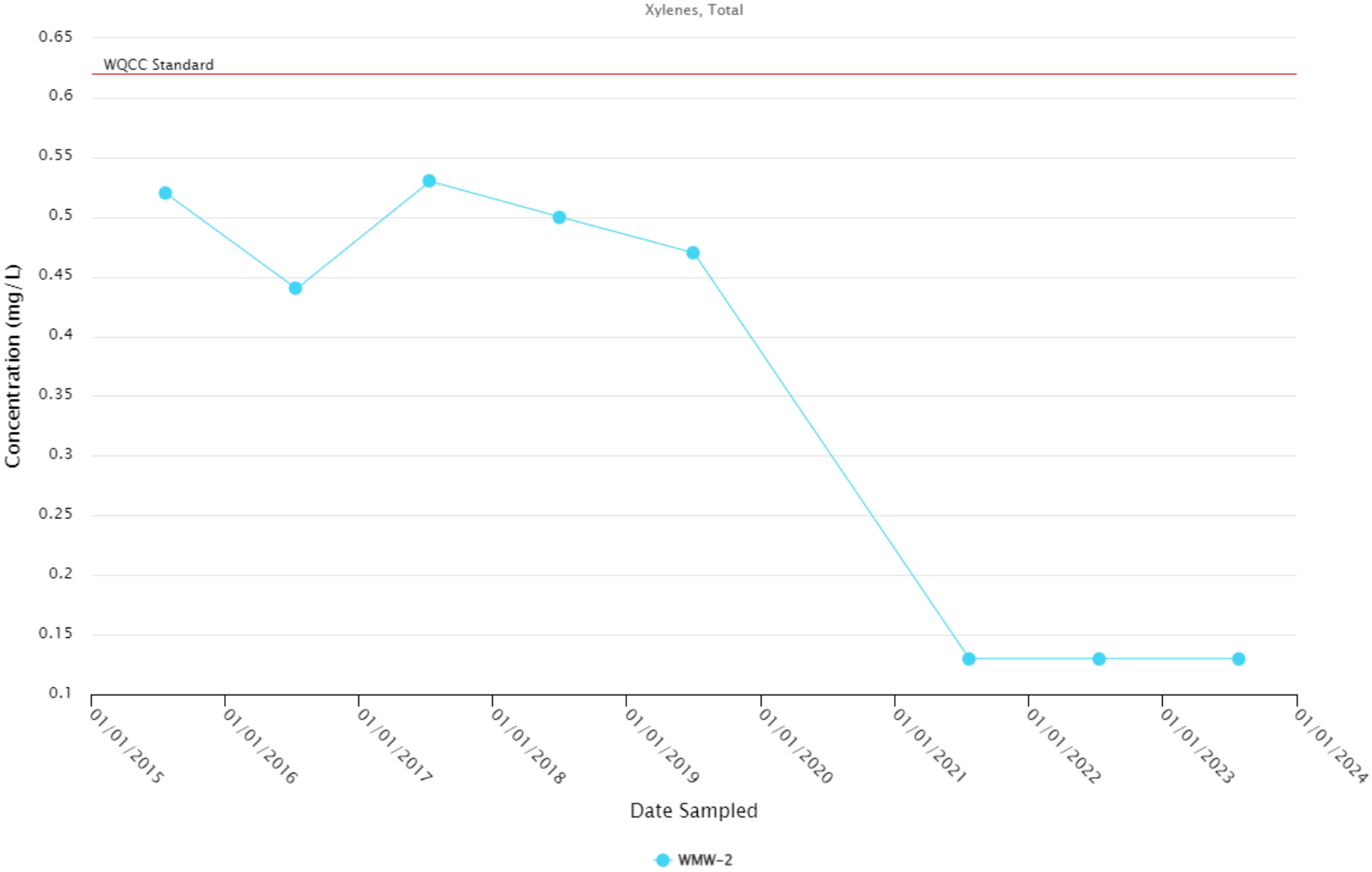
FIGURE 4-5. TOTAL XYLENES CONCENTRATION OF WMW-2 VS. TIME
WINGATE 2023 GROUNDWATER REPORT
WESTERN REFINING SOUTHWEST LLC, MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO



WQCC Standard - New Mexico Water Quality Control Commission groundwater quality standards

ENFLECTION powered by Tetra Tech

Tables

TABLE 2-1. FLUID LEVEL MONITORING (2023)
WESTERN REFINING SOUTHWEST LLC
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Date Measured	Depth To Water (ft-bmp)	Depth to Product (ft-bmp)	Water Surface Elevation (ft-amsl)
WMW-1R	8/2/2023	10.48	ND	6593.29
WMW-2	7/27/2023	7.92	ND	6586.96
WMW-3	7/27/2023	7.77	ND	6587.15
WMW-4	8/2/2023	8.12	ND	6587.37
WMW-5	8/2/2023	6.75	ND	6590.36
WMW-6	7/27/2023	12.51	ND	6591.35
WMW-7	8/2/2023	8.71	ND	6585.99
WMW-8	7/27/2023	8.16	ND	6585.89
WMW-9	8/2/2023	6.51	ND	6590.07
WMW-10	8/2/2023	5.86	ND	6590.00
WMW-11	7/27/2023	16.54	ND	6586.16

Notes:
ft-bmp = feet below measuring point
ft-amsl = feet above mean sea level
ND = not detected

TABLE 4-1. GROUNDWATER VOLATILE ORGANIC COMPOUNDS ANALYTICAL DATA (2023)
WESTERN REFINING SOUTHWEST LLC
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Sample Date	1,2,4-Trimethylbenzene (mg/L)	1,4-Dichlorobenzene (mg/L)	2-Hexanone (mg/L)	2-Methylnaphthalene (mg/L)	Acetone (mg/L)	Benzene (mg/L)	Bromoform (mg/L)	Chlorobenzene (mg/L)
WMW-1R	8/2/2023	0.00013 U	ND(0.001)	ND(0.010)	ND(0.004)	ND(0.010)	ND(0.001)	ND(0.001)	ND(0.001)
WMW-2	7/27/2023	0.029	ND(0.050) J	ND(0.500)	0.07	ND(0.500)	**28**	ND(0.050) J	ND(0.050)
WMW-2 Dup	7/27/2023	0.028	ND(0.050)	ND(0.500)	ND(0.200)	ND(0.500)	**27**	ND(0.050)	ND(0.050) J
WMW-3	7/27/2023	ND(0.001)	ND(0.001)	ND(0.010)	ND(0.004)	ND(0.010)	0.001	ND(0.001)	ND(0.001)
WMW-4	8/2/2023	0.00014 U	ND(0.001)	ND(0.010)	ND(0.004)	ND(0.010)	ND(0.001)	ND(0.001)	ND(0.001)
WMW-5	8/2/2023	0.00013 U	ND(0.001)	ND(0.010)	ND(0.004)	0.0036 J	ND(0.001)	ND(0.001)	ND(0.001)
WMW-6	7/27/2023	ND(0.001)	ND(0.001)	ND(0.010)	ND(0.004)	ND(0.010)	0.002	ND(0.001)	ND(0.001)
WMW-7	8/2/2023	0.00013	ND(0.001) U	ND(0.010)	ND(0.004)	ND(0.010)	ND(0.001)	ND(0.001)	ND(0.001)
WMW-7 Dup	8/2/2023	ND(0.001)	ND(0.001)	ND(0.010)	ND(0.004)	ND(0.010)	ND(0.001)	ND(0.001)	ND(0.001)
WMW-8	7/27/2023	ND(0.001)	ND(0.001)	ND(0.010)	ND(0.004)	ND(0.010)	0.00028 J	ND(0.001)	ND(0.001)
WMW-9	8/2/2023	0.0095 U	ND(0.050)	ND(0.500)	ND(0.200)	ND(0.500)	**4.4**	ND(0.050)	ND(0.050)
WMW-10	8/2/2023	0.0018 U	ND(0.005)	0.030 J	ND(0.020)	ND(0.050)	**2.9**	ND(0.005)	ND(0.005)
WMW-11	7/27/2023	ND(0.001)	ND(0.001)	ND(0.010)	ND(0.004)	ND(0.010)	0.00035 J	ND(0.001)	ND(0.001)
	WQCC Groundwater Standards	NA	0.075	NA	NA	NA	0.005	NA	NA

Notes:
Dup - duplicate sample
J - estimated concentration
mg/L - milligrams per liter
MTBE - methyl tert butyl ether
NA - not applicable
ND - not detected
U - evaluated to be undetected at the reporting limit
UJ - estimated reporting limit
VOC - volatile organic compound

Bolded results exceed the WQCC Groundwater Standard
WQCC Groundwater Standards - New Mexico Water Quality Control Commission Groundwater Quality Standards, New Mexico Administrative Code 20.6.2.3103.

TABLE 4-1. GROUNDWATER VOLATILE ORGANIC COMPOUNDS ANALYTICAL DATA (2023)
WESTERN REFINING SOUTHWEST LLC
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Sample Date	Chloroform (mg/L)	Chloromethane (mg/L)	Ethylbenzene (mg/L)	Hexachlorobutadiene (mg/L)	Isopropylbenzene (mg/L)	Methyl tert-butyl ether (mg/L)	n-Butylbenzene (mg/L)
WMW-1R	8/2/2023	ND(0.001)	ND(0.003)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.003)
WMW-2	7/27/2023	ND(0.050)	ND(0.150)	0.092	ND(0.050) UJ	ND(0.050)	ND(0.050)	ND(0.150)
WMW-2 Dup	7/27/2023	ND(0.050)	ND(0.150)	0.091 J	ND(0.050) J	ND(0.050)	ND(0.050)	ND(0.150)
WMW-3	7/27/2023	ND(0.001)	ND(0.003)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.003)
WMW-4	8/2/2023	ND(0.001)	ND(0.003)	ND(0.001)	ND(0.001)	ND(0.001)	0.00054 J	ND(0.003)
WMW-5	8/2/2023	ND(0.001)	ND(0.003)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.003)
WMW-6	7/27/2023	ND(0.001)	ND(0.003)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.003)
WMW-7	8/2/2023	ND(0.001)	ND(0.003)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.003)
WMW-7 Dup	8/2/2023	ND(0.001)	0.017	ND(0.001)	ND(0.001) J	ND(0.001)	ND(0.001)	ND(0.003) J
WMW-8	7/27/2023	ND(0.001)	ND(0.003)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.003)
WMW-9	8/2/2023	ND(0.050)	ND(0.150)	0.039 J	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.150)
WMW-10	8/2/2023	ND(0.005)	ND(0.015)	0.0088	ND(0.005)	0.0011 J	ND(0.005)	ND(0.015)
WMW-11	7/27/2023	0.005	ND(0.003)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.003)
	WQCC Groundwater Standards	0.1	NA	0.7	NA	NA	NA	NA

Notes:
Dup - duplicate sample
J - estimated concentration
mg/L - milligrams per liter
MTBE - methyl tert butyl ether
NA - not applicable
ND - not detected
U - evaluated to be undetected at the reporting limit
UJ - estimated reporting limit
VOC - volatile organic compound

Bolded results exceed the WQCC Groundwater Standard
WQCC Groundwater Standards - New Mexico Water Quality Control Commission Groundwater Quality Standards, New Mexico Administrative Code 20.6.2.3103.

TABLE 4-1. GROUNDWATER VOLATILE ORGANIC COMPOUNDS ANALYTICAL DATA (2023)
WESTERN REFINING SOUTHWEST LLC
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Sample Date	n-Propylbenzene (mg/L)	Naphthalene (mg/L)	Styrene (mg/L)	Toluene (mg/L)	trans-1,3-Dichloropropene (mg/L)	Trichloroethene (mg/L)	Xylenes, Total (mg/L)	All Other VOCs
WMW-1R	8/2/2023	ND(0.001)	ND(0.002)	0.00014 U	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.0015)	ND
WMW-2	7/27/2023	0.0068	**0.058**	ND(0.050)	0.092	ND(0.050)	ND(0.050)	0.13	ND
WMW-2 Dup	7/27/2023	0.0071	**0.057**	ND(0.050)	0.091 J	ND(0.050) J	ND(0.050) J	0.12	ND
WMW-3	7/27/2023	ND(0.001)	ND(0.002)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.0015)	ND
WMW-4	8/2/2023	ND(0.001)	0.00087 J	0.00016 U	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.0015)	ND
WMW-5	8/2/2023	ND(0.001)	ND(0.002)	0.00015 U	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.0015)	ND
WMW-6	7/27/2023	ND(0.001)	ND(0.002)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.0015)	ND
WMW-7	8/2/2023	ND(0.001)	ND(0.002)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.0015)	ND
WMW-7 Dup	8/2/2023	ND(0.001)	ND(0.002)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.0015)	ND
WMW-8	7/27/2023	ND(0.001)	ND(0.002)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.0015)	ND
WMW-9	8/2/2023	ND(0.050)	**0.046 J**	ND(0.050)	0.039 J	ND(0.050)	ND(0.050)	0.052 J	ND
WMW-10	8/2/2023	0.00074 J	0.0053 J	ND(0.005)	0.0088	ND(0.005)	ND(0.005)	0.013	ND
WMW-11	7/27/2023	ND(0.001)	ND(0.002)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.0015)	ND
	WQCC Groundwater Standards	NA	0.03	0.1	1	NA	0.005	0.62	NA

Notes:
Dup - duplicate sample
J - estimated concentration
mg/L - milligrams per liter
MTBE - methyl tert butyl ether
NA - not applicable
ND - not detected
U - evaluated to be undetected at the reporting limit
UJ - estimated reporting limit
VOC - volatile organic compound

Bolded results exceed the WQCC Groundwater Standard
WQCC Groundwater Standards - New Mexico Water Quality Control Commission Groundwater Quality Standards, New Mexico Administrative Code 20.6.2.3103.

TABLE 4-2. GROUNDWATER SEMI-VOLATILE ORGANIC COMPOUNDS ANALYTICAL DATA (2023)
WESTERN REFINING SOUTHWEST LLC
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Sample Date	1,4-Dichlorobenzene (mg/L)	1-Methylnaphthalene (mg/L)	2,4-Dimethylphenol (mg/L)	2,4-Dinitrophenol (mg/L)	2-Methylnaphthalene (mg/L)	4-Chloro-3-Methylphenol (mg/L)	4-Nitrophenol (mg/L)
WMW-1R	8/2/2023	ND(0.005)	ND(0.005)	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.005)	ND(0.010)
WMW-2	7/27/2023	ND(0.005) J	0.0048	ND(0.010)	ND(0.010)	0.0069	ND(0.005) J	ND(0.010)
WMW-2 Dup	7/27/2023	ND(0.005)	0.0057	ND(0.010)	ND(0.010)	0.0084	ND(0.005)	ND(0.010)
WMW-3	7/27/2023	ND(0.005)	ND(0.005)	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.005)	ND(0.010) UJ
WMW-4	8/2/2023	ND(0.005)	ND(0.005)	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.005)	ND(0.010)
WMW-5	8/2/2023	ND(0.005)	ND(0.005)	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.005)	ND(0.010)
WMW-6	7/27/2023	ND(0.005)	ND(0.005)	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.005)	ND(0.010) UJ
WMW-7	8/2/2023	ND(0.005)	ND(0.005)	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.005)	ND(0.010)
WMW-7 Dup	8/2/2023	ND(0.005)	ND(0.005)	ND(0.010) UJ	ND(0.010) J	ND(0.005)	ND(0.005)	ND(0.010)
WMW-8	7/27/2023	ND(0.005)	ND(0.005)	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.005)	ND(0.010) UJ
WMW-9	8/2/2023	ND(0.005)	ND(0.005)	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.005)	ND(0.010)
WMW-10	8/2/2023	ND(0.005)	ND(0.005)	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.005)	ND(0.010)
WMW-11	7/27/2023	ND(0.005)	ND(0.005)	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.005)	ND(0.010) UJ
WQCC Groundwater Standards		0.075	NA	NA	NA	NA	NA	NA

Notes:
Dup - duplicate sample
J - estimated concentration
mg/L - milligrams per liter
NA - not applicable
ND - not detected
SVOC - semi-volatile organic compound
UJ - estimated reporting limit

WQCC Groundwater Standards - New Mexico Water Quality Control Commission Groundwater Quality Standards, New Mexico Administrative Code 20.6.2.3103.

TABLE 4-2. GROUNDWATER SEMI-VOLATILE ORGANIC COMPOUNDS ANALYTICAL DATA (2023)
WESTERN REFINING SOUTHWEST LLC
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Sample Date	Di-n-octylphthalate (mg/L)	Fluoranthene (mg/L)	Fluorene (mg/L)	Hexachlorobenzene (mg/L)	Naphthalene (mg/L)	Pentachlorophenol (mg/L)	Phenol (mg/L)	All Other SVOCs
WMW-1R	8/2/2023	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.020)	ND(0.005)	ND(0.020)	ND(0.010)	ND
WMW-2	7/27/2023	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.020) UJ	0.012	ND(0.020)	0.018	ND
WMW-2 Dup	7/27/2023	ND(0.010) J	ND(0.010) UJ	ND(0.005) UJ	ND(0.020) J	0.014	ND(0.020)	0.023	ND
WMW-3	7/27/2023	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.020)	ND(0.005)	ND(0.020) UJ	ND(0.010)	ND
WMW-4	8/2/2023	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.020)	ND(0.005)	ND(0.020)	ND(0.010)	ND
WMW-5	8/2/2023	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.020)	ND(0.005)	ND(0.020)	ND(0.010)	ND
WMW-6	7/27/2023	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.020)	ND(0.005)	ND(0.020) UJ	ND(0.010)	ND
WMW-7	8/2/2023	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.020)	ND(0.005)	ND(0.020)	ND(0.010)	ND
WMW-7 Dup	8/2/2023	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.020) J	ND(0.005)	ND(0.020)	ND(0.010)	ND
WMW-8	7/27/2023	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.020)	ND(0.005)	ND(0.020) UJ	ND(0.010)	ND
WMW-9	8/2/2023	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.020)	0.0043 J	ND(0.020)	0.021	ND
WMW-10	8/2/2023	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.020)	ND(0.005)	ND(0.020)	ND(0.010)	ND
WMW-11	7/27/2023	ND(0.010)	ND(0.010)	ND(0.005)	ND(0.020)	ND(0.005)	ND(0.020) UJ	ND(0.010)	ND
	WQCC Groundwater Standards	NA	NA	NA	NA	0.03	0.001	NA	NA

Notes:
Dup - duplicate sample
J - estimated concentration
mg/L - milligrams per liter
NA - not applicable
ND - not detected
SVOC - semi-volatile organic compound
UJ - estimated reporting limit

WQCC Groundwater Standards - New Mexico Water Quality Control Commission Groundwater Quality Standards, New Mexico Administrative Code 20.6.2.3103.

TABLE 4-3. GROUNDWATER METALS ANALYTICAL DATA (2023)
WESTERN REFINING SOUTHWEST LLC
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Sample Date	Arsenic, Dissolved (mg/L)	Barium, Dissolved (mg/L)	Cadmium, Dissolved (mg/L)	Calcium, Dissolved (mg/L)	Chromium, Dissolved (mg/L)	Lead, Dissolved (mg/L)	Mercury, Total (mg/L)
WMW-1R	8/2/2023	**0.022**	0.16	ND(0.002)	330	ND(0.006)	ND(0.005)	0.000088 J
WMW-2	7/27/2023	ND(0.005)	0.61	ND(0.002)	36	ND(0.006)	ND(0.005)	ND(0.0002)
WMW-2 Dup	7/27/2023	ND(0.005)	0.62	ND(0.002)	37	ND(0.006)	ND(0.005)	ND(0.0002)
WMW-3	7/27/2023	ND(0.005)	0.016 J	ND(0.002)	160	ND(0.006)	ND(0.005)	ND(0.0002)
WMW-4	8/2/2023	ND(0.005)	0.048	ND(0.002)	23	ND(0.006)	ND(0.005)	ND(0.0002)
WMW-5	8/2/2023	ND(0.005)	0.0058 J	ND(0.002)	240	ND(0.006)	ND(0.005)	ND(0.0002)
WMW-6	7/27/2023	ND(0.005)	0.033	ND(0.002)	34	ND(0.006)	ND(0.005)	ND(0.0002)
WMW-7	8/2/2023	ND(0.005)	0.022	ND(0.002)	28	ND(0.006)	ND(0.005)	ND(0.0002)
WMW-7 Dup	8/2/2023	ND(0.005)	0.022	ND(0.002)	28	ND(0.006)	ND(0.005)	ND(0.0002)
WMW-8	7/27/2023	ND(0.005)	0.13	ND(0.002)	32	ND(0.006)	ND(0.005)	ND(0.0002)
WMW-9	8/2/2023	0.0058	0.71	ND(0.002)	21	ND(0.006)	ND(0.005)	ND(0.0002)
WMW-10	8/2/2023	0.0059	0.81	ND(0.002)	46	ND(0.006)	ND(0.005)	0.0001 J
WMW-11	7/27/2023	0.0028 J	0.13	ND(0.002)	420	0.013	0.0043 J+	ND(0.0002)
	WQCC Groundwater Standards	0.01	2	0.005	NA	0.05	0.015	0.002

Notes:
J+ - the result is an estimated concentration, but may be biased high

Dup - duplicate sample

UJ - estimated reporting limit

J - estimated concentration

mg/L - milligrams per liter

NA - not applicable

ND - not detected

Bolded results exceed the WQCC Groundwater Standard
WQCC Groundwater Standards - New Mexico Water Quality Control Commission Groundwater Quality Standards, New Mexico Administrative Code 20.6.2.3103.

TABLE 4-3. GROUNDWATER METALS ANALYTICAL DATA (2023)
WESTERN REFINING SOUTHWEST LLC
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Sample Date	Selenium, Dissolved (mg/L)	Silver, Dissolved (mg/L)	Sodium, Dissolved (mg/L)	Uranium, Total (mg/L)
WMW-1R	8/2/2023	ND(0.005)	0.0063	610	**0.04**
WMW-2	7/27/2023	ND(0.005)	ND(0.005)	1500	0.000083 J
WMW-2 Dup	7/27/2023	ND(0.005)	ND(0.005)	1500	0.00014 J
WMW-3	7/27/2023	0.0067	0.0025 J	2100	**0.058**
WMW-4	8/2/2023	ND(0.005)	ND(0.005)	600	0.0013
WMW-5	8/2/2023	0.0046 J	0.005 J	1200	0.022
WMW-6	7/27/2023	0.0051	ND(0.005)	300	0.0085
WMW-7	8/2/2023	ND(0.005)	ND(0.005)	840	0.028
WMW-7 Dup	8/2/2023	0.0042 J	0.0012 J	820	0.028
WMW-8	7/27/2023	ND(0.005)	ND(0.005)	260	0.013
WMW-9	8/2/2023	0.0041 J	ND(0.005)	840	0.0091
WMW-10	8/2/2023	ND(0.005)	ND(0.005)	800	0.003
WMW-11	7/27/2023	0.03	0.0029 J	1700	**0.078**
	WQCC Groundwater Standards	0.05	0.05	NA	0.03

Notes:
J+ - the result is an estimated concentration, but may be biased high

Dup - duplicate sample

UJ - estimated reporting limit

J - estimated concentration

mg/L - milligrams per liter

NA - not applicable

ND - not detected

Bolded results exceed the WQCC Groundwater Standard
WQCC Groundwater Standards - New Mexico Water Quality Control Commission Groundwater Quality Standards, New Mexico Administrative Code 20.6.2.3103.

TABLE 4-4. GROUNDWATER GENERAL CHEMISTRY ANALYTICAL DATA (2023)
WESTERN REFINING SOUTHWEST LLC
MARATHON WINGATE FACILITY, GALLUP, NEW MEXICO

Location	Sample Date	Alkalinity (mg/L CaCO3)	Bicarbonate as CaCO3 (mg/L CaCO3)	Carbonate (mg/L CaCO3)	Chloride (mg/L)	Nitrogen, Nitrate (mg/L)	Nitrogen, Nitrite (mg/L)	pH (Std Units)	Solids, Total Dissolved (mg/L)	Sulfate (mg/L)
WMW-1R	8/2/2023	586	586	ND(2)	**400**	0.27 J	ND(0.5)	7.6 J	**3,080**	**1,200**
WMW-2	7/27/2023	2,094	2,094	ND(5)	**820**	ND(0.5)	ND(0.5)	7.64 J	**3,680**	ND(2.5)
WMW-2 Dup	7/27/2023	2,126	2,126	ND(5)	**810**	ND(0.5)	ND(0.5)	7.81 J	**3,830**	ND(2.5)
WMW-3	7/27/2023	1,126	1,126	ND(2)	**1,200**	0.11 J	ND(0.5)	7.45 J	**6,290**	**2,100**
WMW-4	8/2/2023	779.7	779.7	ND(2)	170	0.25 J	ND(0.5)	8 J	**1,700**	380
WMW-5	8/2/2023	752.1	752.1	ND(2)	**480**	0.13	ND(2)	7.45 J	**4,490**	**2,100**
WMW-6	7/27/2023	462.4	462.4	ND(2)	65	ND(0.5)	ND(0.5)	7.85 J	996	260
WMW-7	8/2/2023	712.6	712.6	ND(2)	190	ND(0.1)	ND(0.1)	8.13 J	**2,460**	**880**
WMW-7 Dup	8/2/2023	722.2	722.2	ND(2)	190	ND(0.1)	ND(0.1)	8.25 J	**2,460**	**880**
WMW-8	7/27/2023	515.4	515.4	ND(2)	31	ND(0.5)	ND(0.5)	7.94 J	834	160
WMW-9	8/2/2023	1,322	1,322	ND(5)	**380**	ND(0.5)	ND(0.5)	8.03 J	**2,170**	15
WMW-10	8/2/2023	1,339	1,339	ND(5)	**500**	ND(0.5)	ND(0.5)	7.88 J	**2,370**	74
WMW-11	7/27/2023	526	526	ND(2)	**1,200**	**18**	ND(0.5)	7.65 J	**6,380**	**2,500**
WQCC Groundwater Standards		NA	NA	NA	250	10	1	6 - 9	1,000	600

Notes:

$CaCO_3$ - Calcium carbonate

Dup - duplicate sample

J - estimated concentration

mg/L - milligrams per liter

NA - not applicable

ND - not detected

Std Units - Standard Units

Bolded results exceed the WQCC Groundwater Standard

WQCC Groundwater Standards - New Mexico Water Quality Control Commission Groundwater Quality Standards, New Mexico Administrative Code 20.6.2.3103.

Appendix A. Field Logs

WESTERN REFINING - GALLUP WINGATE FACILITY

2023 ANNUAL GROUNDWATER SAMPLING

WELL ID		TEST PARAMETERS										
WMW-1R		Volumes	TIME	pH	Temperature Degrees (°C)	Conductivity (uS/m)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)	Turbidity (NTU)
GAUGE DATE	8/2	Initial	11:05	6.86	12.6	3.8	2.45	1.98	0.94	48.3	40.67
GAUGE TIME		1	11:09	6.83	12.7	3.2	2.11	1.70	0.68	52.1	40.08
DHC (FEET)	NA	2	11:10	6.79	12.7	3.1	2.07	1.67	0.48	52.6	39.20
DTW (FEET)	10.48	3									
DTB (FEET)	19.10	4									
		5									
CAPACITY PER FOOT	0.653 - 4"	6									
	0.163 - 2"										

SAMPLING DATA

SAMPLE DATE	8/2
DTW (FEET)	10.48
SAMPLE TIME	11:00

WEATHER CONDITIONS: Sunny

WATER APPEARANCE / ODOR: Clear / No odor

COMMENTS:

SAMPLE LOG

INSTRUMENTS USED	OIL / WATER INTERFACE PROBE
	PERISTALTIC PUMP
	FLOW THROUGH YSI PARAMETER METER

COMPLETED BY: _____ SIGNATURE: _____

WESTERN REFINING - GALLUP WINGATE FACILITY

2023 ANNUAL GROUNDWATER SAMPLING

WELL ID		TEST PARAMETERS										
WMW-2		Volumes	TIME	pH	Temperature Degrees (°C)	Conductivity (uS/m)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)	Turbidity (NTU)
GAUGE DATE	7-27-23	Initial	8:06	6.61	9.9	5.1	3.31	2.76	4.86	-100.5	27.98
GAUGE TIME		1	8:05	6.08	10.1	5.0	3.29	2.74	4.46	-103.3	26.91
DHC (FEET)	NA	2	8:10	6.11	10.3	5.0	3.31	2.75	4.21	-104.9	26.98
DTW (FEET)	7.92	3									
DTB (FEET)	21.09	4									
		5									
CAPACITY PER FOOT	0.653 - 4"	6									
	0.163 - 2"										

SAMPLING DATA

SAMPLE DATE	7/27	WEATHER CONDITIONS: Sunny
DTW (FEET)	7.92	WATER APPEARANCE / ODOR:
SAMPLE TIME	8:00	COMMENTS: Dup collected - Dup-7-27-23

SAMPLE LOG

INSTRUMENTS USED	OIL / WATER INTERFACE PROBE
	PERISTALTIC PUMP
	FLOW THROUGH YSI PARAMETER METER

COMPLETED BY: _____ SIGNATURE: _____

WESTERN REFINING - GALLUP WINGATE FACILITY

2023 ANNUAL GROUNDWATER SAMPLING

WELL ID		TEST PARAMETERS										
WMW-3		Volumes	TIME	pH	Temperature Degrees (°C)	Conductivity (uS/m)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)	Turbidity (NTU)
GAUGE DATE	7/27	Initial	9:20	6.20	11.8	7.5	4.86	4.15	6.54	-1.4	18.72
GAUGE TIME		1	9:25	6.28	12.4	7.4	4.85	4.14	6.40	2.5	12.81
DHC (FEET)	N.A	2	9:30	6.30	12.2	7.3	4.83	4.14	6.39	3.6	17.01
DTW (FEET)	7.77	3									
DTB (FEET)	10.17	4									
		5									
CAPACITY PER FOOT	0.653 - 4"	6									
	0.163 - 2"										

SAMPLING DATA

SAMPLE DATE	7/27
DTW (FEET)	7.77
SAMPLE TIME	9:20

WEATHER CONDITIONS: Sunny

WATER APPEARANCE / ODOR: Clear / No odo

COMMENTS:

SAMPLE LOG

INSTRUMENTS USED	OIL / WATER INTERFACE PROBE
	PERISTALTIC PUMP
	FLOW THROUGH YSI PARAMETER METER

COMPLETED BY: _____ SIGNATURE: _____

WESTERN REFINING - GALLUP WINGATE FACILITY

2023 ANNUAL GROUNDWATER SAMPLING

WELL ID		TEST PARAMETERS									
WMW-4		Volumes	TIME	pH	Temperature Degrees (°C)	Conductivity (uS/m)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)	Turbidity (NTU)
GAUGE DATE	8/2	Initial	10:10	6.33	11.2	2.21	1.43	1.14	2.01	-10.2	21.09
GAUGE TIME		1	10:14	6.31	11.5	2.20	1.44	1.15	2.02	1.4	20.85
DHC (FEET)	NA	2	10:19	6.30	11.6	2.19	1.43	1.14	1.87	5.1	20.18
DTW (FEET)	8.12	3									
DTB (FEET)	21.03	4									
		5									
CAPACITY PER FOOT	0.653 - 4"	6									
	0.163 - 2"										

SAMPLING DATA

SAMPLE DATE: 8/2	WEATHER CONDITIONS: Sunny
DTW (FEET): 8.12	WATER APPEARANCE / ODOR: Brownish / No odor
SAMPLE TIME: 10:10	COMMENTS:

SAMPLE LOG

INSTRUMENTS USED	OIL / WATER INTERFACE PROBE
	PERISTALTIC PUMP
	FLOW THROUGH YSI PARAMETER METER

COMPLETED BY: _____ SIGNATURE: _____

WESTERN REFINING - GALLUP WINGATE FACILITY

2023 ANNUAL GROUNDWATER SAMPLING

WELL ID		TEST PARAMETERS										
WMW-5		Volumes	TIME	pH	Temperature Degrees (°C)	Conductivity (uS/m)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)	Turbidity (NTU)
GAUGE DATE	8/2	Initial	10:30	6.75	14.6	4.7	3.06	2.54	15.86	27.9	0.78
GAUGE TIME		1	10:35	6.70	14.3	4.6	3.02	2.50	15.30	26.8	0.81
DHC (FEET)	NA	2	10:40	6.76	14.2	4.6	3.01	2.49	15.13	37.5	0.95
DTW (FEET)	6.75	3									
DTB (FEET)	20.14	4									
		5									
CAPACITY PER FOOT	0.653 - 4"	6									
	0.163 - 2"										

SAMPLING DATA

SAMPLE DATE	8/2	WEATHER CONDITIONS: Sunny
DTW (FEET)	6.75	WATER APPEARANCE / ODOR: Clear / No odor
SAMPLE TIME	10:30	COMMENTS:

SAMPLE LOG

INSTRUMENTS USED	OIL / WATER INTERFACE PROBE
	PERISTALTIC PUMP
	FLOW THROUGH YSI PARAMETER METER

COMPLETED BY: _____ SIGNATURE: _____

WESTERN REFINING - GALLUP WINGATE FACILITY

2023 ANNUAL GROUNDWATER SAMPLING

WELL ID		TEST PARAMETERS									
WMW-6		Volumes	TIME	pH	Temperature Degrees (°C)	Conductivity (uS/m)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)	Turbidity (NTU)
GAUGE DATE	7/27	Initial	8:45	6.1	9.1	1.32	0.862	0.67	1.51	-8.7	83.71
GAUGE TIME		1	8:50	5.9	9.0	1.31	0.855	0.66	1.31	-7.4	85.62
DHC (FEET)	NA	2	8:55	5.8	9.1	1.31	0.853	0.67	1.31	-7.0	88.15
DTW (FEET)	12.51	3									
DTB (FEET)	29.94	4									
		5									
CAPACITY PER FOOT	0.653 - 4"	6									
	0.163 - 2"										

SAMPLING DATA

SAMPLE DATE	7/27	WEATHER CONDITIONS: Sunny
DTW (FEET)	12.51	WATER APPEARANCE / ODOR:
SAMPLE TIME	8:45	COMMENTS:

SAMPLE LOG

INSTRUMENTS USED	OIL / WATER INTERFACE PROBE
	PERISTALTIC PUMP
	FLOW THROUGH YSI PARAMETER METER

COMPLETED BY: _____ SIGNATURE: _____

WESTERN REFINING - GALLUP WINGATE FACILITY

2023 ANNUAL GROUNDWATER SAMPLING

WELL ID		TEST PARAMETERS									
WMW-7		Volumes	TIME	pH	Temperature Degrees (°C)	Conductivity (uS/m)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)	Turbidity (NTU)
GAUGE DATE	8-2	Initial	8:30	5.93	12.1	3.05	1.98	1.60	23.91	18.1	9.31
GAUGE TIME		1	8:35	5.95	12.2	3.03	1.98	1.60	23.53	25.9	9.40
DHC (FEET)	NA	2	8:40	5.92	11.7	3.05	1.96	1.61	23.40	29.9	9.81
DTW (FEET)	8.71	3									
DTB (FEET)	17.83	4									
		5									
CAPACITY PER FOOT	0.653 - 4"	6									
	0.163 - 2"										

SAMPLING DATA

SAMPLE DATE	8-2
DTW (FEET)	8.71
SAMPLE TIME	8:30

WEATHER CONDITIONS: Sunny 90°F

WATER APPEARANCE / ODOR: Clear / no odor

COMMENTS: DUP Collected 8-2-23

SAMPLE LOG

INSTRUMENTS USED	
	OIL / WATER INTERFACE PROBE
	PERISTALTIC PUMP
	FLOW THROUGH YSI PARAMETER METER

COMPLETED BY: _____ SIGNATURE: _____

WESTERN REFINING - GALLUP WINGATE FACILITY

2023 ANNUAL GROUNDWATER SAMPLING

WELL ID		TEST PARAMETERS									
WMW-8		Volumes	TIME	pH	Temperature Degrees (°C)	Conductivity (uS/m)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)	Turbidity (NTU)
GAUGE DATE	7/27	Initial	9:56	6.18	8.48	1.12	0.721	0.55	1.79	13.1	10.73
GAUGE TIME		1	9:58	6.10	9.17	1.10	0.[illegible]	0.55	1.16	14.3	10.85
DHC (FEET)	NA	2	10:06	6.04	9.14	1.09	0.714	0.56	0.660	17.0	10.92
DTW (FEET)	8.16	3									
DTB (FEET)	38.93	4									
		5									
CAPACITY PER FOOT	0.653 - 4"	6									
	0.163 - 2"										

SAMPLING DATA

SAMPLE DATE: 7/27	WEATHER CONDITIONS: Sunny
DTW (FEET): 8.16	WATER APPEARANCE / ODOR: Clear / No odor
SAMPLE TIME: 0[illegible]:50	COMMENTS:

SAMPLE LOG

INSTRUMENTS USED	OIL / WATER INTERFACE PROBE
	PERISTALTIC PUMP
	FLOW THROUGH YSI PARAMETER METER

COMPLETED BY: _____ SIGNATURE: _____

WESTERN REFINING - GALLUP WINGATE FACILITY

2023 ANNUAL GROUNDWATER SAMPLING

WELL ID		TEST PARAMETERS										
WMW-9		Volumes	TIME	pH	Temperature Degrees (°C)	Conductivity (uS/m)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)	Turbidity (NTU)
GAUGE DATE	8/2	Initial	9:45	6.61	10.4	3.23	2.10	1.68	22.50	-103.2	8.73
GAUGE TIME		1	9:50	6.63	10.6	2.03	1.29	1.42	28.9	-186.7	8.93
DHC (FEET)	NA	2	9:55	7.12	10.9	1.93	1.28	1.40	29.1	-196.9	8.95
DTW (FEET)	6.51	3									
DTB (FEET)	15.29	4									
		5									
CAPACITY PER FOOT	0.653 - 4"	6									
	0.163 - 2"										

SAMPLING DATA

SAMPLE DATE	8/2	WEATHER CONDITIONS: Sunny 86°F
DTW (FEET)	6.51	WATER APPEARANCE / ODOR: Clear No odor
SAMPLE TIME	9:45	COMMENTS:

SAMPLE LOG

INSTRUMENTS USED	OIL / WATER INTERFACE PROBE
	PERISTALTIC PUMP
	FLOW THROUGH YSI PARAMETER METER

COMPLETED BY: _____ SIGNATURE: _____

WESTERN REFINING - GALLUP WINGATE FACILITY

2023 ANNUAL GROUNDWATER SAMPLING

WELL ID		TEST PARAMETERS										
WMW-10		Volumes	TIME	pH	Temperature Degrees (°C)	Conductivity (uS/m)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)	Turbidity (NTU)
GAUGE DATE	8/2	Initial	9:30	6.31	11.50	3.43	2.23	1.81	1.14	-82.9	267.2
GAUGE TIME		1	9:35	6.30	11.10	3.45	2.53	1.82	0.77	-86.9	266.20
DHC (FEET)	NA	2	9:40	6.31	11.3	3.44	2.55	1.82	0.74	-91.2	263.63
DTW (FEET)	5.86	3									
DTB (FEET)	14.03	4									
		5									
CAPACITY PER FOOT	0.653 - 4" / 0.163 - 2"	6									

SAMPLING DATA

SAMPLE DATE	8/2	WEATHER CONDITIONS: Sunny 86°F
DTW (FEET)	5.88	WATER APPEARANCE / ODOR: Brownish / No odor
SAMPLE TIME	9:30	COMMENTS:

SAMPLE LOG

INSTRUMENTS USED	OIL / WATER INTERFACE PROBE
	PERISTALTIC PUMP
	FLOW THROUGH YSI PARAMETER METER

COMPLETED BY: _____ SIGNATURE: _____

WESTERN REFINING - GALLUP WINGATE FACILITY

2023 ANNUAL GROUNDWATER SAMPLING

WELL ID		TEST PARAMETERS										
MW-11		Volumes	TIME	pH	Temperature Degrees (°C)	Conductivity (uS/m)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)	Turbidity (NTU)
GAUGE DATE	7/27	Initial	10:40	6.32	12.2	5.34	4.590	3.90	3.43	12.9	91.92
GAUGE TIME		1	10:45	6.33	12.3	5.33	4.573	3.89	2.82	20.1	98.30
DHC (FEET)	N/A	2	10:50	6.34	12.5	5.359	4.575	3.89	3.02	20.9	97.44
DTW (FEET)	16.54	3									
DTB (FEET)	24.38	4									
		5									
CAPACITY PER FOOT	0.653 - 4" / 0.163 - 2"	6									

SAMPLING DATA

SAMPLE DATE: 7/27	WEATHER CONDITIONS: Sunny
DTW (FEET): 16.54	WATER APPEARANCE / ODOR: Brownish / No odor
SAMPLE TIME: 10:40	COMMENTS:

SAMPLE LOG

INSTRUMENTS USED	OIL / WATER INTERFACE PROBE
	PERISTALTIC PUMP
	FLOW THROUGH YSI PARAMETER METER

COMPLETED BY: _____ SIGNATURE: _____

Appendix B. Laboratory Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

August 16, 2023

Caitlin Fields

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

RE: Wingate 2023 Annual GW Sampling OrderNo.: 2307D89

Dear Caitlin Fields:

Hall Environmental Analysis Laboratory received 9 sample(s) on 7/28/2023 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 **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** EB-7-27-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 7:30:00 AM
Lab ID: 2307D89-001 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	ND	0.25	0.50		mg/L	1	7/28/2023 2:27:27 PM	R98598
Nitrogen, Nitrite (As N)	ND	0.011	0.10		mg/L	1	7/28/2023 2:27:27 PM	R98598
Nitrogen, Nitrate (As N)	ND	0.020	0.10		mg/L	1	7/28/2023 2:27:27 PM	R98598
Sulfate	0.40	0.25	0.50	J	mg/L	1	7/28/2023 2:27:27 PM	R98598
EPA 200.8: METALS							Analyst: **bcv**	
Uranium	ND	0.000076	0.00050		mg/L	1	7/31/2023 3:29:13 PM	A98622
EPA METHOD 6020A: DISSOLVED METALS							Analyst: **ELS**	
Arsenic	ND	0.00050	0.0010		mg/L	1	8/4/2023 1:37:59 PM	D98751
Lead	ND	0.00050	0.0010		mg/L	1	8/4/2023 1:37:59 PM	D98751
Selenium	ND	0.00080	0.0010		mg/L	1	8/4/2023 1:37:59 PM	D98751
EPA METHOD 7470A: MERCURY							Analyst: **tem**	
Mercury	ND	0.000081	0.00020		mg/L	1	8/1/2023 12:21:51 PM	76568
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **VP**	
Barium	ND	0.00074	0.020		mg/L	1	7/31/2023 8:59:29 AM	A98597
Cadmium	ND	0.00083	0.0020		mg/L	1	7/31/2023 8:59:29 AM	A98597
Calcium	ND	0.089	1.0		mg/L	1	7/31/2023 8:59:29 AM	A98597
Chromium	ND	0.00099	0.0060		mg/L	1	7/31/2023 8:59:29 AM	A98597
Silver	ND	0.0012	0.0050		mg/L	1	7/31/2023 8:59:29 AM	A98597
Sodium	ND	0.30	1.0		mg/L	1	7/31/2023 8:59:29 AM	A98597
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Acenaphthene	ND	3.3	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
Acenaphthylene	ND	4.6	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
Aniline	ND	5.4	10		µg/L	1	8/2/2023 2:16:31 PM	76542
Anthracene	ND	3.9	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
Azobenzene	ND	3.8	10		µg/L	1	8/2/2023 2:16:31 PM	76542
Benz(a)anthracene	ND	6.7	10		µg/L	1	8/2/2023 2:16:31 PM	76542
Benzo(a)pyrene	ND	4.9	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
Benzo(b)fluoranthene	ND	5.7	10		µg/L	1	8/2/2023 2:16:31 PM	76542
Benzo(g,h,i)perylene	ND	4.9	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
Benzo(k)fluoranthene	ND	4.5	10		µg/L	1	8/2/2023 2:16:31 PM	76542
Benzoic acid	ND	15	20		µg/L	1	8/2/2023 2:16:31 PM	76542
Benzyl alcohol	ND	4.8	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	8/2/2023 2:16:31 PM	76542
Bis(2-chloroethyl)ether	ND	5.0	10		µg/L	1	8/2/2023 2:16:31 PM	76542
Bis(2-chloroisopropyl)ether	ND	3.6	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
Bis(2-ethylhexyl)phthalate	ND	7.0	10		µg/L	1	8/2/2023 2:16:31 PM	76542
4-Bromophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542

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 **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** EB-7-27-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 7:30:00 AM
Lab ID: 2307D89-001 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Butyl benzyl phthalate	ND	6.5	10		µg/L	1	8/2/2023 2:16:31 PM	76542
Carbazole	ND	5.3	10		µg/L	1	8/2/2023 2:16:31 PM	76542
4-Chloro-3-methylphenol	ND	4.6	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
4-Chloroaniline	ND	4.7	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
2-Chloronaphthalene	ND	3.2	10		µg/L	1	8/2/2023 2:16:31 PM	76542
2-Chlorophenol	ND	4.5	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
4-Chlorophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
Chrysene	ND	4.7	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
Di-n-butyl phthalate	ND	19	20		µg/L	1	8/2/2023 2:16:31 PM	76542
Di-n-octyl phthalate	ND	5.6	10		µg/L	1	8/2/2023 2:16:31 PM	76542
Dibenz(a,h)anthracene	ND	4.9	10		µg/L	1	8/2/2023 2:16:31 PM	76542
Dibenzofuran	ND	4.9	10		µg/L	1	8/2/2023 2:16:31 PM	76542
1,2-Dichlorobenzene	ND	2.9	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
1,3-Dichlorobenzene	ND	3.0	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
1,4-Dichlorobenzene	ND	1.8	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
3,3´-Dichlorobenzidine	ND	5.9	10		µg/L	1	8/2/2023 2:16:31 PM	76542
Diethyl phthalate	ND	5.6	10		µg/L	1	8/2/2023 2:16:31 PM	76542
Dimethyl phthalate	ND	5.4	10		µg/L	1	8/2/2023 2:16:31 PM	76542
2,4-Dichlorophenol	ND	3.8	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
2,4-Dimethylphenol	ND	4.8	10		µg/L	1	8/2/2023 2:16:31 PM	76542
4,6-Dinitro-2-methylphenol	ND	4.2	10		µg/L	1	8/2/2023 2:16:31 PM	76542
2,4-Dinitrophenol	ND	4.7	10		µg/L	1	8/2/2023 2:16:31 PM	76542
2,4-Dinitrotoluene	ND	5.0	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
2,6-Dinitrotoluene	ND	5.3	10		µg/L	1	8/2/2023 2:16:31 PM	76542
Fluoranthene	ND	5.5	10		µg/L	1	8/2/2023 2:16:31 PM	76542
Fluorene	ND	4.7	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
Hexachlorobenzene	ND	4.6	20		µg/L	1	8/2/2023 2:16:31 PM	76542
Hexachlorobutadiene	ND	2.5	20		µg/L	1	8/2/2023 2:16:31 PM	76542
Hexachlorocyclopentadiene	ND	2.2	20		µg/L	1	8/2/2023 2:16:31 PM	76542
Hexachloroethane	ND	2.8	20		µg/L	1	8/2/2023 2:16:31 PM	76542
Indeno(1,2,3-cd)pyrene	ND	5.3	10		µg/L	1	8/2/2023 2:16:31 PM	76542
Isophorone	ND	4.3	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
1-Methylnaphthalene	ND	3.1	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
2-Methylnaphthalene	ND	2.4	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
2-Methylphenol	ND	4.7	10		µg/L	1	8/2/2023 2:16:31 PM	76542
3+4-Methylphenol	ND	4.9	10		µg/L	1	8/2/2023 2:16:31 PM	76542
N-Nitrosodi-n-propylamine	ND	3.7	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
N-Nitrosodimethylamine	ND	3.1	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
N-Nitrosodiphenylamine	ND	5.2	10		µg/L	1	8/2/2023 2:16:31 PM	76542

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

Qualifiers:

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

Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** EB-7-27-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 7:30:00 AM
Lab ID: 2307D89-001 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Naphthalene	ND	3.2	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
2-Nitroaniline	ND	5.0	10		µg/L	1	8/2/2023 2:16:31 PM	76542
3-Nitroaniline	ND	5.0	10		µg/L	1	8/2/2023 2:16:31 PM	76542
4-Nitroaniline	ND	4.5	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
Nitrobenzene	ND	3.6	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
2-Nitrophenol	ND	4.4	10		µg/L	1	8/2/2023 2:16:31 PM	76542
4-Nitrophenol	ND	2.9	10		µg/L	1	8/2/2023 2:16:31 PM	76542
Pentachlorophenol	ND	4.9	20		µg/L	1	8/2/2023 2:16:31 PM	76542
Phenanthrene	ND	4.8	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
Phenol	ND	3.9	10		µg/L	1	8/2/2023 2:16:31 PM	76542
Pyrene	ND	5.2	10		µg/L	1	8/2/2023 2:16:31 PM	76542
Pyridine	ND	31	40		µg/L	1	8/2/2023 2:16:31 PM	76542
1,2,4-Trichlorobenzene	ND	2.6	5.0		µg/L	1	8/2/2023 2:16:31 PM	76542
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	8/2/2023 2:16:31 PM	76542
2,4,6-Trichlorophenol	ND	4.1	10		µg/L	1	8/2/2023 2:16:31 PM	76542
Surr: 2-Fluorophenol	38.9	0	15-84.1		%Rec	1	8/2/2023 2:16:31 PM	76542
Surr: Phenol-d5	28.3	0	16.5-50.7		%Rec	1	8/2/2023 2:16:31 PM	76542
Surr: 2,4,6-Tribromophenol	40.9	0	15-133		%Rec	1	8/2/2023 2:16:31 PM	76542
Surr: Nitrobenzene-d5	45.4	0	30.9-86.8		%Rec	1	8/2/2023 2:16:31 PM	76542
Surr: 2-Fluorobiphenyl	39.5	0	24.3-77.2		%Rec	1	8/2/2023 2:16:31 PM	76542
Surr: 4-Terphenyl-d14	54.1	0	52.3-118		%Rec	1	8/2/2023 2:16:31 PM	76542
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	ND	0.23	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Toluene	ND	0.20	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Ethylbenzene	ND	0.21	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
1,2,4-Trimethylbenzene	ND	0.12	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
1,2-Dichloroethane (EDC)	ND	0.30	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Naphthalene	ND	0.24	2.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
2-Methylnaphthalene	ND	0.69	4.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Acetone	ND	2.5	10		µg/L	1	8/1/2023 8:10:00 PM	R98639
Bromobenzene	ND	0.28	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Bromodichloromethane	ND	0.20	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Bromoform	ND	0.31	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Bromomethane	ND	0.85	3.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
2-Butanone	2.5	2.0	10	J	µg/L	1	8/1/2023 8:10:00 PM	R98639

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Qualifiers:

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Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** EB-7-27-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 7:30:00 AM
Lab ID: 2307D89-001 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Carbon disulfide	ND	0.59	10		µg/L	1	8/1/2023 8:10:00 PM	R98639
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Chlorobenzene	ND	0.46	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Chloroethane	ND	0.38	2.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Chloroform	ND	0.13	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Chloromethane	1.8	0.41	3.0	J	µg/L	1	8/1/2023 8:10:00 PM	R98639
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
cis-1,3-Dichloropropene	ND	0.12	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Dibromochloromethane	ND	0.28	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Dibromomethane	ND	0.31	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
1,4-Dichlorobenzene	ND	0.10	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
1,1-Dichloroethane	ND	0.30	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
1,1-Dichloroethene	ND	0.20	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
1,2-Dichloropropane	ND	0.20	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
1,1-Dichloropropene	ND	0.18	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Hexachlorobutadiene	ND	0.42	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
2-Hexanone	ND	1.8	10		µg/L	1	8/1/2023 8:10:00 PM	R98639
Isopropylbenzene	ND	0.18	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
4-Methyl-2-pentanone	ND	0.67	10		µg/L	1	8/1/2023 8:10:00 PM	R98639
Methylene Chloride	ND	0.50	3.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
n-Butylbenzene	ND	0.13	3.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
n-Propylbenzene	ND	0.11	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
sec-Butylbenzene	ND	0.14	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Styrene	ND	0.14	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Tetrachloroethene (PCE)	ND	0.18	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
trans-1,2-DCE	ND	0.19	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639

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PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
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Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** EB-7-27-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 7:30:00 AM
Lab ID: 2307D89-001 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
1,2,3-Trichlorobenzene	ND	0.25	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
1,1,1-Trichloroethane	ND	0.081	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
1,1,2-Trichloroethane	ND	0.20	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Trichloroethene (TCE)	ND	0.20	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Trichlorofluoromethane	ND	0.16	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
1,2,3-Trichloropropane	ND	0.16	2.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Vinyl chloride	ND	0.32	1.0		µg/L	1	8/1/2023 8:10:00 PM	R98639
Xylenes, Total	ND	0.37	1.5		µg/L	1	8/1/2023 8:10:00 PM	R98639
Surr: 1,2-Dichloroethane-d4	115	0	70-130		%Rec	1	8/1/2023 8:10:00 PM	R98639
Surr: 4-Bromofluorobenzene	120	0	70-130		%Rec	1	8/1/2023 8:10:00 PM	R98639
Surr: Dibromofluoromethane	115	0	70-130		%Rec	1	8/1/2023 8:10:00 PM	R98639
Surr: Toluene-d8	111	0	70-130		%Rec	1	8/1/2023 8:10:00 PM	R98639
SM4500-H+B / 9040C: PH							Analyst: **RBC**	
pH	5.16			H	pH units	1	7/28/2023 1:18:17 PM	R98591
SM2320B: ALKALINITY							Analyst: **RBC**	
Bicarbonate (As CaCO3)	ND	20.00	20.00		mg/L Ca	1	7/28/2023 1:18:17 PM	R98591
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	7/28/2023 1:18:17 PM	R98591
Total Alkalinity (as CaCO3)	ND	20.00	20.00		mg/L Ca	1	7/28/2023 1:18:17 PM	R98591
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **JAG**	
Total Dissolved Solids	ND	25.0	50.0		mg/L	1	8/1/2023 2:10:00 PM	76576

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P	Sample pH Not In Range
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Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-2
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 8:00:00 AM
Lab ID: 2307D89-002 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	820	25	50	*	mg/L	100	8/4/2023 12:39:59 PM	R98760
Nitrogen, Nitrite (As N)	ND	0.057	0.50		mg/L	5	7/28/2023 3:16:50 PM	R98598
Nitrogen, Nitrate (As N)	ND	0.10	0.50		mg/L	5	7/28/2023 3:16:50 PM	R98598
Sulfate	ND	1.2	2.5		mg/L	5	7/28/2023 3:16:50 PM	R98598
EPA 200.8: METALS							Analyst: **bcv**	
Uranium	0.000083	0.000076	0.00050	J	mg/L	1	8/1/2023 12:51:37 PM	76558
EPA METHOD 6020A: DISSOLVED METALS							Analyst: **ELS**	
Arsenic	ND	0.0025	0.0050		mg/L	5	8/4/2023 1:55:55 PM	D98751
Lead	ND	0.0025	0.0050		mg/L	5	8/4/2023 1:55:55 PM	D98751
Selenium	ND	0.0040	0.0050		mg/L	5	8/4/2023 1:55:55 PM	D98751
EPA METHOD 7470A: MERCURY							Analyst: **tem**	
Mercury	ND	0.000081	0.00020		mg/L	1	8/1/2023 12:24:09 PM	76568
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **VP**	
Barium	0.61	0.00074	0.020		mg/L	1	7/31/2023 9:05:38 AM	A98597
Cadmium	ND	0.00083	0.0020		mg/L	1	7/31/2023 9:05:38 AM	A98597
Calcium	36	0.089	1.0		mg/L	1	7/31/2023 9:05:38 AM	A98597
Chromium	ND	0.00099	0.0060		mg/L	1	7/31/2023 9:05:38 AM	A98597
Silver	ND	0.0012	0.0050		mg/L	1	7/31/2023 9:05:38 AM	A98597
Sodium	1500	5.9	20		mg/L	20	7/31/2023 10:05:12 AM	A98597
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Acenaphthene	ND	3.3	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
Acenaphthylene	ND	4.6	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
Aniline	ND	5.4	10		µg/L	1	8/2/2023 2:58:37 PM	76542
Anthracene	ND	3.9	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
Azobenzene	ND	3.8	10		µg/L	1	8/2/2023 2:58:37 PM	76542
Benz(a)anthracene	ND	6.7	10		µg/L	1	8/2/2023 2:58:37 PM	76542
Benzo(a)pyrene	ND	4.9	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
Benzo(b)fluoranthene	ND	5.7	10		µg/L	1	8/2/2023 2:58:37 PM	76542
Benzo(g,h,i)perylene	ND	4.9	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
Benzo(k)fluoranthene	ND	4.5	10		µg/L	1	8/2/2023 2:58:37 PM	76542
Benzoic acid	ND	15	20		µg/L	1	8/2/2023 2:58:37 PM	76542
Benzyl alcohol	ND	4.8	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	8/2/2023 2:58:37 PM	76542
Bis(2-chloroethyl)ether	ND	5.0	10		µg/L	1	8/2/2023 2:58:37 PM	76542
Bis(2-chloroisopropyl)ether	ND	3.6	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
Bis(2-ethylhexyl)phthalate	ND	7.0	10		µg/L	1	8/2/2023 2:58:37 PM	76542
4-Bromophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542

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Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-2
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 8:00:00 AM
Lab ID: 2307D89-002 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Butyl benzyl phthalate	ND	6.5	10		µg/L	1	8/2/2023 2:58:37 PM	76542
Carbazole	ND	5.3	10		µg/L	1	8/2/2023 2:58:37 PM	76542
4-Chloro-3-methylphenol	ND	4.6	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
4-Chloroaniline	ND	4.7	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
2-Chloronaphthalene	ND	3.2	10		µg/L	1	8/2/2023 2:58:37 PM	76542
2-Chlorophenol	ND	4.5	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
4-Chlorophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
Chrysene	ND	4.7	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
Di-n-butyl phthalate	ND	19	20		µg/L	1	8/2/2023 2:58:37 PM	76542
Di-n-octyl phthalate	ND	5.6	10		µg/L	1	8/2/2023 2:58:37 PM	76542
Dibenz(a,h)anthracene	ND	4.9	10		µg/L	1	8/2/2023 2:58:37 PM	76542
Dibenzofuran	ND	4.9	10		µg/L	1	8/2/2023 2:58:37 PM	76542
1,2-Dichlorobenzene	ND	2.9	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
1,3-Dichlorobenzene	ND	3.0	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
1,4-Dichlorobenzene	ND	1.8	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
3,3´-Dichlorobenzidine	ND	5.9	10		µg/L	1	8/2/2023 2:58:37 PM	76542
Diethyl phthalate	ND	5.6	10		µg/L	1	8/2/2023 2:58:37 PM	76542
Dimethyl phthalate	ND	5.4	10		µg/L	1	8/2/2023 2:58:37 PM	76542
2,4-Dichlorophenol	ND	3.8	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
2,4-Dimethylphenol	ND	4.8	10		µg/L	1	8/2/2023 2:58:37 PM	76542
4,6-Dinitro-2-methylphenol	ND	4.2	10		µg/L	1	8/2/2023 2:58:37 PM	76542
2,4-Dinitrophenol	ND	4.7	10		µg/L	1	8/2/2023 2:58:37 PM	76542
2,4-Dinitrotoluene	ND	5.0	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
2,6-Dinitrotoluene	ND	5.3	10		µg/L	1	8/2/2023 2:58:37 PM	76542
Fluoranthene	ND	5.5	10		µg/L	1	8/2/2023 2:58:37 PM	76542
Fluorene	ND	4.7	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
Hexachlorobenzene	ND	4.6	20		µg/L	1	8/2/2023 2:58:37 PM	76542
Hexachlorobutadiene	ND	2.5	20		µg/L	1	8/2/2023 2:58:37 PM	76542
Hexachlorocyclopentadiene	ND	2.2	20		µg/L	1	8/2/2023 2:58:37 PM	76542
Hexachloroethane	ND	2.8	20		µg/L	1	8/2/2023 2:58:37 PM	76542
Indeno(1,2,3-cd)pyrene	ND	5.3	10		µg/L	1	8/2/2023 2:58:37 PM	76542
Isophorone	ND	4.3	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
1-Methylnaphthalene	4.8	3.1	5.0	J	µg/L	1	8/2/2023 2:58:37 PM	76542
2-Methylnaphthalene	6.9	2.4	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
2-Methylphenol	ND	4.7	10		µg/L	1	8/2/2023 2:58:37 PM	76542
3+4-Methylphenol	ND	4.9	10		µg/L	1	8/2/2023 2:58:37 PM	76542
N-Nitrosodi-n-propylamine	ND	3.7	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
N-Nitrosodimethylamine	ND	3.1	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
N-Nitrosodiphenylamine	ND	5.2	10		µg/L	1	8/2/2023 2:58:37 PM	76542

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 **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-2
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 8:00:00 AM
Lab ID: 2307D89-002 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Naphthalene	12	3.2	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
2-Nitroaniline	ND	5.0	10		µg/L	1	8/2/2023 2:58:37 PM	76542
3-Nitroaniline	ND	5.0	10		µg/L	1	8/2/2023 2:58:37 PM	76542
4-Nitroaniline	ND	4.5	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
Nitrobenzene	ND	3.6	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
2-Nitrophenol	ND	4.4	10		µg/L	1	8/2/2023 2:58:37 PM	76542
4-Nitrophenol	ND	2.9	10		µg/L	1	8/2/2023 2:58:37 PM	76542
Pentachlorophenol	ND	4.9	20		µg/L	1	8/2/2023 2:58:37 PM	76542
Phenanthrene	ND	4.8	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
Phenol	18	3.9	10		µg/L	1	8/2/2023 2:58:37 PM	76542
Pyrene	ND	5.2	10		µg/L	1	8/2/2023 2:58:37 PM	76542
Pyridine	ND	31	40		µg/L	1	8/2/2023 2:58:37 PM	76542
1,2,4-Trichlorobenzene	ND	2.6	5.0		µg/L	1	8/2/2023 2:58:37 PM	76542
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	8/2/2023 2:58:37 PM	76542
2,4,6-Trichlorophenol	ND	4.1	10		µg/L	1	8/2/2023 2:58:37 PM	76542
Surr: 2-Fluorophenol	39.1	0	15-84.1		%Rec	1	8/2/2023 2:58:37 PM	76542
Surr: Phenol-d5	30.8	0	16.5-50.7		%Rec	1	8/2/2023 2:58:37 PM	76542
Surr: 2,4,6-Tribromophenol	62.9	0	15-133		%Rec	1	8/2/2023 2:58:37 PM	76542
Surr: Nitrobenzene-d5	45.4	0	30.9-86.8		%Rec	1	8/2/2023 2:58:37 PM	76542
Surr: 2-Fluorobiphenyl	47.9	0	24.3-77.2		%Rec	1	8/2/2023 2:58:37 PM	76542
Surr: 4-Terphenyl-d14	74.8	0	52.3-118		%Rec	1	8/2/2023 2:58:37 PM	76542
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	28000	110	500		µg/L	500	8/1/2023 8:34:00 PM	R98639
Toluene	ND	10	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
Ethylbenzene	92	11	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
Methyl tert-butyl ether (MTBE)	ND	20	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
1,2,4-Trimethylbenzene	29	6.1	50	J	µg/L	50	8/1/2023 8:59:00 PM	R98639
1,3,5-Trimethylbenzene	ND	9.1	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
1,2-Dichloroethane (EDC)	ND	15	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
1,2-Dibromoethane (EDB)	ND	15	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
Naphthalene	58	12	100	J	µg/L	50	8/1/2023 8:59:00 PM	R98639
1-Methylnaphthalene	ND	42	200		µg/L	50	8/1/2023 8:59:00 PM	R98639
2-Methylnaphthalene	70	35	200	J	µg/L	50	8/1/2023 8:59:00 PM	R98639
Acetone	ND	130	500		µg/L	50	8/1/2023 8:59:00 PM	R98639
Bromobenzene	ND	14	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
Bromodichloromethane	ND	10	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
Bromoform	ND	16	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
Bromomethane	ND	43	150		µg/L	50	8/1/2023 8:59:00 PM	R98639
2-Butanone	ND	100	500		µg/L	50	8/1/2023 8:59:00 PM	R98639

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
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P	Sample pH Not In Range
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Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-2
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 8:00:00 AM
Lab ID: 2307D89-002 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Carbon disulfide	ND	30	500		µg/L	50	8/1/2023 8:59:00 PM	R98639
Carbon Tetrachloride	ND	8.8	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
Chlorobenzene	ND	23	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
Chloroethane	ND	19	100		µg/L	50	8/1/2023 8:59:00 PM	R98639
Chloroform	ND	6.7	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
Chloromethane	ND	21	150		µg/L	50	8/1/2023 8:59:00 PM	R98639
2-Chlorotoluene	ND	6.6	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
4-Chlorotoluene	ND	6.7	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
cis-1,2-DCE	ND	19	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
cis-1,3-Dichloropropene	ND	5.8	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
1,2-Dibromo-3-chloropropane	ND	29	100		µg/L	50	8/1/2023 8:59:00 PM	R98639
Dibromochloromethane	ND	14	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
Dibromomethane	ND	15	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
1,2-Dichlorobenzene	ND	7.7	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
1,3-Dichlorobenzene	ND	8.1	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
1,4-Dichlorobenzene	ND	5.2	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
Dichlorodifluoromethane	ND	13	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
1,1-Dichloroethane	ND	15	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
1,1-Dichloroethene	ND	10	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
1,2-Dichloropropane	ND	10	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
1,3-Dichloropropane	ND	9.0	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
2,2-Dichloropropane	ND	13	100		µg/L	50	8/1/2023 8:59:00 PM	R98639
1,1-Dichloropropene	ND	9.0	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
Hexachlorobutadiene	ND	21	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
2-Hexanone	ND	90	500		µg/L	50	8/1/2023 8:59:00 PM	R98639
Isopropylbenzene	ND	9.1	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
4-Isopropyltoluene	ND	10	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
4-Methyl-2-pentanone	ND	34	500		µg/L	50	8/1/2023 8:59:00 PM	R98639
Methylene Chloride	ND	25	150		µg/L	50	8/1/2023 8:59:00 PM	R98639
n-Butylbenzene	ND	6.3	150		µg/L	50	8/1/2023 8:59:00 PM	R98639
n-Propylbenzene	6.8	5.5	50	J	µg/L	50	8/1/2023 8:59:00 PM	R98639
sec-Butylbenzene	ND	7.2	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
Styrene	ND	6.8	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
tert-Butylbenzene	ND	12	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
1,1,1,2-Tetrachloroethane	ND	13	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
1,1,2,2-Tetrachloroethane	ND	14	100		µg/L	50	8/1/2023 8:59:00 PM	R98639
Tetrachloroethene (PCE)	ND	8.9	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
trans-1,2-DCE	ND	9.7	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
trans-1,3-Dichloropropene	ND	17	50		µg/L	50	8/1/2023 8:59:00 PM	R98639

Refer to the QC Summary report and sample login checklist for flagged QC data 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 **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-2
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 8:00:00 AM
Lab ID: 2307D89-002 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
1,2,3-Trichlorobenzene	ND	12	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
1,2,4-Trichlorobenzene	ND	12	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
1,1,1-Trichloroethane	ND	4.1	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
1,1,2-Trichloroethane	ND	9.9	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
Trichloroethene (TCE)	ND	10	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
Trichlorofluoromethane	ND	7.9	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
1,2,3-Trichloropropane	ND	8.0	100		µg/L	50	8/1/2023 8:59:00 PM	R98639
Vinyl chloride	ND	16	50		µg/L	50	8/1/2023 8:59:00 PM	R98639
Xylenes, Total	130	19	75		µg/L	50	8/1/2023 8:59:00 PM	R98639
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	50	8/1/2023 8:59:00 PM	R98639
Surr: 4-Bromofluorobenzene	122	0	70-130		%Rec	50	8/1/2023 8:59:00 PM	R98639
Surr: Dibromofluoromethane	106	0	70-130		%Rec	50	8/1/2023 8:59:00 PM	R98639
Surr: Toluene-d8	116	0	70-130		%Rec	50	8/1/2023 8:59:00 PM	R98639
SM4500-H+B / 9040C: PH							Analyst: **RBC**	
pH	7.64			H	pH units	1	7/28/2023 1:23:55 PM	R98591
SM2320B: ALKALINITY							Analyst: **RBC**	
Bicarbonate (As CaCO3)	2094	50.00	50.00		mg/L Ca	2.5	8/8/2023 2:21:39 PM	R98841
Carbonate (As CaCO3)	ND	5.000	5.000		mg/L Ca	2.5	8/8/2023 2:21:39 PM	R98841
Total Alkalinity (as CaCO3)	2094	50.00	50.00		mg/L Ca	2.5	8/8/2023 2:21:39 PM	R98841
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **JAG**	
Total Dissolved Solids	3680	250	500	*D	mg/L	1	8/1/2023 2:10:00 PM	76576

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-6
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 8:45:00 AM
Lab ID: 2307D89-003 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	65	1.2	2.5		mg/L	5	7/28/2023 3:41:31 PM	R98598
Nitrogen, Nitrite (As N)	ND	0.057	0.50		mg/L	5	7/28/2023 3:41:31 PM	R98598
Nitrogen, Nitrate (As N)	ND	0.10	0.50		mg/L	5	7/28/2023 3:41:31 PM	R98598
Sulfate	260	5.0	10	*	mg/L	20	7/28/2023 3:53:52 PM	R98598
EPA 200.8: METALS							Analyst: **bcv**	
Uranium	0.0085	0.000076	0.00050		mg/L	1	8/1/2023 12:54:32 PM	76558
EPA METHOD 6020A: DISSOLVED METALS							Analyst: **ELS**	
Arsenic	ND	0.0025	0.0050		mg/L	5	8/4/2023 1:59:32 PM	D98751
Lead	ND	0.0025	0.0050		mg/L	5	8/4/2023 1:59:32 PM	D98751
Selenium	0.0051	0.0040	0.0050		mg/L	5	8/4/2023 1:59:32 PM	D98751
EPA METHOD 7470A: MERCURY							Analyst: **tem**	
Mercury	ND	0.000081	0.00020		mg/L	1	8/1/2023 11:12:13 AM	76568
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **VP**	
Barium	0.033	0.00074	0.020		mg/L	1	7/31/2023 9:09:36 AM	A98597
Cadmium	ND	0.00083	0.0020		mg/L	1	7/31/2023 9:09:36 AM	A98597
Calcium	34	0.089	1.0		mg/L	1	7/31/2023 9:09:36 AM	A98597
Chromium	ND	0.00099	0.0060		mg/L	1	7/31/2023 9:09:36 AM	A98597
Silver	ND	0.0012	0.0050		mg/L	1	7/31/2023 9:09:36 AM	A98597
Sodium	300	1.5	5.0		mg/L	5	7/31/2023 9:11:42 AM	A98597
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Acenaphthene	ND	3.3	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
Acenaphthylene	ND	4.6	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
Aniline	ND	5.4	10		µg/L	1	8/2/2023 3:40:41 PM	76542
Anthracene	ND	3.9	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
Azobenzene	ND	3.8	10		µg/L	1	8/2/2023 3:40:41 PM	76542
Benz(a)anthracene	ND	6.7	10		µg/L	1	8/2/2023 3:40:41 PM	76542
Benzo(a)pyrene	ND	4.9	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
Benzo(b)fluoranthene	ND	5.7	10		µg/L	1	8/2/2023 3:40:41 PM	76542
Benzo(g,h,i)perylene	ND	4.9	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
Benzo(k)fluoranthene	ND	4.5	10		µg/L	1	8/2/2023 3:40:41 PM	76542
Benzoic acid	ND	15	20		µg/L	1	8/2/2023 3:40:41 PM	76542
Benzyl alcohol	ND	4.8	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	8/2/2023 3:40:41 PM	76542
Bis(2-chloroethyl)ether	ND	5.0	10		µg/L	1	8/2/2023 3:40:41 PM	76542
Bis(2-chloroisopropyl)ether	ND	3.6	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
Bis(2-ethylhexyl)phthalate	ND	7.0	10		µg/L	1	8/2/2023 3:40:41 PM	76542
4-Bromophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542

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

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Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-6
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 8:45:00 AM
Lab ID: 2307D89-003 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Butyl benzyl phthalate	ND	6.5	10		µg/L	1	8/2/2023 3:40:41 PM	76542
Carbazole	ND	5.3	10		µg/L	1	8/2/2023 3:40:41 PM	76542
4-Chloro-3-methylphenol	ND	4.6	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
4-Chloroaniline	ND	4.7	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
2-Chloronaphthalene	ND	3.2	10		µg/L	1	8/2/2023 3:40:41 PM	76542
2-Chlorophenol	ND	4.5	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
4-Chlorophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
Chrysene	ND	4.7	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
Di-n-butyl phthalate	ND	19	20		µg/L	1	8/2/2023 3:40:41 PM	76542
Di-n-octyl phthalate	ND	5.6	10		µg/L	1	8/2/2023 3:40:41 PM	76542
Dibenz(a,h)anthracene	ND	4.9	10		µg/L	1	8/2/2023 3:40:41 PM	76542
Dibenzofuran	ND	4.9	10		µg/L	1	8/2/2023 3:40:41 PM	76542
1,2-Dichlorobenzene	ND	2.9	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
1,3-Dichlorobenzene	ND	3.0	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
1,4-Dichlorobenzene	ND	1.8	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
3,3´-Dichlorobenzidine	ND	5.9	10		µg/L	1	8/2/2023 3:40:41 PM	76542
Diethyl phthalate	ND	5.6	10		µg/L	1	8/2/2023 3:40:41 PM	76542
Dimethyl phthalate	ND	5.4	10		µg/L	1	8/2/2023 3:40:41 PM	76542
2,4-Dichlorophenol	ND	3.8	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
2,4-Dimethylphenol	ND	4.8	10		µg/L	1	8/2/2023 3:40:41 PM	76542
4,6-Dinitro-2-methylphenol	ND	4.2	10		µg/L	1	8/2/2023 3:40:41 PM	76542
2,4-Dinitrophenol	ND	4.7	10		µg/L	1	8/2/2023 3:40:41 PM	76542
2,4-Dinitrotoluene	ND	5.0	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
2,6-Dinitrotoluene	ND	5.3	10		µg/L	1	8/2/2023 3:40:41 PM	76542
Fluoranthene	ND	5.5	10		µg/L	1	8/2/2023 3:40:41 PM	76542
Fluorene	ND	4.7	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
Hexachlorobenzene	ND	4.6	20		µg/L	1	8/2/2023 3:40:41 PM	76542
Hexachlorobutadiene	ND	2.5	20		µg/L	1	8/2/2023 3:40:41 PM	76542
Hexachlorocyclopentadiene	ND	2.2	20		µg/L	1	8/2/2023 3:40:41 PM	76542
Hexachloroethane	ND	2.8	20		µg/L	1	8/2/2023 3:40:41 PM	76542
Indeno(1,2,3-cd)pyrene	ND	5.3	10		µg/L	1	8/2/2023 3:40:41 PM	76542
Isophorone	ND	4.3	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
1-Methylnaphthalene	ND	3.1	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
2-Methylnaphthalene	ND	2.4	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
2-Methylphenol	ND	4.7	10		µg/L	1	8/2/2023 3:40:41 PM	76542
3+4-Methylphenol	ND	4.9	10		µg/L	1	8/2/2023 3:40:41 PM	76542
N-Nitrosodi-n-propylamine	ND	3.7	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
N-Nitrosodimethylamine	ND	3.1	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
N-Nitrosodiphenylamine	ND	5.2	10		µg/L	1	8/2/2023 3:40:41 PM	76542

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 **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-6
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 8:45:00 AM
Lab ID: 2307D89-003 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Naphthalene	ND	3.2	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
2-Nitroaniline	ND	5.0	10		µg/L	1	8/2/2023 3:40:41 PM	76542
3-Nitroaniline	ND	5.0	10		µg/L	1	8/2/2023 3:40:41 PM	76542
4-Nitroaniline	ND	4.5	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
Nitrobenzene	ND	3.6	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
2-Nitrophenol	ND	4.4	10		µg/L	1	8/2/2023 3:40:41 PM	76542
4-Nitrophenol	ND	2.9	10		µg/L	1	8/2/2023 3:40:41 PM	76542
Pentachlorophenol	ND	4.9	20		µg/L	1	8/2/2023 3:40:41 PM	76542
Phenanthrene	ND	4.8	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
Phenol	ND	3.9	10		µg/L	1	8/2/2023 3:40:41 PM	76542
Pyrene	ND	5.2	10		µg/L	1	8/2/2023 3:40:41 PM	76542
Pyridine	ND	31	40		µg/L	1	8/2/2023 3:40:41 PM	76542
1,2,4-Trichlorobenzene	ND	2.6	5.0		µg/L	1	8/2/2023 3:40:41 PM	76542
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	8/2/2023 3:40:41 PM	76542
2,4,6-Trichlorophenol	ND	4.1	10		µg/L	1	8/2/2023 3:40:41 PM	76542
Surr: 2-Fluorophenol	31.0	0	15-84.1		%Rec	1	8/2/2023 3:40:41 PM	76542
Surr: Phenol-d5	22.4	0	16.5-50.7		%Rec	1	8/2/2023 3:40:41 PM	76542
Surr: 2,4,6-Tribromophenol	32.1	0	15-133		%Rec	1	8/2/2023 3:40:41 PM	76542
Surr: Nitrobenzene-d5	38.1	0	30.9-86.8		%Rec	1	8/2/2023 3:40:41 PM	76542
Surr: 2-Fluorobiphenyl	33.9	0	24.3-77.2		%Rec	1	8/2/2023 3:40:41 PM	76542
Surr: 4-Terphenyl-d14	49.5	0	52.3-118	S	%Rec	1	8/2/2023 3:40:41 PM	76542
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	2.0	0.23	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Toluene	ND	0.20	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Ethylbenzene	ND	0.21	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
1,2,4-Trimethylbenzene	ND	0.12	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
1,2-Dichloroethane (EDC)	ND	0.30	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Naphthalene	ND	0.24	2.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
2-Methylnaphthalene	ND	0.69	4.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Acetone	ND	2.5	10		µg/L	1	8/1/2023 9:48:00 PM	R98639
Bromobenzene	ND	0.28	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Bromodichloromethane	ND	0.20	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Bromoform	ND	0.31	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Bromomethane	ND	0.85	3.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
2-Butanone	ND	2.0	10		µg/L	1	8/1/2023 9:48:00 PM	R98639

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ND	Not Detected at the Reporting Limit
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E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-6
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 8:45:00 AM
Lab ID: 2307D89-003 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Carbon disulfide	ND	0.59	10		µg/L	1	8/1/2023 9:48:00 PM	R98639
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Chlorobenzene	ND	0.46	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Chloroethane	ND	0.38	2.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Chloroform	ND	0.13	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Chloromethane	ND	0.41	3.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
cis-1,3-Dichloropropene	ND	0.12	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Dibromochloromethane	ND	0.28	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Dibromomethane	ND	0.31	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
1,4-Dichlorobenzene	ND	0.10	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
1,1-Dichloroethane	ND	0.30	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
1,1-Dichloroethene	ND	0.20	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
1,2-Dichloropropane	ND	0.20	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
1,1-Dichloropropene	ND	0.18	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Hexachlorobutadiene	ND	0.42	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
2-Hexanone	ND	1.8	10		µg/L	1	8/1/2023 9:48:00 PM	R98639
Isopropylbenzene	ND	0.18	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
4-Methyl-2-pentanone	ND	0.67	10		µg/L	1	8/1/2023 9:48:00 PM	R98639
Methylene Chloride	ND	0.50	3.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
n-Butylbenzene	ND	0.13	3.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
n-Propylbenzene	ND	0.11	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
sec-Butylbenzene	ND	0.14	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Styrene	ND	0.14	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Tetrachloroethene (PCE)	ND	0.18	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
trans-1,2-DCE	ND	0.19	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639

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Qualifiers:

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

Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-6
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 8:45:00 AM
Lab ID: 2307D89-003 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
1,2,3-Trichlorobenzene	ND	0.25	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
1,1,1-Trichloroethane	ND	0.081	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
1,1,2-Trichloroethane	ND	0.20	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Trichloroethene (TCE)	ND	0.20	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Trichlorofluoromethane	ND	0.16	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
1,2,3-Trichloropropane	ND	0.16	2.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Vinyl chloride	ND	0.32	1.0		µg/L	1	8/1/2023 9:48:00 PM	R98639
Xylenes, Total	ND	0.37	1.5		µg/L	1	8/1/2023 9:48:00 PM	R98639
Surr: 1,2-Dichloroethane-d4	115	0	70-130		%Rec	1	8/1/2023 9:48:00 PM	R98639
Surr: 4-Bromofluorobenzene	118	0	70-130		%Rec	1	8/1/2023 9:48:00 PM	R98639
Surr: Dibromofluoromethane	114	0	70-130		%Rec	1	8/1/2023 9:48:00 PM	R98639
Surr: Toluene-d8	112	0	70-130		%Rec	1	8/1/2023 9:48:00 PM	R98639
SM4500-H+B / 9040C: PH							Analyst: **RBC**	
pH	7.85			H	pH units	1	7/28/2023 1:49:59 PM	R98591
SM2320B: ALKALINITY							Analyst: **RBC**	
Bicarbonate (As CaCO3)	462.4	20.00	20.00		mg/L Ca	1	7/28/2023 1:49:59 PM	R98591
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	7/28/2023 1:49:59 PM	R98591
Total Alkalinity (as CaCO3)	462.4	20.00	20.00		mg/L Ca	1	7/28/2023 1:49:59 PM	R98591
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **JAG**	
Total Dissolved Solids	996	50.0	100	*D	mg/L	1	8/1/2023 2:10:00 PM	76576

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S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-3
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 9:20:00 AM
Lab ID: 2307D89-004 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	1200	25	50	*	mg/L	100	8/4/2023 1:18:35 PM	R98760
Nitrogen, Nitrite (As N)	ND	0.057	0.50		mg/L	5	7/28/2023 4:06:13 PM	R98598
Nitrogen, Nitrate (As N)	0.11	0.10	0.50	J	mg/L	5	7/28/2023 4:06:13 PM	R98598
Sulfate	2100	25	50	*	mg/L	100	8/4/2023 1:18:35 PM	R98760
EPA 200.8: METALS							Analyst: **bcv**	
Uranium	0.058	0.00038	0.0025	*	mg/L	5	8/1/2023 2:30:38 PM	76558
EPA METHOD 6020A: DISSOLVED METALS							Analyst: **ELS**	
Arsenic	ND	0.0025	0.0050		mg/L	5	8/4/2023 2:03:07 PM	D98751
Lead	ND	0.0025	0.0050		mg/L	5	8/4/2023 2:03:07 PM	D98751
Selenium	0.0067	0.0040	0.0050		mg/L	5	8/4/2023 2:03:07 PM	D98751
EPA METHOD 7470A: MERCURY							Analyst: **tem**	
Mercury	ND	0.000081	0.00020		mg/L	1	8/1/2023 12:26:27 PM	76568
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **VP**	
Barium	0.016	0.00074	0.020	J	mg/L	1	7/31/2023 9:20:01 AM	A98597
Cadmium	ND	0.00083	0.0020		mg/L	1	7/31/2023 9:20:01 AM	A98597
Calcium	160	0.45	5.0		mg/L	5	7/31/2023 9:22:18 AM	A98597
Chromium	ND	0.00099	0.0060		mg/L	1	7/31/2023 9:20:01 AM	A98597
Silver	0.0025	0.0012	0.0050	J	mg/L	1	7/31/2023 9:20:01 AM	A98597
Sodium	2100	15	50		mg/L	50	7/31/2023 10:13:43 AM	A98597
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Acenaphthene	ND	3.3	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
Acenaphthylene	ND	4.6	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
Aniline	ND	5.4	10		µg/L	1	8/2/2023 4:22:54 PM	76542
Anthracene	ND	3.9	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
Azobenzene	ND	3.8	10		µg/L	1	8/2/2023 4:22:54 PM	76542
Benz(a)anthracene	ND	6.7	10		µg/L	1	8/2/2023 4:22:54 PM	76542
Benzo(a)pyrene	ND	4.9	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
Benzo(b)fluoranthene	ND	5.7	10		µg/L	1	8/2/2023 4:22:54 PM	76542
Benzo(g,h,i)perylene	ND	4.9	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
Benzo(k)fluoranthene	ND	4.5	10		µg/L	1	8/2/2023 4:22:54 PM	76542
Benzoic acid	ND	15	20		µg/L	1	8/2/2023 4:22:54 PM	76542
Benzyl alcohol	ND	4.8	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	8/2/2023 4:22:54 PM	76542
Bis(2-chloroethyl)ether	ND	5.0	10		µg/L	1	8/2/2023 4:22:54 PM	76542
Bis(2-chloroisopropyl)ether	ND	3.6	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
Bis(2-ethylhexyl)phthalate	ND	7.0	10		µg/L	1	8/2/2023 4:22:54 PM	76542
4-Bromophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542

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 **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-3
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 9:20:00 AM
Lab ID: 2307D89-004 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Butyl benzyl phthalate	ND	6.5	10		µg/L	1	8/2/2023 4:22:54 PM	76542
Carbazole	ND	5.3	10		µg/L	1	8/2/2023 4:22:54 PM	76542
4-Chloro-3-methylphenol	ND	4.6	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
4-Chloroaniline	ND	4.7	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
2-Chloronaphthalene	ND	3.2	10		µg/L	1	8/2/2023 4:22:54 PM	76542
2-Chlorophenol	ND	4.5	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
4-Chlorophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
Chrysene	ND	4.7	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
Di-n-butyl phthalate	ND	19	20		µg/L	1	8/2/2023 4:22:54 PM	76542
Di-n-octyl phthalate	ND	5.6	10		µg/L	1	8/2/2023 4:22:54 PM	76542
Dibenz(a,h)anthracene	ND	4.9	10		µg/L	1	8/2/2023 4:22:54 PM	76542
Dibenzofuran	ND	4.9	10		µg/L	1	8/2/2023 4:22:54 PM	76542
1,2-Dichlorobenzene	ND	2.9	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
1,3-Dichlorobenzene	ND	3.0	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
1,4-Dichlorobenzene	ND	1.8	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
3,3´-Dichlorobenzidine	ND	5.9	10		µg/L	1	8/2/2023 4:22:54 PM	76542
Diethyl phthalate	ND	5.6	10		µg/L	1	8/2/2023 4:22:54 PM	76542
Dimethyl phthalate	ND	5.4	10		µg/L	1	8/2/2023 4:22:54 PM	76542
2,4-Dichlorophenol	ND	3.8	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
2,4-Dimethylphenol	ND	4.8	10		µg/L	1	8/2/2023 4:22:54 PM	76542
4,6-Dinitro-2-methylphenol	ND	4.2	10		µg/L	1	8/2/2023 4:22:54 PM	76542
2,4-Dinitrophenol	ND	4.7	10		µg/L	1	8/2/2023 4:22:54 PM	76542
2,4-Dinitrotoluene	ND	5.0	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
2,6-Dinitrotoluene	ND	5.3	10		µg/L	1	8/2/2023 4:22:54 PM	76542
Fluoranthene	ND	5.5	10		µg/L	1	8/2/2023 4:22:54 PM	76542
Fluorene	ND	4.7	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
Hexachlorobenzene	ND	4.6	20		µg/L	1	8/2/2023 4:22:54 PM	76542
Hexachlorobutadiene	ND	2.5	20		µg/L	1	8/2/2023 4:22:54 PM	76542
Hexachlorocyclopentadiene	ND	2.2	20		µg/L	1	8/2/2023 4:22:54 PM	76542
Hexachloroethane	ND	2.8	20		µg/L	1	8/2/2023 4:22:54 PM	76542
Indeno(1,2,3-cd)pyrene	ND	5.3	10		µg/L	1	8/2/2023 4:22:54 PM	76542
Isophorone	ND	4.3	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
1-Methylnaphthalene	ND	3.1	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
2-Methylnaphthalene	ND	2.4	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
2-Methylphenol	ND	4.7	10		µg/L	1	8/2/2023 4:22:54 PM	76542
3+4-Methylphenol	ND	4.9	10		µg/L	1	8/2/2023 4:22:54 PM	76542
N-Nitrosodi-n-propylamine	ND	3.7	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
N-Nitrosodimethylamine	ND	3.1	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
N-Nitrosodiphenylamine	ND	5.2	10		µg/L	1	8/2/2023 4:22:54 PM	76542

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

Qualifiers:

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

Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-3
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 9:20:00 AM
Lab ID: 2307D89-004 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Naphthalene	ND	3.2	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
2-Nitroaniline	ND	5.0	10		µg/L	1	8/2/2023 4:22:54 PM	76542
3-Nitroaniline	ND	5.0	10		µg/L	1	8/2/2023 4:22:54 PM	76542
4-Nitroaniline	ND	4.5	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
Nitrobenzene	ND	3.6	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
2-Nitrophenol	ND	4.4	10		µg/L	1	8/2/2023 4:22:54 PM	76542
4-Nitrophenol	ND	2.9	10		µg/L	1	8/2/2023 4:22:54 PM	76542
Pentachlorophenol	ND	4.9	20		µg/L	1	8/2/2023 4:22:54 PM	76542
Phenanthrene	ND	4.8	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
Phenol	ND	3.9	10		µg/L	1	8/2/2023 4:22:54 PM	76542
Pyrene	ND	5.2	10		µg/L	1	8/2/2023 4:22:54 PM	76542
Pyridine	ND	31	40		µg/L	1	8/2/2023 4:22:54 PM	76542
1,2,4-Trichlorobenzene	ND	2.6	5.0		µg/L	1	8/2/2023 4:22:54 PM	76542
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	8/2/2023 4:22:54 PM	76542
2,4,6-Trichlorophenol	ND	4.1	10		µg/L	1	8/2/2023 4:22:54 PM	76542
Surr: 2-Fluorophenol	52.1	0	15-84.1		%Rec	1	8/2/2023 4:22:54 PM	76542
Surr: Phenol-d5	43.3	0	16.5-50.7		%Rec	1	8/2/2023 4:22:54 PM	76542
Surr: 2,4,6-Tribromophenol	58.3	0	15-133		%Rec	1	8/2/2023 4:22:54 PM	76542
Surr: Nitrobenzene-d5	72.6	0	30.9-86.8		%Rec	1	8/2/2023 4:22:54 PM	76542
Surr: 2-Fluorobiphenyl	69.2	0	24.3-77.2		%Rec	1	8/2/2023 4:22:54 PM	76542
Surr: 4-Terphenyl-d14	88.6	0	52.3-118		%Rec	1	8/2/2023 4:22:54 PM	76542
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	1.0	0.23	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Toluene	ND	0.20	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Ethylbenzene	ND	0.21	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
1,2,4-Trimethylbenzene	ND	0.12	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
1,2-Dichloroethane (EDC)	ND	0.30	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Naphthalene	ND	0.24	2.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
2-Methylnaphthalene	ND	0.69	4.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Acetone	ND	2.5	10		µg/L	1	8/1/2023 11:00:00 PM	R98639
Bromobenzene	ND	0.28	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Bromodichloromethane	ND	0.20	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Bromoform	ND	0.31	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Bromomethane	ND	0.85	3.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
2-Butanone	ND	2.0	10		µg/L	1	8/1/2023 11:00:00 PM	R98639

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
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Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-3
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 9:20:00 AM
Lab ID: 2307D89-004 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Carbon disulfide	ND	0.59	10		µg/L	1	8/1/2023 11:00:00 PM	R98639
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Chlorobenzene	ND	0.46	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Chloroethane	ND	0.38	2.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Chloroform	ND	0.13	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Chloromethane	ND	0.41	3.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
cis-1,3-Dichloropropene	ND	0.12	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Dibromochloromethane	ND	0.28	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Dibromomethane	ND	0.31	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
1,4-Dichlorobenzene	ND	0.10	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
1,1-Dichloroethane	ND	0.30	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
1,1-Dichloroethene	ND	0.20	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
1,2-Dichloropropane	ND	0.20	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
1,1-Dichloropropene	ND	0.18	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Hexachlorobutadiene	ND	0.42	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
2-Hexanone	ND	1.8	10		µg/L	1	8/1/2023 11:00:00 PM	R98639
Isopropylbenzene	ND	0.18	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
4-Methyl-2-pentanone	ND	0.67	10		µg/L	1	8/1/2023 11:00:00 PM	R98639
Methylene Chloride	ND	0.50	3.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
n-Butylbenzene	ND	0.13	3.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
n-Propylbenzene	ND	0.11	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
sec-Butylbenzene	ND	0.14	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Styrene	ND	0.14	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Tetrachloroethene (PCE)	ND	0.18	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
trans-1,2-DCE	ND	0.19	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-3
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 9:20:00 AM
Lab ID: 2307D89-004 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
1,2,3-Trichlorobenzene	ND	0.25	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
1,1,1-Trichloroethane	ND	0.081	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
1,1,2-Trichloroethane	ND	0.20	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Trichloroethene (TCE)	ND	0.20	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Trichlorofluoromethane	ND	0.16	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
1,2,3-Trichloropropane	ND	0.16	2.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Vinyl chloride	ND	0.32	1.0		µg/L	1	8/1/2023 11:00:00 PM	R98639
Xylenes, Total	ND	0.37	1.5		µg/L	1	8/1/2023 11:00:00 PM	R98639
Surr: 1,2-Dichloroethane-d4	119	0	70-130		%Rec	1	8/1/2023 11:00:00 PM	R98639
Surr: 4-Bromofluorobenzene	117	0	70-130		%Rec	1	8/1/2023 11:00:00 PM	R98639
Surr: Dibromofluoromethane	115	0	70-130		%Rec	1	8/1/2023 11:00:00 PM	R98639
Surr: Toluene-d8	111	0	70-130		%Rec	1	8/1/2023 11:00:00 PM	R98639
SM4500-H+B / 9040C: PH							Analyst: **RBC**	
pH	7.45			H	pH units	1	7/28/2023 2:11:46 PM	R98591
SM2320B: ALKALINITY							Analyst: **RBC**	
Bicarbonate (As CaCO3)	1126	20.00	20.00		mg/L Ca	1	7/28/2023 2:11:46 PM	R98591
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	7/28/2023 2:11:46 PM	R98591
Total Alkalinity (as CaCO3)	1126	20.00	20.00		mg/L Ca	1	7/28/2023 2:11:46 PM	R98591
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **JAG**	
Total Dissolved Solids	6290	125	250	*D	mg/L	1	8/1/2023 2:10:00 PM	76576

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Qualifiers:

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E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-8
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 9:50:00 AM
Lab ID: 2307D89-005 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	31	1.2	2.5		mg/L	5	7/28/2023 4:30:55 PM	R98598
Nitrogen, Nitrite (As N)	ND	0.057	0.50		mg/L	5	7/28/2023 4:30:55 PM	R98598
Nitrogen, Nitrate (As N)	ND	0.10	0.50		mg/L	5	7/28/2023 4:30:55 PM	R98598
Sulfate	160	1.2	2.5		mg/L	5	7/28/2023 4:30:55 PM	R98598
EPA 200.8: METALS							Analyst: **bcv**	
Uranium	0.013	0.000076	0.00050		mg/L	1	7/31/2023 3:32:07 PM	A98622
EPA METHOD 6020A: DISSOLVED METALS							Analyst: **ELS**	
Arsenic	ND	0.0025	0.0050		mg/L	5	8/4/2023 2:06:44 PM	D98751
Lead	ND	0.0025	0.0050		mg/L	5	8/4/2023 2:06:44 PM	D98751
Selenium	ND	0.0040	0.0050		mg/L	5	8/4/2023 2:06:44 PM	D98751
EPA METHOD 7470A: MERCURY							Analyst: **tem**	
Mercury	ND	0.000081	0.00020		mg/L	1	8/1/2023 12:28:46 PM	76568
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **VP**	
Barium	0.13	0.00074	0.020		mg/L	1	7/31/2023 9:24:19 AM	A98597
Cadmium	ND	0.00083	0.0020		mg/L	1	7/31/2023 9:24:19 AM	A98597
Calcium	32	0.089	1.0		mg/L	1	7/31/2023 9:24:19 AM	A98597
Chromium	ND	0.00099	0.0060		mg/L	1	7/31/2023 9:24:19 AM	A98597
Silver	ND	0.0012	0.0050		mg/L	1	7/31/2023 9:24:19 AM	A98597
Sodium	260	1.5	5.0		mg/L	5	7/31/2023 9:26:23 AM	A98597
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Acenaphthene	ND	3.3	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
Acenaphthylene	ND	4.6	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
Aniline	ND	5.4	10		µg/L	1	8/2/2023 5:04:51 PM	76542
Anthracene	ND	3.9	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
Azobenzene	ND	3.8	10		µg/L	1	8/2/2023 5:04:51 PM	76542
Benz(a)anthracene	ND	6.7	10		µg/L	1	8/2/2023 5:04:51 PM	76542
Benzo(a)pyrene	ND	4.9	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
Benzo(b)fluoranthene	ND	5.7	10		µg/L	1	8/2/2023 5:04:51 PM	76542
Benzo(g,h,i)perylene	ND	4.9	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
Benzo(k)fluoranthene	ND	4.5	10		µg/L	1	8/2/2023 5:04:51 PM	76542
Benzoic acid	ND	15	20		µg/L	1	8/2/2023 5:04:51 PM	76542
Benzyl alcohol	ND	4.8	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	8/2/2023 5:04:51 PM	76542
Bis(2-chloroethyl)ether	ND	5.0	10		µg/L	1	8/2/2023 5:04:51 PM	76542
Bis(2-chloroisopropyl)ether	ND	3.6	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
Bis(2-ethylhexyl)phthalate	ND	7.0	10		µg/L	1	8/2/2023 5:04:51 PM	76542
4-Bromophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542

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

Qualifiers:

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
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Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-8
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 9:50:00 AM
Lab ID: 2307D89-005 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Butyl benzyl phthalate	ND	6.5	10		µg/L	1	8/2/2023 5:04:51 PM	76542
Carbazole	ND	5.3	10		µg/L	1	8/2/2023 5:04:51 PM	76542
4-Chloro-3-methylphenol	ND	4.6	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
4-Chloroaniline	ND	4.7	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
2-Chloronaphthalene	ND	3.2	10		µg/L	1	8/2/2023 5:04:51 PM	76542
2-Chlorophenol	ND	4.5	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
4-Chlorophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
Chrysene	ND	4.7	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
Di-n-butyl phthalate	ND	19	20		µg/L	1	8/2/2023 5:04:51 PM	76542
Di-n-octyl phthalate	ND	5.6	10		µg/L	1	8/2/2023 5:04:51 PM	76542
Dibenz(a,h)anthracene	ND	4.9	10		µg/L	1	8/2/2023 5:04:51 PM	76542
Dibenzofuran	ND	4.9	10		µg/L	1	8/2/2023 5:04:51 PM	76542
1,2-Dichlorobenzene	ND	2.9	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
1,3-Dichlorobenzene	ND	3.0	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
1,4-Dichlorobenzene	ND	1.8	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
3,3´-Dichlorobenzidine	ND	5.9	10		µg/L	1	8/2/2023 5:04:51 PM	76542
Diethyl phthalate	ND	5.6	10		µg/L	1	8/2/2023 5:04:51 PM	76542
Dimethyl phthalate	ND	5.4	10		µg/L	1	8/2/2023 5:04:51 PM	76542
2,4-Dichlorophenol	ND	3.8	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
2,4-Dimethylphenol	ND	4.8	10		µg/L	1	8/2/2023 5:04:51 PM	76542
4,6-Dinitro-2-methylphenol	ND	4.2	10		µg/L	1	8/2/2023 5:04:51 PM	76542
2,4-Dinitrophenol	ND	4.7	10		µg/L	1	8/2/2023 5:04:51 PM	76542
2,4-Dinitrotoluene	ND	5.0	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
2,6-Dinitrotoluene	ND	5.3	10		µg/L	1	8/2/2023 5:04:51 PM	76542
Fluoranthene	ND	5.5	10		µg/L	1	8/2/2023 5:04:51 PM	76542
Fluorene	ND	4.7	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
Hexachlorobenzene	ND	4.6	20		µg/L	1	8/2/2023 5:04:51 PM	76542
Hexachlorobutadiene	ND	2.5	20		µg/L	1	8/2/2023 5:04:51 PM	76542
Hexachlorocyclopentadiene	ND	2.2	20		µg/L	1	8/2/2023 5:04:51 PM	76542
Hexachloroethane	ND	2.8	20		µg/L	1	8/2/2023 5:04:51 PM	76542
Indeno(1,2,3-cd)pyrene	ND	5.3	10		µg/L	1	8/2/2023 5:04:51 PM	76542
Isophorone	ND	4.3	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
1-Methylnaphthalene	ND	3.1	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
2-Methylnaphthalene	ND	2.4	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
2-Methylphenol	ND	4.7	10		µg/L	1	8/2/2023 5:04:51 PM	76542
3+4-Methylphenol	ND	4.9	10		µg/L	1	8/2/2023 5:04:51 PM	76542
N-Nitrosodi-n-propylamine	ND	3.7	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
N-Nitrosodimethylamine	ND	3.1	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
N-Nitrosodiphenylamine	ND	5.2	10		µg/L	1	8/2/2023 5:04:51 PM	76542

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PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
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P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-8
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 9:50:00 AM
Lab ID: 2307D89-005 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Naphthalene	ND	3.2	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
2-Nitroaniline	ND	5.0	10		µg/L	1	8/2/2023 5:04:51 PM	76542
3-Nitroaniline	ND	5.0	10		µg/L	1	8/2/2023 5:04:51 PM	76542
4-Nitroaniline	ND	4.5	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
Nitrobenzene	ND	3.6	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
2-Nitrophenol	ND	4.4	10		µg/L	1	8/2/2023 5:04:51 PM	76542
4-Nitrophenol	ND	2.9	10		µg/L	1	8/2/2023 5:04:51 PM	76542
Pentachlorophenol	ND	4.9	20		µg/L	1	8/2/2023 5:04:51 PM	76542
Phenanthrene	ND	4.8	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
Phenol	ND	3.9	10		µg/L	1	8/2/2023 5:04:51 PM	76542
Pyrene	ND	5.2	10		µg/L	1	8/2/2023 5:04:51 PM	76542
Pyridine	ND	31	40		µg/L	1	8/2/2023 5:04:51 PM	76542
1,2,4-Trichlorobenzene	ND	2.6	5.0		µg/L	1	8/2/2023 5:04:51 PM	76542
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	8/2/2023 5:04:51 PM	76542
2,4,6-Trichlorophenol	ND	4.1	10		µg/L	1	8/2/2023 5:04:51 PM	76542
Surr: 2-Fluorophenol	35.8	0	15-84.1		%Rec	1	8/2/2023 5:04:51 PM	76542
Surr: Phenol-d5	25.9	0	16.5-50.7		%Rec	1	8/2/2023 5:04:51 PM	76542
Surr: 2,4,6-Tribromophenol	34.5	0	15-133		%Rec	1	8/2/2023 5:04:51 PM	76542
Surr: Nitrobenzene-d5	36.5	0	30.9-86.8		%Rec	1	8/2/2023 5:04:51 PM	76542
Surr: 2-Fluorobiphenyl	34.7	0	24.3-77.2		%Rec	1	8/2/2023 5:04:51 PM	76542
Surr: 4-Terphenyl-d14	74.1	0	52.3-118		%Rec	1	8/2/2023 5:04:51 PM	76542
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	0.28	0.23	1.0	J	µg/L	1	8/1/2023 11:25:00 PM	R98639
Toluene	ND	0.20	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Ethylbenzene	ND	0.21	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
1,2,4-Trimethylbenzene	ND	0.12	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
1,2-Dichloroethane (EDC)	ND	0.30	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Naphthalene	ND	0.24	2.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
2-Methylnaphthalene	ND	0.69	4.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Acetone	ND	2.5	10		µg/L	1	8/1/2023 11:25:00 PM	R98639
Bromobenzene	ND	0.28	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Bromodichloromethane	ND	0.20	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Bromoform	ND	0.31	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Bromomethane	ND	0.85	3.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
2-Butanone	ND	2.0	10		µg/L	1	8/1/2023 11:25:00 PM	R98639

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Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-8
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 9:50:00 AM
Lab ID: 2307D89-005 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Carbon disulfide	ND	0.59	10		µg/L	1	8/1/2023 11:25:00 PM	R98639
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Chlorobenzene	ND	0.46	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Chloroethane	ND	0.38	2.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Chloroform	ND	0.13	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Chloromethane	ND	0.41	3.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
cis-1,3-Dichloropropene	ND	0.12	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Dibromochloromethane	ND	0.28	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Dibromomethane	ND	0.31	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
1,4-Dichlorobenzene	ND	0.10	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
1,1-Dichloroethane	ND	0.30	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
1,1-Dichloroethene	ND	0.20	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
1,2-Dichloropropane	ND	0.20	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
1,1-Dichloropropene	ND	0.18	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Hexachlorobutadiene	ND	0.42	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
2-Hexanone	ND	1.8	10		µg/L	1	8/1/2023 11:25:00 PM	R98639
Isopropylbenzene	ND	0.18	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
4-Methyl-2-pentanone	ND	0.67	10		µg/L	1	8/1/2023 11:25:00 PM	R98639
Methylene Chloride	ND	0.50	3.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
n-Butylbenzene	ND	0.13	3.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
n-Propylbenzene	ND	0.11	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
sec-Butylbenzene	ND	0.14	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Styrene	ND	0.14	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Tetrachloroethene (PCE)	ND	0.18	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
trans-1,2-DCE	ND	0.19	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639

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Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-8
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 9:50:00 AM
Lab ID: 2307D89-005 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
1,2,3-Trichlorobenzene	ND	0.25	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
1,1,1-Trichloroethane	ND	0.081	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
1,1,2-Trichloroethane	ND	0.20	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Trichloroethene (TCE)	ND	0.20	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Trichlorofluoromethane	ND	0.16	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
1,2,3-Trichloropropane	ND	0.16	2.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Vinyl chloride	ND	0.32	1.0		µg/L	1	8/1/2023 11:25:00 PM	R98639
Xylenes, Total	ND	0.37	1.5		µg/L	1	8/1/2023 11:25:00 PM	R98639
Surr: 1,2-Dichloroethane-d4	116	0	70-130		%Rec	1	8/1/2023 11:25:00 PM	R98639
Surr: 4-Bromofluorobenzene	118	0	70-130		%Rec	1	8/1/2023 11:25:00 PM	R98639
Surr: Dibromofluoromethane	115	0	70-130		%Rec	1	8/1/2023 11:25:00 PM	R98639
Surr: Toluene-d8	111	0	70-130		%Rec	1	8/1/2023 11:25:00 PM	R98639
SM4500-H+B / 9040C: PH							Analyst: **RBC**	
pH	7.94			H	pH units	1	7/28/2023 2:51:24 PM	R98591
SM2320B: ALKALINITY							Analyst: **RBC**	
Bicarbonate (As CaCO3)	515.4	20.00	20.00		mg/L Ca	1	7/28/2023 2:51:24 PM	R98591
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	7/28/2023 2:51:24 PM	R98591
Total Alkalinity (as CaCO3)	515.4	20.00	20.00		mg/L Ca	1	7/28/2023 2:51:24 PM	R98591
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **JAG**	
Total Dissolved Solids	834	25.0	50.0	*	mg/L	1	8/1/2023 2:10:00 PM	76576

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

Qualifiers:

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B	Analyte detected in the associated Method Blank
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P	Sample pH Not In Range
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Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-11
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 10:40:00 AM
Lab ID: 2307D89-006 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	1200	25	50	*	mg/L	100	8/4/2023 1:31:27 PM	R98760
Nitrogen, Nitrite (As N)	ND	0.057	0.50		mg/L	5	7/28/2023 4:55:36 PM	R98598
Nitrogen, Nitrate (As N)	18	0.10	0.50	*	mg/L	5	7/28/2023 4:55:36 PM	R98598
Sulfate	2500	25	50	*	mg/L	100	8/4/2023 1:31:27 PM	R98760
EPA 200.8: METALS							Analyst: **bcv**	
Uranium	0.078	0.00038	0.0025	*	mg/L	5	8/1/2023 2:47:40 PM	76558
EPA METHOD 6020A: DISSOLVED METALS							Analyst: **ELS**	
Arsenic	0.0028	0.0025	0.0050	J	mg/L	5	8/4/2023 2:10:19 PM	D98751
Lead	0.0043	0.0025	0.0050	J	mg/L	5	8/4/2023 2:10:19 PM	D98751
Selenium	0.030	0.0040	0.0050		mg/L	5	8/4/2023 2:10:19 PM	D98751
EPA METHOD 7470A: MERCURY							Analyst: **tem**	
Mercury	ND	0.000081	0.00020		mg/L	1	8/1/2023 12:31:04 PM	76568
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **VP**	
Barium	0.13	0.00074	0.020		mg/L	1	7/31/2023 9:28:22 AM	A98597
Cadmium	ND	0.00083	0.0020		mg/L	1	7/31/2023 9:28:22 AM	A98597
Calcium	420	0.45	5.0		mg/L	5	7/31/2023 9:30:29 AM	A98597
Chromium	0.013	0.00099	0.0060		mg/L	1	7/31/2023 9:28:22 AM	A98597
Silver	0.0029	0.0012	0.0050	J	mg/L	1	7/31/2023 9:28:22 AM	A98597
Sodium	1700	5.9	20		mg/L	20	7/31/2023 10:00:47 AM	A98597
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Acenaphthene	ND	3.3	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
Acenaphthylene	ND	4.6	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
Aniline	ND	5.4	10		µg/L	1	8/2/2023 5:47:38 PM	76542
Anthracene	ND	3.9	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
Azobenzene	ND	3.8	10		µg/L	1	8/2/2023 5:47:38 PM	76542
Benz(a)anthracene	ND	6.7	10		µg/L	1	8/2/2023 5:47:38 PM	76542
Benzo(a)pyrene	ND	4.9	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
Benzo(b)fluoranthene	ND	5.7	10		µg/L	1	8/2/2023 5:47:38 PM	76542
Benzo(g,h,i)perylene	ND	4.9	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
Benzo(k)fluoranthene	ND	4.5	10		µg/L	1	8/2/2023 5:47:38 PM	76542
Benzoic acid	ND	15	20		µg/L	1	8/2/2023 5:47:38 PM	76542
Benzyl alcohol	ND	4.8	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	8/2/2023 5:47:38 PM	76542
Bis(2-chloroethyl)ether	ND	5.0	10		µg/L	1	8/2/2023 5:47:38 PM	76542
Bis(2-chloroisopropyl)ether	ND	3.6	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
Bis(2-ethylhexyl)phthalate	ND	7.0	10		µg/L	1	8/2/2023 5:47:38 PM	76542
4-Bromophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542

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Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-11
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 10:40:00 AM
Lab ID: 2307D89-006 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Butyl benzyl phthalate	ND	6.5	10		µg/L	1	8/2/2023 5:47:38 PM	76542
Carbazole	ND	5.3	10		µg/L	1	8/2/2023 5:47:38 PM	76542
4-Chloro-3-methylphenol	ND	4.6	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
4-Chloroaniline	ND	4.7	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
2-Chloronaphthalene	ND	3.2	10		µg/L	1	8/2/2023 5:47:38 PM	76542
2-Chlorophenol	ND	4.5	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
4-Chlorophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
Chrysene	ND	4.7	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
Di-n-butyl phthalate	ND	19	20		µg/L	1	8/2/2023 5:47:38 PM	76542
Di-n-octyl phthalate	ND	5.6	10		µg/L	1	8/2/2023 5:47:38 PM	76542
Dibenz(a,h)anthracene	ND	4.9	10		µg/L	1	8/2/2023 5:47:38 PM	76542
Dibenzofuran	ND	4.9	10		µg/L	1	8/2/2023 5:47:38 PM	76542
1,2-Dichlorobenzene	ND	2.9	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
1,3-Dichlorobenzene	ND	3.0	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
1,4-Dichlorobenzene	ND	1.8	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
3,3´-Dichlorobenzidine	ND	5.9	10		µg/L	1	8/2/2023 5:47:38 PM	76542
Diethyl phthalate	ND	5.6	10		µg/L	1	8/2/2023 5:47:38 PM	76542
Dimethyl phthalate	ND	5.4	10		µg/L	1	8/2/2023 5:47:38 PM	76542
2,4-Dichlorophenol	ND	3.8	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
2,4-Dimethylphenol	ND	4.8	10		µg/L	1	8/2/2023 5:47:38 PM	76542
4,6-Dinitro-2-methylphenol	ND	4.2	10		µg/L	1	8/2/2023 5:47:38 PM	76542
2,4-Dinitrophenol	ND	4.7	10		µg/L	1	8/2/2023 5:47:38 PM	76542
2,4-Dinitrotoluene	ND	5.0	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
2,6-Dinitrotoluene	ND	5.3	10		µg/L	1	8/2/2023 5:47:38 PM	76542
Fluoranthene	ND	5.5	10		µg/L	1	8/2/2023 5:47:38 PM	76542
Fluorene	ND	4.7	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
Hexachlorobenzene	ND	4.6	20		µg/L	1	8/2/2023 5:47:38 PM	76542
Hexachlorobutadiene	ND	2.5	20		µg/L	1	8/2/2023 5:47:38 PM	76542
Hexachlorocyclopentadiene	ND	2.2	20		µg/L	1	8/2/2023 5:47:38 PM	76542
Hexachloroethane	ND	2.8	20		µg/L	1	8/2/2023 5:47:38 PM	76542
Indeno(1,2,3-cd)pyrene	ND	5.3	10		µg/L	1	8/2/2023 5:47:38 PM	76542
Isophorone	ND	4.3	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
1-Methylnaphthalene	ND	3.1	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
2-Methylnaphthalene	ND	2.4	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
2-Methylphenol	ND	4.7	10		µg/L	1	8/2/2023 5:47:38 PM	76542
3+4-Methylphenol	ND	4.9	10		µg/L	1	8/2/2023 5:47:38 PM	76542
N-Nitrosodi-n-propylamine	ND	3.7	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
N-Nitrosodimethylamine	ND	3.1	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
N-Nitrosodiphenylamine	ND	5.2	10		µg/L	1	8/2/2023 5:47:38 PM	76542

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Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-11
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 10:40:00 AM
Lab ID: 2307D89-006 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Naphthalene	ND	3.2	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
2-Nitroaniline	ND	5.0	10		µg/L	1	8/2/2023 5:47:38 PM	76542
3-Nitroaniline	ND	5.0	10		µg/L	1	8/2/2023 5:47:38 PM	76542
4-Nitroaniline	ND	4.5	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
Nitrobenzene	ND	3.6	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
2-Nitrophenol	ND	4.4	10		µg/L	1	8/2/2023 5:47:38 PM	76542
4-Nitrophenol	ND	2.9	10		µg/L	1	8/2/2023 5:47:38 PM	76542
Pentachlorophenol	ND	4.9	20		µg/L	1	8/2/2023 5:47:38 PM	76542
Phenanthrene	ND	4.8	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
Phenol	ND	3.9	10		µg/L	1	8/2/2023 5:47:38 PM	76542
Pyrene	ND	5.2	10		µg/L	1	8/2/2023 5:47:38 PM	76542
Pyridine	ND	31	40		µg/L	1	8/2/2023 5:47:38 PM	76542
1,2,4-Trichlorobenzene	ND	2.6	5.0		µg/L	1	8/2/2023 5:47:38 PM	76542
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	8/2/2023 5:47:38 PM	76542
2,4,6-Trichlorophenol	ND	4.1	10		µg/L	1	8/2/2023 5:47:38 PM	76542
Surr: 2-Fluorophenol	66.5	0	15-84.1		%Rec	1	8/2/2023 5:47:38 PM	76542
Surr: Phenol-d5	49.4	0	16.5-50.7		%Rec	1	8/2/2023 5:47:38 PM	76542
Surr: 2,4,6-Tribromophenol	66.4	0	15-133		%Rec	1	8/2/2023 5:47:38 PM	76542
Surr: Nitrobenzene-d5	66.8	0	30.9-86.8		%Rec	1	8/2/2023 5:47:38 PM	76542
Surr: 2-Fluorobiphenyl	64.6	0	24.3-77.2		%Rec	1	8/2/2023 5:47:38 PM	76542
Surr: 4-Terphenyl-d14	80.0	0	52.3-118		%Rec	1	8/2/2023 5:47:38 PM	76542
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	0.35	0.23	1.0	J	µg/L	1	8/1/2023 11:49:00 PM	R98639
Toluene	ND	0.20	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Ethylbenzene	ND	0.21	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
1,2,4-Trimethylbenzene	ND	0.12	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
1,2-Dichloroethane (EDC)	ND	0.30	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Naphthalene	ND	0.24	2.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
2-Methylnaphthalene	ND	0.69	4.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Acetone	ND	2.5	10		µg/L	1	8/1/2023 11:49:00 PM	R98639
Bromobenzene	ND	0.28	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Bromodichloromethane	ND	0.20	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Bromoform	ND	0.31	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Bromomethane	ND	0.85	3.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
2-Butanone	ND	2.0	10		µg/L	1	8/1/2023 11:49:00 PM	R98639

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Lab Order **2307D89**
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-11
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Lab ID: 2307D89-006 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Carbon disulfide	ND	0.59	10		µg/L	1	8/1/2023 11:49:00 PM	R98639
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Chlorobenzene	ND	0.46	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Chloroethane	ND	0.38	2.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Chloroform	5.0	0.13	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Chloromethane	ND	0.41	3.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
cis-1,3-Dichloropropene	ND	0.12	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Dibromochloromethane	ND	0.28	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Dibromomethane	ND	0.31	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
1,4-Dichlorobenzene	ND	0.10	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
1,1-Dichloroethane	ND	0.30	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
1,1-Dichloroethene	ND	0.20	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
1,2-Dichloropropane	ND	0.20	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
1,1-Dichloropropene	ND	0.18	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Hexachlorobutadiene	ND	0.42	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
2-Hexanone	ND	1.8	10		µg/L	1	8/1/2023 11:49:00 PM	R98639
Isopropylbenzene	ND	0.18	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
4-Methyl-2-pentanone	ND	0.67	10		µg/L	1	8/1/2023 11:49:00 PM	R98639
Methylene Chloride	ND	0.50	3.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
n-Butylbenzene	ND	0.13	3.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
n-Propylbenzene	ND	0.11	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
sec-Butylbenzene	ND	0.14	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Styrene	ND	0.14	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Tetrachloroethene (PCE)	ND	0.18	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
trans-1,2-DCE	ND	0.19	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639

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Lab ID: 2307D89-006 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
1,2,3-Trichlorobenzene	ND	0.25	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
1,1,1-Trichloroethane	ND	0.081	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
1,1,2-Trichloroethane	ND	0.20	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Trichloroethene (TCE)	ND	0.20	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Trichlorofluoromethane	ND	0.16	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
1,2,3-Trichloropropane	ND	0.16	2.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Vinyl chloride	ND	0.32	1.0		µg/L	1	8/1/2023 11:49:00 PM	R98639
Xylenes, Total	ND	0.37	1.5		µg/L	1	8/1/2023 11:49:00 PM	R98639
Surr: 1,2-Dichloroethane-d4	119	0	70-130		%Rec	1	8/1/2023 11:49:00 PM	R98639
Surr: 4-Bromofluorobenzene	118	0	70-130		%Rec	1	8/1/2023 11:49:00 PM	R98639
Surr: Dibromofluoromethane	118	0	70-130		%Rec	1	8/1/2023 11:49:00 PM	R98639
Surr: Toluene-d8	111	0	70-130		%Rec	1	8/1/2023 11:49:00 PM	R98639
SM4500-H+B / 9040C: PH							Analyst: **RBC**	
pH	7.65			H	pH units	1	7/28/2023 3:11:05 PM	R98591
SM2320B: ALKALINITY							Analyst: **RBC**	
Bicarbonate (As CaCO3)	526.0	20.00	20.00		mg/L Ca	1	7/28/2023 3:11:05 PM	R98591
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	7/28/2023 3:11:05 PM	R98591
Total Alkalinity (as CaCO3)	526.0	20.00	20.00		mg/L Ca	1	7/28/2023 3:11:05 PM	R98591
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **JAG**	
Total Dissolved Solids	6380	125	250	*D	mg/L	1	8/1/2023 2:10:00 PM	76576

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

Qualifiers:

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Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-7-27-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:**
Lab ID: 2307D89-007 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **SNS**	
Chloride	810	25	50	*	mg/L	100	8/4/2023 1:44:19 PM	R98760
Nitrogen, Nitrite (As N)	ND	0.057	0.50		mg/L	5	7/28/2023 5:44:59 PM	R98598
Nitrogen, Nitrate (As N)	ND	0.10	0.50		mg/L	5	7/28/2023 5:44:59 PM	R98598
Sulfate	ND	1.2	2.5		mg/L	5	7/28/2023 5:44:59 PM	R98598
EPA 200.8: METALS							Analyst: **bcv**	
Uranium	0.00014	0.000076	0.00050	J	mg/L	1	8/1/2023 1:14:54 PM	76558
EPA METHOD 6020A: DISSOLVED METALS							Analyst: **ELS**	
Arsenic	ND	0.0025	0.0050		mg/L	5	8/4/2023 2:13:53 PM	D98751
Lead	ND	0.0025	0.0050		mg/L	5	8/4/2023 2:13:53 PM	D98751
Selenium	ND	0.0040	0.0050		mg/L	5	8/4/2023 2:13:53 PM	D98751
EPA METHOD 7470A: MERCURY							Analyst: **tem**	
Mercury	ND	0.000081	0.00020		mg/L	1	8/1/2023 12:33:23 PM	76568
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **VP**	
Barium	0.62	0.0037	0.10		mg/L	5	7/31/2023 9:38:16 AM	A98597
Cadmium	ND	0.00083	0.0020		mg/L	1	7/31/2023 9:32:26 AM	A98597
Calcium	37	0.089	1.0		mg/L	1	7/31/2023 9:32:26 AM	A98597
Chromium	ND	0.00099	0.0060		mg/L	1	7/31/2023 9:32:26 AM	A98597
Silver	ND	0.0012	0.0050		mg/L	1	7/31/2023 9:32:26 AM	A98597
Sodium	1500	5.9	20		mg/L	20	7/31/2023 10:03:01 AM	A98597
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Acenaphthene	ND	3.3	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
Acenaphthylene	ND	4.6	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
Aniline	ND	5.4	10		µg/L	1	8/2/2023 6:31:17 PM	76542
Anthracene	ND	3.9	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
Azobenzene	ND	3.8	10		µg/L	1	8/2/2023 6:31:17 PM	76542
Benz(a)anthracene	ND	6.7	10		µg/L	1	8/2/2023 6:31:17 PM	76542
Benzo(a)pyrene	ND	4.9	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
Benzo(b)fluoranthene	ND	5.7	10		µg/L	1	8/2/2023 6:31:17 PM	76542
Benzo(g,h,i)perylene	ND	4.9	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
Benzo(k)fluoranthene	ND	4.5	10		µg/L	1	8/2/2023 6:31:17 PM	76542
Benzoic acid	ND	15	20		µg/L	1	8/2/2023 6:31:17 PM	76542
Benzyl alcohol	ND	4.8	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	8/2/2023 6:31:17 PM	76542
Bis(2-chloroethyl)ether	ND	5.0	10		µg/L	1	8/2/2023 6:31:17 PM	76542
Bis(2-chloroisopropyl)ether	ND	3.6	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
Bis(2-ethylhexyl)phthalate	ND	7.0	10		µg/L	1	8/2/2023 6:31:17 PM	76542
4-Bromophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542

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Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-7-27-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:**
Lab ID: 2307D89-007 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Butyl benzyl phthalate	ND	6.5	10		µg/L	1	8/2/2023 6:31:17 PM	76542
Carbazole	ND	5.3	10		µg/L	1	8/2/2023 6:31:17 PM	76542
4-Chloro-3-methylphenol	ND	4.6	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
4-Chloroaniline	ND	4.7	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
2-Chloronaphthalene	ND	3.2	10		µg/L	1	8/2/2023 6:31:17 PM	76542
2-Chlorophenol	ND	4.5	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
4-Chlorophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
Chrysene	ND	4.7	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
Di-n-butyl phthalate	ND	19	20		µg/L	1	8/2/2023 6:31:17 PM	76542
Di-n-octyl phthalate	ND	5.6	10		µg/L	1	8/2/2023 6:31:17 PM	76542
Dibenz(a,h)anthracene	ND	4.9	10		µg/L	1	8/2/2023 6:31:17 PM	76542
Dibenzofuran	ND	4.9	10		µg/L	1	8/2/2023 6:31:17 PM	76542
1,2-Dichlorobenzene	ND	2.9	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
1,3-Dichlorobenzene	ND	3.0	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
1,4-Dichlorobenzene	ND	1.8	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
3,3´-Dichlorobenzidine	ND	5.9	10		µg/L	1	8/2/2023 6:31:17 PM	76542
Diethyl phthalate	ND	5.6	10		µg/L	1	8/2/2023 6:31:17 PM	76542
Dimethyl phthalate	ND	5.4	10		µg/L	1	8/2/2023 6:31:17 PM	76542
2,4-Dichlorophenol	ND	3.8	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
2,4-Dimethylphenol	ND	4.8	10		µg/L	1	8/2/2023 6:31:17 PM	76542
4,6-Dinitro-2-methylphenol	ND	4.2	10		µg/L	1	8/2/2023 6:31:17 PM	76542
2,4-Dinitrophenol	ND	4.7	10		µg/L	1	8/2/2023 6:31:17 PM	76542
2,4-Dinitrotoluene	ND	5.0	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
2,6-Dinitrotoluene	ND	5.3	10		µg/L	1	8/2/2023 6:31:17 PM	76542
Fluoranthene	ND	5.5	10		µg/L	1	8/2/2023 6:31:17 PM	76542
Fluorene	ND	4.7	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
Hexachlorobenzene	ND	4.6	20		µg/L	1	8/2/2023 6:31:17 PM	76542
Hexachlorobutadiene	ND	2.5	20		µg/L	1	8/2/2023 6:31:17 PM	76542
Hexachlorocyclopentadiene	ND	2.2	20		µg/L	1	8/2/2023 6:31:17 PM	76542
Hexachloroethane	ND	2.8	20		µg/L	1	8/2/2023 6:31:17 PM	76542
Indeno(1,2,3-cd)pyrene	ND	5.3	10		µg/L	1	8/2/2023 6:31:17 PM	76542
Isophorone	ND	4.3	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
1-Methylnaphthalene	5.7	3.1	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
2-Methylnaphthalene	8.4	2.4	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
2-Methylphenol	ND	4.7	10		µg/L	1	8/2/2023 6:31:17 PM	76542
3+4-Methylphenol	ND	4.9	10		µg/L	1	8/2/2023 6:31:17 PM	76542
N-Nitrosodi-n-propylamine	ND	3.7	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
N-Nitrosodimethylamine	ND	3.1	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
N-Nitrosodiphenylamine	ND	5.2	10		µg/L	1	8/2/2023 6:31:17 PM	76542

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Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-7-27-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:**
Lab ID: 2307D89-007 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **SB**	
Naphthalene	14	3.2	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
2-Nitroaniline	ND	5.0	10		µg/L	1	8/2/2023 6:31:17 PM	76542
3-Nitroaniline	ND	5.0	10		µg/L	1	8/2/2023 6:31:17 PM	76542
4-Nitroaniline	ND	4.5	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
Nitrobenzene	ND	3.6	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
2-Nitrophenol	ND	4.4	10		µg/L	1	8/2/2023 6:31:17 PM	76542
4-Nitrophenol	ND	2.9	10		µg/L	1	8/2/2023 6:31:17 PM	76542
Pentachlorophenol	ND	4.9	20		µg/L	1	8/2/2023 6:31:17 PM	76542
Phenanthrene	ND	4.8	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
Phenol	23	3.9	10		µg/L	1	8/2/2023 6:31:17 PM	76542
Pyrene	ND	5.2	10		µg/L	1	8/2/2023 6:31:17 PM	76542
Pyridine	ND	31	40		µg/L	1	8/2/2023 6:31:17 PM	76542
1,2,4-Trichlorobenzene	ND	2.6	5.0		µg/L	1	8/2/2023 6:31:17 PM	76542
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	8/2/2023 6:31:17 PM	76542
2,4,6-Trichlorophenol	ND	4.1	10		µg/L	1	8/2/2023 6:31:17 PM	76542
Surr: 2-Fluorophenol	52.2	0	15-84.1		%Rec	1	8/2/2023 6:31:17 PM	76542
Surr: Phenol-d5	41.7	0	16.5-50.7		%Rec	1	8/2/2023 6:31:17 PM	76542
Surr: 2,4,6-Tribromophenol	76.2	0	15-133		%Rec	1	8/2/2023 6:31:17 PM	76542
Surr: Nitrobenzene-d5	55.4	0	30.9-86.8		%Rec	1	8/2/2023 6:31:17 PM	76542
Surr: 2-Fluorobiphenyl	58.6	0	24.3-77.2		%Rec	1	8/2/2023 6:31:17 PM	76542
Surr: 4-Terphenyl-d14	81.6	0	52.3-118		%Rec	1	8/2/2023 6:31:17 PM	76542
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	27000	110	500		µg/L	500	8/2/2023 1:02:00 AM	R98639
Toluene	ND	10	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
Ethylbenzene	91	11	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
Methyl tert-butyl ether (MTBE)	ND	20	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
1,2,4-Trimethylbenzene	28	6.1	50	J	µg/L	50	8/2/2023 1:26:00 AM	R98639
1,3,5-Trimethylbenzene	ND	9.1	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
1,2-Dichloroethane (EDC)	ND	15	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
1,2-Dibromoethane (EDB)	ND	15	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
Naphthalene	57	12	100	J	µg/L	50	8/2/2023 1:26:00 AM	R98639
1-Methylnaphthalene	ND	42	200		µg/L	50	8/2/2023 1:26:00 AM	R98639
2-Methylnaphthalene	ND	35	200		µg/L	50	8/2/2023 1:26:00 AM	R98639
Acetone	ND	130	500		µg/L	50	8/2/2023 1:26:00 AM	R98639
Bromobenzene	ND	14	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
Bromodichloromethane	ND	10	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
Bromoform	ND	16	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
Bromomethane	ND	43	150		µg/L	50	8/2/2023 1:26:00 AM	R98639
2-Butanone	ND	100	500		µg/L	50	8/2/2023 1:26:00 AM	R98639

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Analytical Report
Lab Order **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-7-27-23
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Lab ID: 2307D89-007 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Carbon disulfide	ND	30	500		µg/L	50	8/2/2023 1:26:00 AM	R98639
Carbon Tetrachloride	ND	8.8	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
Chlorobenzene	ND	23	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
Chloroethane	ND	19	100		µg/L	50	8/2/2023 1:26:00 AM	R98639
Chloroform	ND	6.7	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
Chloromethane	ND	21	150		µg/L	50	8/2/2023 1:26:00 AM	R98639
2-Chlorotoluene	ND	6.6	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
4-Chlorotoluene	ND	6.7	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
cis-1,2-DCE	ND	19	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
cis-1,3-Dichloropropene	ND	5.8	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
1,2-Dibromo-3-chloropropane	ND	29	100		µg/L	50	8/2/2023 1:26:00 AM	R98639
Dibromochloromethane	ND	14	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
Dibromomethane	ND	15	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
1,2-Dichlorobenzene	ND	7.7	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
1,3-Dichlorobenzene	ND	8.1	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
1,4-Dichlorobenzene	ND	5.2	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
Dichlorodifluoromethane	ND	13	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
1,1-Dichloroethane	ND	15	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
1,1-Dichloroethene	ND	10	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
1,2-Dichloropropane	ND	10	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
1,3-Dichloropropane	ND	9.0	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
2,2-Dichloropropane	ND	13	100		µg/L	50	8/2/2023 1:26:00 AM	R98639
1,1-Dichloropropene	ND	9.0	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
Hexachlorobutadiene	ND	21	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
2-Hexanone	ND	90	500		µg/L	50	8/2/2023 1:26:00 AM	R98639
Isopropylbenzene	ND	9.1	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
4-Isopropyltoluene	ND	10	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
4-Methyl-2-pentanone	ND	34	500		µg/L	50	8/2/2023 1:26:00 AM	R98639
Methylene Chloride	ND	25	150		µg/L	50	8/2/2023 1:26:00 AM	R98639
n-Butylbenzene	ND	6.3	150		µg/L	50	8/2/2023 1:26:00 AM	R98639
n-Propylbenzene	7.1	5.5	50	J	µg/L	50	8/2/2023 1:26:00 AM	R98639
sec-Butylbenzene	ND	7.2	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
Styrene	ND	6.8	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
tert-Butylbenzene	ND	12	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
1,1,1,2-Tetrachloroethane	ND	13	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
1,1,2,2-Tetrachloroethane	ND	14	100		µg/L	50	8/2/2023 1:26:00 AM	R98639
Tetrachloroethene (PCE)	ND	8.9	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
trans-1,2-DCE	ND	9.7	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
trans-1,3-Dichloropropene	ND	17	50		µg/L	50	8/2/2023 1:26:00 AM	R98639

Refer to the QC Summary report and sample login checklist for flagged QC data 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 **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-7-27-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:**
Lab ID: 2307D89-007 **Matrix:** GROUNDWA **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
1,2,3-Trichlorobenzene	ND	12	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
1,2,4-Trichlorobenzene	ND	12	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
1,1,1-Trichloroethane	ND	4.1	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
1,1,2-Trichloroethane	ND	9.9	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
Trichloroethene (TCE)	ND	10	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
Trichlorofluoromethane	ND	7.9	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
1,2,3-Trichloropropane	ND	8.0	100		µg/L	50	8/2/2023 1:26:00 AM	R98639
Vinyl chloride	ND	16	50		µg/L	50	8/2/2023 1:26:00 AM	R98639
Xylenes, Total	120	19	75		µg/L	50	8/2/2023 1:26:00 AM	R98639
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	50	8/2/2023 1:26:00 AM	R98639
Surr: 4-Bromofluorobenzene	120	0	70-130		%Rec	50	8/2/2023 1:26:00 AM	R98639
Surr: Dibromofluoromethane	106	0	70-130		%Rec	50	8/2/2023 1:26:00 AM	R98639
Surr: Toluene-d8	117	0	70-130		%Rec	50	8/2/2023 1:26:00 AM	R98639
SM4500-H+B / 9040C: PH							Analyst: **RBC**	
pH	7.81				pH units	1	7/28/2023 3:32:21 PM	R98591
SM2320B: ALKALINITY							Analyst: **RBC**	
Bicarbonate (As CaCO3)	2126	50.00	50.00		mg/L Ca	2.5	8/8/2023 3:28:36 PM	R98841
Carbonate (As CaCO3)	ND	5.000	5.000		mg/L Ca	2.5	8/8/2023 3:28:36 PM	R98841
Total Alkalinity (as CaCO3)	2126	50.00	50.00		mg/L Ca	2.5	8/8/2023 3:28:36 PM	R98841
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **JAG**	
Total Dissolved Solids	3830	125	250	*D	mg/L	1	8/1/2023 2:10:00 PM	76576

Refer to the QC Summary report and sample login checklist for flagged QC data 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 **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** FB-7-27-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 10:40:00 AM
Lab ID: 2307D89-008 **Matrix:** AQUEOUS **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	ND	0.23	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Toluene	ND	0.20	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Ethylbenzene	ND	0.21	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
1,2,4-Trimethylbenzene	ND	0.12	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
1,2-Dichloroethane (EDC)	ND	0.30	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Naphthalene	ND	0.24	2.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
2-Methylnaphthalene	ND	0.69	4.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Acetone	4.1	2.5	10	J	µg/L	1	8/2/2023 12:13:00 AM	R98639
Bromobenzene	ND	0.28	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Bromodichloromethane	ND	0.20	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Bromoform	ND	0.31	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Bromomethane	ND	0.85	3.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
2-Butanone	ND	2.0	10		µg/L	1	8/2/2023 12:13:00 AM	R98639
Carbon disulfide	ND	0.59	10		µg/L	1	8/2/2023 12:13:00 AM	R98639
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Chlorobenzene	ND	0.46	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Chloroethane	ND	0.38	2.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Chloroform	ND	0.13	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Chloromethane	3.0	0.41	3.0	J	µg/L	1	8/2/2023 12:13:00 AM	R98639
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
cis-1,3-Dichloropropene	ND	0.12	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Dibromochloromethane	ND	0.28	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Dibromomethane	ND	0.31	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
1,4-Dichlorobenzene	ND	0.10	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
1,1-Dichloroethane	ND	0.30	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
1,1-Dichloroethene	ND	0.20	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
1,2-Dichloropropane	ND	0.20	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	8/2/2023 12:13:00 AM	R98639

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 **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** FB-7-27-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 7/27/2023 10:40:00 AM
Lab ID: 2307D89-008 **Matrix:** AQUEOUS **Received Date:** 7/28/2023 7:15:00 AM

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	8/2/2023 12:13:00 AM	R98639
Hexachlorobutadiene	ND	0.42	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
2-Hexanone	ND	1.8	10		µg/L	1	8/2/2023 12:13:00 AM	R98639
Isopropylbenzene	ND	0.18	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
4-Methyl-2-pentanone	ND	0.67	10		µg/L	1	8/2/2023 12:13:00 AM	R98639
Methylene Chloride	ND	0.50	3.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
n-Butylbenzene	ND	0.13	3.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
n-Propylbenzene	ND	0.11	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
sec-Butylbenzene	ND	0.14	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Styrene	ND	0.14	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Tetrachloroethene (PCE)	ND	0.18	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
trans-1,2-DCE	ND	0.19	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
1,2,3-Trichlorobenzene	ND	0.25	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
1,1,1-Trichloroethane	ND	0.081	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
1,1,2-Trichloroethane	ND	0.20	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Trichloroethene (TCE)	ND	0.20	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Trichlorofluoromethane	ND	0.16	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
1,2,3-Trichloropropane	ND	0.16	2.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Vinyl chloride	ND	0.32	1.0		µg/L	1	8/2/2023 12:13:00 AM	R98639
Xylenes, Total	ND	0.37	1.5		µg/L	1	8/2/2023 12:13:00 AM	R98639
Surr: 1,2-Dichloroethane-d4	117	0	70-130		%Rec	1	8/2/2023 12:13:00 AM	R98639
Surr: 4-Bromofluorobenzene	119	0	70-130		%Rec	1	8/2/2023 12:13:00 AM	R98639
Surr: Dibromofluoromethane	114	0	70-130		%Rec	1	8/2/2023 12:13:00 AM	R98639
Surr: Toluene-d8	110	0	70-130		%Rec	1	8/2/2023 12:13:00 AM	R98639

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 **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** Trip Blank
Project: Wingate 2023 Annual GW Sampling **Collection Date:**
Lab ID: 2307D89-009 **Matrix:** TRIP BLANK **Received Date:** 7/28/2023 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	ND	0.23	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Toluene	ND	0.20	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Ethylbenzene	ND	0.21	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
1,2,4-Trimethylbenzene	ND	0.12	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
1,2-Dichloroethane (EDC)	ND	0.30	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Naphthalene	ND	0.24	2.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
2-Methylnaphthalene	ND	0.69	4.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Acetone	ND	2.5	10		µg/L	1	8/2/2023 12:38:00 AM	R98639
Bromobenzene	ND	0.28	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Bromodichloromethane	ND	0.20	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Bromoform	ND	0.31	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Bromomethane	ND	0.85	3.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
2-Butanone	ND	2.0	10		µg/L	1	8/2/2023 12:38:00 AM	R98639
Carbon disulfide	ND	0.59	10		µg/L	1	8/2/2023 12:38:00 AM	R98639
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Chlorobenzene	ND	0.46	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Chloroethane	ND	0.38	2.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Chloroform	ND	0.13	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Chloromethane	ND	0.41	3.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
cis-1,3-Dichloropropene	ND	0.12	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Dibromochloromethane	ND	0.28	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Dibromomethane	ND	0.31	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
1,4-Dichlorobenzene	ND	0.10	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
1,1-Dichloroethane	ND	0.30	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
1,1-Dichloroethene	ND	0.20	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
1,2-Dichloropropane	ND	0.20	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	8/2/2023 12:38:00 AM	R98639

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 **2307D89**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** Trip Blank
Project: Wingate 2023 Annual GW Sampling **Collection Date:**
Lab ID: 2307D89-009 **Matrix:** TRIP BLANK **Received Date:** 7/28/2023 7:15:00 AM

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	8/2/2023 12:38:00 AM	R98639
Hexachlorobutadiene	ND	0.42	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
2-Hexanone	ND	1.8	10		µg/L	1	8/2/2023 12:38:00 AM	R98639
Isopropylbenzene	ND	0.18	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
4-Methyl-2-pentanone	ND	0.67	10		µg/L	1	8/2/2023 12:38:00 AM	R98639
Methylene Chloride	ND	0.50	3.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
n-Butylbenzene	ND	0.13	3.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
n-Propylbenzene	ND	0.11	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
sec-Butylbenzene	ND	0.14	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Styrene	ND	0.14	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Tetrachloroethene (PCE)	ND	0.18	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
trans-1,2-DCE	ND	0.19	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
1,2,3-Trichlorobenzene	ND	0.25	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
1,1,1-Trichloroethane	ND	0.081	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
1,1,2-Trichloroethane	ND	0.20	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Trichloroethene (TCE)	ND	0.20	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Trichlorofluoromethane	ND	0.16	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
1,2,3-Trichloropropane	ND	0.16	2.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Vinyl chloride	ND	0.32	1.0		µg/L	1	8/2/2023 12:38:00 AM	R98639
Xylenes, Total	ND	0.37	1.5		µg/L	1	8/2/2023 12:38:00 AM	R98639
Surr: 1,2-Dichloroethane-d4	116	0	70-130		%Rec	1	8/2/2023 12:38:00 AM	R98639
Surr: 4-Bromofluorobenzene	118	0	70-130		%Rec	1	8/2/2023 12:38:00 AM	R98639
Surr: Dibromofluoromethane	116	0	70-130		%Rec	1	8/2/2023 12:38:00 AM	R98639
Surr: Toluene-d8	111	0	70-130		%Rec	1	8/2/2023 12:38:00 AM	R98639

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307D89**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Metals**							
Client ID: **PBW**	Batch ID: **A98622**	RunNo: **98622**							
Prep Date:	Analysis Date: **7/31/2023**	SeqNo: **3591657**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.00050								

Sample ID: **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Metals**							
Client ID: **BatchQC**	Batch ID: **A98622**	RunNo: **98622**							
Prep Date:	Analysis Date: **7/31/2023**	SeqNo: **3591658**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.00051	0.00050	0.0005000	0	103	50	150			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Metals**							
Client ID: **LCSW**	Batch ID: **A98622**	RunNo: **98622**							
Prep Date:	Analysis Date: **7/31/2023**	SeqNo: **3591659**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.013	0.00050	0.01250	0	100	85	115			

Sample ID: **MB-76558**	SampType: **MBLK**	TestCode: **EPA 200.8: Metals**							
Client ID: **PBW**	Batch ID: **76558**	RunNo: **98641**							
Prep Date: **7/31/2023**	Analysis Date: **8/1/2023**	SeqNo: **3592430**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.00050								

Sample ID: **MSLCSLL-76558**	SampType: **LCSLL**	TestCode: **EPA 200.8: Metals**							
Client ID: **BatchQC**	Batch ID: **76558**	RunNo: **98641**							
Prep Date: **7/31/2023**	Analysis Date: **8/1/2023**	SeqNo: **3592431**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.00049	0.00050	0.0005000	0	98.2	50	150			J

Sample ID: **MSLCS-76558**	SampType: **LCS**	TestCode: **EPA 200.8: Metals**							
Client ID: **LCSW**	Batch ID: **76558**	RunNo: **98641**							
Prep Date: **7/31/2023**	Analysis Date: **8/1/2023**	SeqNo: **3592432**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.012	0.00050	0.01250	0	100	85	115			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307D89**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **2307D89-004DMSLL**	SampType: **MS**	TestCode: **EPA 200.8: Metals**
Client ID: **WMW-3**	Batch ID: **76558**	RunNo: **98641**
Prep Date: **7/31/2023**	Analysis Date: **8/1/2023**	SeqNo: **3592475** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.070	0.0025	0.01250	0.05771	99.5	70	130			

Sample ID: **2307D89-004DMSDL**	SampType: **MSD**	TestCode: **EPA 200.8: Metals**
Client ID: **WMW-3**	Batch ID: **76558**	RunNo: **98641**
Prep Date: **7/31/2023**	Analysis Date: **8/1/2023**	SeqNo: **3592476** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.070	0.0025	0.01250	0.05771	97.3	70	130	0.392	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307D89**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R98598**	RunNo: **98598**
Prep Date:	Analysis Date: **7/28/2023**	SeqNo: **3590685** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
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: **R98598**	RunNo: **98598**
Prep Date:	Analysis Date: **7/28/2023**	SeqNo: **3590686** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	93.2	90	110			
Nitrogen, Nitrite (As N)	0.96	0.10	1.000	0	96.5	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	99.5	90	110			
Sulfate	9.5	0.50	10.00	0	95.0	90	110			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R98598**	RunNo: **98598**
Prep Date:	Analysis Date: **7/28/2023**	SeqNo: **3590736** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
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: **R98598**	RunNo: **98598**
Prep Date:	Analysis Date: **7/28/2023**	SeqNo: **3590737** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.6	90	110			
Nitrogen, Nitrite (As N)	0.96	0.10	1.000	0	96.4	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	98.8	90	110			
Sulfate	9.6	0.50	10.00	0	95.6	90	110			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R98760**	RunNo: **98760**
Prep Date:	Analysis Date: **8/4/2023**	SeqNo: **3597396** 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 standard limits. If undiluted results may be estimated.
B	Analyte detected in the 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#: **2307D89**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R98760**	RunNo: **98760**							
Prep Date:	Analysis Date: **8/4/2023**	SeqNo: **3597396**	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: **R98760**	RunNo: **98760**							
Prep Date:	Analysis Date: **8/4/2023**	SeqNo: **3597397**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	94.3	90	110			
Sulfate	9.7	0.50	10.00	0	97.5	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307D89**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 6020A: Dissolved Metals**
Client ID: **PBW**	Batch ID: **D98751**	RunNo: **98751**
Prep Date:	Analysis Date: **8/4/2023**	SeqNo: **3596913** 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								
Selenium	ND	0.0010								

Sample ID: **LCSLL**	SampType: **LCSLL**	TestCode: **EPA Method 6020A: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **D98751**	RunNo: **98751**
Prep Date:	Analysis Date: **8/4/2023**	SeqNo: **3596914** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	113	70	130			
Lead	0.0015	0.0010	0.001000	0	146	70	130			S
Selenium	0.0011	0.0010	0.001000	0	112	70	130			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 6020A: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **D98751**	RunNo: **98751**
Prep Date:	Analysis Date: **8/4/2023**	SeqNo: **3596916** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.052	0.0010	0.05000	0	104	80	120			
Lead	0.051	0.0010	0.05000	0	102	80	120			
Selenium	0.048	0.0010	0.05000	0	95.3	80	120			

Sample ID: **2307D89-001EMS**	SampType: **MS**	TestCode: **EPA Method 6020A: Dissolved Metals**
Client ID: **EB-7-27-23**	Batch ID: **D98751**	RunNo: **98751**
Prep Date:	Analysis Date: **8/4/2023**	SeqNo: **3596921** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.053	0.0010	0.05000	0	106	75	125			
Lead	0.053	0.0010	0.05000	0	105	75	125			
Selenium	0.057	0.0010	0.05000	0	114	75	125			

Sample ID: **2307D89-001EMSD**	SampType: **MSD**	TestCode: **EPA Method 6020A: Dissolved Metals**
Client ID: **EB-7-27-23**	Batch ID: **D98751**	RunNo: **98751**
Prep Date:	Analysis Date: **8/4/2023**	SeqNo: **3596922** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.054	0.0010	0.05000	0	107	75	125	0.971	20	
Lead	0.051	0.0010	0.05000	0	101	75	125	3.70	20	
Selenium	0.057	0.0010	0.05000	0	114	75	125	0.606	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307D89**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R98639**	RunNo: **98639**
Prep Date:	Analysis Date: **8/1/2023**	SeqNo: **3592868** 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	20	1.0	20.00	0	101	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	99.2	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	97.2	70	130			
Surr: 1,2-Dichloroethane-d4	12		10.00		115	70	130			
Surr: 4-Bromofluorobenzene	12		10.00		121	70	130			
Surr: Dibromofluoromethane	11		10.00		112	70	130			
Surr: Toluene-d8	11		10.00		112	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R98639**	RunNo: **98639**
Prep Date:	Analysis Date: **8/1/2023**	SeqNo: **3592869** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	1.8	4.0								J
2-Methylnaphthalene	1.9	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2307D89**
16-Aug-23

Client: Marathon
Project: Wingate 2023 Annual GW Sampling

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R98639**	RunNo: **98639**
Prep Date:	Analysis Date: **8/1/2023**	SeqNo: **3592869** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307D89**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R98639**	RunNo: **98639**
Prep Date:	Analysis Date: **8/1/2023**	SeqNo: **3592869** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		114	70	130			
Surr: 4-Bromofluorobenzene	12		10.00		120	70	130			
Surr: Dibromofluoromethane	11		10.00		112	70	130			
Surr: Toluene-d8	11		10.00		111	70	130			

Sample ID: **2307D89-003ams**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **WMW-6**	Batch ID: **R98639**	RunNo: **98639**
Prep Date:	Analysis Date: **8/1/2023**	SeqNo: **3592878** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	1.980	103	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
Chlorobenzene	20	1.0	20.00	0	101	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	96.8	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	94.3	70	130			
Surr: 1,2-Dichloroethane-d4	12		10.00		117	70	130			
Surr: 4-Bromofluorobenzene	12		10.00		122	70	130			
Surr: Dibromofluoromethane	11		10.00		113	70	130			
Surr: Toluene-d8	11		10.00		112	70	130			

Sample ID: **2307D89-003amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **WMW-6**	Batch ID: **R98639**	RunNo: **98639**
Prep Date:	Analysis Date: **8/1/2023**	SeqNo: **3592879** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	1.980	98.6	70	130	3.48	20	
Toluene	19	1.0	20.00	0	96.2	70	130	5.43	20	
Chlorobenzene	19	1.0	20.00	0	96.7	70	130	4.09	20	
1,1-Dichloroethene	19	1.0	20.00	0	94.7	70	130	2.24	20	
Trichloroethene (TCE)	18	1.0	20.00	0	90.6	70	130	4.01	20	
Surr: 1,2-Dichloroethane-d4	12		10.00		117	70	130	0	0	
Surr: 4-Bromofluorobenzene	12		10.00		120	70	130	0	0	
Surr: Dibromofluoromethane	12		10.00		116	70	130	0	0	
Surr: Toluene-d8	11		10.00		112	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the 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#: **2307D89**
16-Aug-23

Client: Marathon
Project: Wingate 2023 Annual GW Sampling

Sample ID: **MB-76542**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **76542**	RunNo: **98655**
Prep Date: **7/28/2023**	Analysis Date: **8/2/2023**	SeqNo: **3594563** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	5.0								
Acenaphthylene	ND	5.0								
Aniline	ND	10								
Anthracene	ND	5.0								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	5.0								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	5.0								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	5.0								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	5.0								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	5.0								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	5.0								
4-Chloroaniline	ND	5.0								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	5.0								
4-Chlorophenyl phenyl ether	ND	5.0								
Chrysene	ND	5.0								
Di-n-butyl phthalate	ND	20								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	5.0								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	10								
2,4-Dinitrophenol	ND	10								

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2307D89**
16-Aug-23

Client: Marathon
Project: Wingate 2023 Annual GW Sampling

Sample ID: **MB-76542**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **76542**	RunNo: **98655**
Prep Date: **7/28/2023**	Analysis Date: **8/2/2023**	SeqNo: **3594563** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	5.0								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	5.0								
Hexachlorobenzene	ND	20								
Hexachlorobutadiene	ND	20								
Hexachlorocyclopentadiene	ND	20								
Hexachloroethane	ND	20								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	5.0								
1-Methylnaphthalene	ND	5.0								
2-Methylnaphthalene	ND	5.0								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	5.0								
N-Nitrosodimethylamine	ND	5.0								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	5.0								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	5.0								
Nitrobenzene	ND	5.0								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	5.0								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	40								
1,2,4-Trichlorobenzene	ND	5.0								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	99		200.0		49.7	15	84.1			
Surr: Phenol-d5	76		200.0		38.2	16.5	50.7			
Surr: 2,4,6-Tribromophenol	85		200.0		42.4	15	133			
Surr: Nitrobenzene-d5	58		100.0		57.7	30.9	86.8			
Surr: 2-Fluorobiphenyl	46		100.0		45.6	24.3	77.2			
Surr: 4-Terphenyl-d14	69		100.0		68.9	52.3	118			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307D89**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **LCS-76542**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **76542**	RunNo: **98655**
Prep Date: **7/28/2023**	Analysis Date: **8/2/2023**	SeqNo: **3594564** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	48	5.0	100.0	0	47.9	24.5	94.9			
4-Chloro-3-methylphenol	110	5.0	200.0	0	55.0	31.8	101			
2-Chlorophenol	110	5.0	200.0	0	52.9	23.2	109			
1,4-Dichlorobenzene	35	5.0	100.0	0	34.6	15	83.7			
2,4-Dinitrotoluene	43	5.0	100.0	0	43.3	26.7	83.2			
N-Nitrosodi-n-propylamine	59	5.0	100.0	0	58.5	26	99.8			
4-Nitrophenol	29	10	200.0	0	14.5	15	74			S
Pentachlorophenol	34	20	200.0	0	17.1	15	101			
Phenol	66	10	200.0	0	33.0	15.5	62.1			
Pyrene	56	10	100.0	0	56.2	50	111			
1,2,4-Trichlorobenzene	34	5.0	100.0	0	33.7	15	85.4			
Surr: 2-Fluorophenol	86		200.0		42.8	15	84.1			
Surr: Phenol-d5	68		200.0		34.2	16.5	50.7			
Surr: 2,4,6-Tribromophenol	69		200.0		34.4	15	133			
Surr: Nitrobenzene-d5	53		100.0		52.6	30.9	86.8			
Surr: 2-Fluorobiphenyl	43		100.0		42.8	24.3	77.2			
Surr: 4-Terphenyl-d14	63		100.0		63.2	52.3	118			

Sample ID: **LCSD-76542**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **76542**	RunNo: **98655**
Prep Date: **7/28/2023**	Analysis Date: **8/2/2023**	SeqNo: **3594565** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	50	5.0	100.0	0	50.5	24.5	94.9	5.12	44.2	
4-Chloro-3-methylphenol	110	5.0	200.0	0	56.4	31.8	101	2.50	45.4	
2-Chlorophenol	100	5.0	200.0	0	51.9	23.2	109	1.88	68.7	
1,4-Dichlorobenzene	32	5.0	100.0	0	32.1	15	83.7	7.60	45.5	
2,4-Dinitrotoluene	46	5.0	100.0	0	46.1	26.7	83.2	6.32	33.9	
N-Nitrosodi-n-propylamine	60	5.0	100.0	0	60.3	26	99.8	2.98	52.2	
4-Nitrophenol	63	10	200.0	0	31.3	15	74	73.2	86.9	
Pentachlorophenol	72	20	200.0	0	36.1	15	101	71.3	44.3	R
Phenol	64	10	200.0	0	31.9	15.5	62.1	3.45	44.2	
Pyrene	58	10	100.0	0	57.7	50	111	2.63	27.1	
1,2,4-Trichlorobenzene	32	5.0	100.0	0	32.4	15	85.4	3.86	55.3	
Surr: 2-Fluorophenol	92		200.0		46.0	15	84.1	0	0	
Surr: Phenol-d5	70		200.0		34.9	16.5	50.7	0	0	
Surr: 2,4,6-Tribromophenol	95		200.0		47.7	15	133	0	0	
Surr: Nitrobenzene-d5	55		100.0		54.6	30.9	86.8	0	0	
Surr: 2-Fluorobiphenyl	44		100.0		43.6	24.3	77.2	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307D89**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **LCSD-76542**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **76542**	RunNo: **98655**
Prep Date: **7/28/2023**	Analysis Date: **8/2/2023**	SeqNo: **3594565** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	70		100.0		70.3	52.3	118	0	0	

Sample ID: **LCS-76542**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **76542**	RunNo: **98704**
Prep Date: **7/28/2023**	Analysis Date: **8/3/2023**	SeqNo: **3595662** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	47	5.0	100.0	0	47.5	24.5	94.9			
4-Chloro-3-methylphenol	110	5.0	200.0	0	54.6	31.8	101			
2-Chlorophenol	100	5.0	200.0	0	49.9	23.2	109			
1,4-Dichlorobenzene	33	5.0	100.0	0	32.9	15	83.7			
2,4-Dinitrotoluene	43	5.0	100.0	0	42.9	26.7	83.2			
N-Nitrosodi-n-propylamine	58	5.0	100.0	0	57.9	26	99.8			
4-Nitrophenol	31	10	200.0	0	15.7	15	74			
Pentachlorophenol	42	20	200.0	0	21.0	15	101			
Phenol	61	10	200.0	0	30.4	15.5	62.1			
Pyrene	60	10	100.0	0	59.8	50	111			
1,2,4-Trichlorobenzene	33	5.0	100.0	0	33.2	15	85.4			
Surr: 2-Fluorophenol	80		200.0		39.8	15	84.1			
Surr: Phenol-d5	65		200.0		32.7	16.5	50.7			
Surr: 2,4,6-Tribromophenol	75		200.0		37.7	15	133			
Surr: Nitrobenzene-d5	52		100.0		52.4	30.9	86.8			
Surr: 2-Fluorobiphenyl	42		100.0		41.8	24.3	77.2			
Surr: 4-Terphenyl-d14	69		100.0		69.0	52.3	118			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307D89**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **MB-76568**	SampType: **MBLK**	TestCode: **EPA Method 7470A: Mercury**
Client ID: **PBW**	Batch ID: **76568**	RunNo: **98634**
Prep Date: **7/31/2023**	Analysis Date: **8/1/2023**	SeqNo: **3592243** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: **LCSLL-76568**	SampType: **LCSLL**	TestCode: **EPA Method 7470A: Mercury**
Client ID: **BatchQC**	Batch ID: **76568**	RunNo: **98634**
Prep Date: **7/31/2023**	Analysis Date: **8/1/2023**	SeqNo: **3592244** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00016	0.00020	0.0001500	0	108	50	150			J

Sample ID: **LCS-76568**	SampType: **LCS**	TestCode: **EPA Method 7470A: Mercury**
Client ID: **LCSW**	Batch ID: **76568**	RunNo: **98634**
Prep Date: **7/31/2023**	Analysis Date: **8/1/2023**	SeqNo: **3592245** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.6	85	115			

Sample ID: **2307D89-003DMS**	SampType: **MS**	TestCode: **EPA Method 7470A: Mercury**
Client ID: **WMW-6**	Batch ID: **76568**	RunNo: **98634**
Prep Date: **7/31/2023**	Analysis Date: **8/1/2023**	SeqNo: **3592252** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	101	75	125			

Sample ID: **2307D89-003DMSD**	SampType: **MSD**	TestCode: **EPA Method 7470A: Mercury**
Client ID: **WMW-6**	Batch ID: **76568**	RunNo: **98634**
Prep Date: **7/31/2023**	Analysis Date: **8/1/2023**	SeqNo: **3592253** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	102	75	125	1.27	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307D89**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A98597**	RunNo: **98597**
Prep Date:	Analysis Date: **7/31/2023**	SeqNo: **3590635** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Silver	ND	0.0050								
Sodium	ND	1.0								

Sample ID: **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A98597**	RunNo: **98597**
Prep Date:	Analysis Date: **7/31/2023**	SeqNo: **3590637** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.55	0.020	0.5000	0	110	80	120			
Cadmium	0.58	0.0020	0.5000	0	115	80	120			
Calcium	56	1.0	50.00	0	112	80	120			
Chromium	0.56	0.0060	0.5000	0	113	80	120			
Silver	0.11	0.0050	0.1000	0	111	80	120			
Sodium	55	1.0	50.00	0	110	80	120			

Sample ID: **2307D89-007EMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **DUP-7-27-23**	Batch ID: **A98597**	RunNo: **98597**
Prep Date:	Analysis Date: **7/31/2023**	SeqNo: **3590655** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.52	0.0020	0.5000	0	103	75	125			
Calcium	84	1.0	50.00	36.76	94.8	75	125			
Chromium	0.50	0.0060	0.5000	0	99.6	75	125			
Silver	0.097	0.0050	0.1000	0	97.0	75	125			

Sample ID: **2307D89-007EMSD**	SampType: **MSD**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **DUP-7-27-23**	Batch ID: **A98597**	RunNo: **98597**
Prep Date:	Analysis Date: **7/31/2023**	SeqNo: **3590656** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.53	0.0020	0.5000	0	106	75	125	2.54	20	
Calcium	87	1.0	50.00	36.76	100	75	125	3.11	20	
Chromium	0.51	0.0060	0.5000	0	103	75	125	3.11	20	
Silver	0.10	0.0050	0.1000	0	101	75	125	3.69	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307D89**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **2307D89-007EMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **DUP-7-27-23**	Batch ID: **A98597**	RunNo: **98597**
Prep Date:	Analysis Date: **7/31/2023**	SeqNo: **3590661** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	3.1	0.10	2.500	0.6231	98.9	75	125			

Sample ID: **2307D89-007EMSD**	SampType: **MSD**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **DUP-7-27-23**	Batch ID: **A98597**	RunNo: **98597**
Prep Date:	Analysis Date: **7/31/2023**	SeqNo: **3590662** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	3.1	0.10	2.500	0.6231	99.1	75	125	0.188	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307D89**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **mb-1 alk**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R98591**	RunNo: **98591**							
Prep Date:	Analysis Date: **7/28/2023**	SeqNo: **3590018**	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: **R98591**	RunNo: **98591**							
Prep Date:	Analysis Date: **7/28/2023**	SeqNo: **3590019**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.44	20.00	80.00	0	99.3	90	110			

Sample ID: **mb-2 alk**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R98591**	RunNo: **98591**							
Prep Date:	Analysis Date: **7/28/2023**	SeqNo: **3590041**	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-2 alk**	SampType: **LCS**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSW**	Batch ID: **R98591**	RunNo: **98591**							
Prep Date:	Analysis Date: **7/28/2023**	SeqNo: **3590042**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	82.40	20.00	80.00	0	103	90	110			

Sample ID: **mb-3 alk**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R98591**	RunNo: **98591**							
Prep Date:	Analysis Date: **7/28/2023**	SeqNo: **3590068**	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-3 alk**	SampType: **LCS**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSW**	Batch ID: **R98591**	RunNo: **98591**							
Prep Date:	Analysis Date: **7/28/2023**	SeqNo: **3590069**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.60	20.00	80.00	0	99.5	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307D89**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **mb-1 alk**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R98841**	RunNo: **98841**							
Prep Date:	Analysis Date: **8/8/2023**	SeqNo: **3600801**	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: **R98841**	RunNo: **98841**							
Prep Date:	Analysis Date: **8/8/2023**	SeqNo: **3600802**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	80.16	20.00	80.00	0	100	90	110			

Sample ID: **lcsD-1 alk**	SampType: **LCSD**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSS02**	Batch ID: **R98841**	RunNo: **98841**							
Prep Date:	Analysis Date: **8/8/2023**	SeqNo: **3600803**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.92	20.00	80.00	0	99.9	90	110	0.300	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307D89**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **MB-76576**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **76576**	RunNo: **98637**
Prep Date: **7/31/2023**	Analysis Date: **8/1/2023**	SeqNo: **3592298** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50.0								

Sample ID: **LCS-76576**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **76576**	RunNo: **98637**
Prep Date: **7/31/2023**	Analysis Date: **8/1/2023**	SeqNo: **3592299** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	50.0	1000	0	101	80	120			

Qualifiers:

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

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: 2307D89 | RcptNo: 1

Received By: Steve McQuiston 7/28/2023 7:15:00 AM

Completed By: Tracy Casarrubias 7/28/2023 7:26:39 AM

Reviewed By: 7-28-23

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 preserved added to bottles? Yes ☑ No ☑ NA ☐ SCM 07/28/23
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: 21 (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐ Adjusted? YES
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 07/28/23

Labeled by: JIL 7/28/23

Special Handling (if applicable)

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

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

16. Additional remarks: ADDED ~0.4 mL HNO_3 (LOT#7115) TO SAMPLES 002E & 007E, ADDED ~0.5 mL HNO_3 (LOT#7115) TO SAMPLE 004D, ADDED ~1.0 mL HNO_3 (LOT#7115) TO SAMPLES 002D & 007D FOR pH<2. SCM 07/28/23
17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.9	Good	Yes	Morty		
2	4.9	Good	Yes	Morty		

Chain-of-Custody Record

Client: Marathon Petroleum Company

Mailing Address: 92 Giant Crossing Rd.
Jamestown, NM 87347

Phone #: 970-227-4443

email or Fax#: cfields@trihydro.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

X EDD (Type)

☐ Standard X Rush

Project Name: Wingate 2023 Annual GW Sampling

Project #: 00697-080-004

Project Manager: Caitlin Fields/Beth Butler

Sampler:

On Ice: ☒ Yes ☐ No

# of Coolers: 2 1.9-0=1.9°C NORTY

Cooler Temp(Including CF): 4.9-0=4.9°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. 2307D89	8260-VOC	8270-SVOC	6010-Dissolved Metals	7470 - Mercury	SM2320B - Alkalinity, Total as CaCO3	SM2540C - TDS	9040 - pH	300.0 Chloride, Nitrogen, Nitrite, Sulfate	200.8 Total Uranium
7/27	8:30	water	EB-7-27-23	8		001	X	X	X	X	X	X	X	X	X
7/27	8:00	water	WMW-2	8		002	X	X	X	X	X	X	X	X	X
7/27	8:45	water	WMW-6	8		003	X	X	X	X	X	X	X	X	X
7/27	9:20	water	WMW-3	8		004	X	X	X	X	X	X	X	X	X
7/27	9:50	water	WMW-8	8		005	X	X	X	X	X	X	X	X	X
7/27	10:40	water	WMW-11	8		006	X	X	X	X	X	X	X	X	X
7/27	—	water	Dup-7-27-23	8		007	X	X	X	X	X	X	X	X	X
7/27	10:40	water	FB-7-27-23	2		008	X	X							
		water													
		water													
		water													
		water													

Date: 7/27 Time: 12:15 Relinquished by: Hilario Tarin

Received by: SCM Via: COURIER Date: 07/28/23 Time: 0715

Date: Time: Relinquished by:

Received by: Via: Date: Time:

Remarks: Please rush samples

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

August 16, 2023

Caitlin Fields

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

RE: Wingate 2023 Annual GW Sampling OrderNo.: 2308192

Dear Caitlin Fields:

Hall Environmental Analysis Laboratory received 10 sample(s) on 8/3/2023 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 **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** EB-8-2-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 8:25:00 AM
Lab ID: 2308192-001 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **JMT**	
Chloride	ND	0.25	0.50		mg/L	1	8/3/2023 11:58:08 AM	R98720
Nitrogen, Nitrite (As N)	ND	0.011	0.10		mg/L	1	8/3/2023 11:58:08 AM	R98720
Nitrogen, Nitrate (As N)	ND	0.020	0.10		mg/L	1	8/3/2023 11:58:08 AM	R98720
Sulfate	ND	0.25	0.50		mg/L	1	8/3/2023 11:58:08 AM	R98720
EPA 200.8: METALS							Analyst: **bcv**	
Uranium	ND	0.000076	0.00050		mg/L	1	8/7/2023 11:27:30 AM	76676
EPA METHOD 6020A: DISSOLVED METALS							Analyst: **ELS**	
Arsenic	ND	0.00050	0.0010		mg/L	1	8/4/2023 2:17:27 PM	D98751
Lead	ND	0.00050	0.0010		mg/L	1	8/4/2023 2:17:27 PM	D98751
Selenium	ND	0.00080	0.0010		mg/L	1	8/4/2023 2:17:27 PM	D98751
EPA METHOD 7470A: MERCURY							Analyst: **tem**	
Mercury	ND	0.000081	0.00020		mg/L	1	8/8/2023 1:40:35 PM	76699
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **VP**	
Barium	ND	0.00074	0.020		mg/L	1	8/4/2023 9:34:11 AM	A98732
Cadmium	ND	0.00083	0.0020		mg/L	1	8/4/2023 9:34:11 AM	A98732
Calcium	ND	0.089	1.0		mg/L	1	8/4/2023 9:34:11 AM	A98732
Chromium	ND	0.00099	0.0060		mg/L	1	8/4/2023 9:34:11 AM	A98732
Silver	ND	0.0012	0.0050		mg/L	1	8/4/2023 9:34:11 AM	A98732
Sodium	ND	0.30	1.0		mg/L	1	8/4/2023 9:34:11 AM	A98732
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.3	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
Acenaphthylene	ND	4.6	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
Aniline	ND	5.4	10		µg/L	1	8/8/2023 1:36:52 PM	76673
Anthracene	ND	3.9	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
Azobenzene	ND	3.8	10		µg/L	1	8/8/2023 1:36:52 PM	76673
Benz(a)anthracene	ND	6.7	10		µg/L	1	8/8/2023 1:36:52 PM	76673
Benzo(a)pyrene	ND	4.9	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
Benzo(b)fluoranthene	ND	5.7	10		µg/L	1	8/8/2023 1:36:52 PM	76673
Benzo(g,h,i)perylene	ND	4.9	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
Benzo(k)fluoranthene	ND	4.5	10		µg/L	1	8/8/2023 1:36:52 PM	76673
Benzoic acid	ND	15	20		µg/L	1	8/8/2023 1:36:52 PM	76673
Benzyl alcohol	ND	4.8	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	8/8/2023 1:36:52 PM	76673
Bis(2-chloroethyl)ether	ND	5.0	10		µg/L	1	8/8/2023 1:36:52 PM	76673
Bis(2-chloroisopropyl)ether	ND	3.6	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
Bis(2-ethylhexyl)phthalate	ND	7.0	10		µg/L	1	8/8/2023 1:36:52 PM	76673
4-Bromophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673

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 **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** EB-8-2-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 8:25:00 AM
Lab ID: 2308192-001 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Butyl benzyl phthalate	ND	6.5	10		µg/L	1	8/8/2023 1:36:52 PM	76673
Carbazole	ND	5.3	10		µg/L	1	8/8/2023 1:36:52 PM	76673
4-Chloro-3-methylphenol	ND	4.6	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
4-Chloroaniline	ND	4.7	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
2-Chloronaphthalene	ND	3.2	10		µg/L	1	8/8/2023 1:36:52 PM	76673
2-Chlorophenol	ND	4.5	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
4-Chlorophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
Chrysene	ND	4.7	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
Di-n-butyl phthalate	ND	19	20		µg/L	1	8/8/2023 1:36:52 PM	76673
Di-n-octyl phthalate	ND	5.6	10		µg/L	1	8/8/2023 1:36:52 PM	76673
Dibenz(a,h)anthracene	ND	4.9	10		µg/L	1	8/8/2023 1:36:52 PM	76673
Dibenzofuran	ND	4.9	10		µg/L	1	8/8/2023 1:36:52 PM	76673
1,2-Dichlorobenzene	ND	2.9	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
1,3-Dichlorobenzene	ND	3.0	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
1,4-Dichlorobenzene	ND	1.8	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
3,3´-Dichlorobenzidine	ND	5.9	10		µg/L	1	8/8/2023 1:36:52 PM	76673
Diethyl phthalate	ND	5.6	10		µg/L	1	8/8/2023 1:36:52 PM	76673
Dimethyl phthalate	ND	5.4	10		µg/L	1	8/8/2023 1:36:52 PM	76673
2,4-Dichlorophenol	ND	3.8	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
2,4-Dimethylphenol	ND	4.8	10		µg/L	1	8/8/2023 1:36:52 PM	76673
4,6-Dinitro-2-methylphenol	ND	4.2	10		µg/L	1	8/8/2023 1:36:52 PM	76673
2,4-Dinitrophenol	ND	4.7	10		µg/L	1	8/8/2023 1:36:52 PM	76673
2,4-Dinitrotoluene	ND	5.0	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
2,6-Dinitrotoluene	ND	5.3	10		µg/L	1	8/8/2023 1:36:52 PM	76673
Fluoranthene	ND	5.5	10		µg/L	1	8/8/2023 1:36:52 PM	76673
Fluorene	ND	4.7	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
Hexachlorobenzene	ND	4.6	20		µg/L	1	8/8/2023 1:36:52 PM	76673
Hexachlorobutadiene	ND	2.5	20		µg/L	1	8/8/2023 1:36:52 PM	76673
Hexachlorocyclopentadiene	ND	2.2	20		µg/L	1	8/8/2023 1:36:52 PM	76673
Hexachloroethane	ND	2.8	20		µg/L	1	8/8/2023 1:36:52 PM	76673
Indeno(1,2,3-cd)pyrene	ND	5.3	10		µg/L	1	8/8/2023 1:36:52 PM	76673
Isophorone	ND	4.3	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
1-Methylnaphthalene	ND	3.1	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
2-Methylnaphthalene	ND	2.4	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
2-Methylphenol	ND	4.7	10		µg/L	1	8/8/2023 1:36:52 PM	76673
3+4-Methylphenol	ND	4.9	10		µg/L	1	8/8/2023 1:36:52 PM	76673
N-Nitrosodi-n-propylamine	ND	3.7	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
N-Nitrosodimethylamine	ND	3.1	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
N-Nitrosodiphenylamine	ND	5.2	10		µg/L	1	8/8/2023 1:36:52 PM	76673

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

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** EB-8-2-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 8:25:00 AM
Lab ID: 2308192-001 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Naphthalene	ND	3.2	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
2-Nitroaniline	ND	5.0	10		µg/L	1	8/8/2023 1:36:52 PM	76673
3-Nitroaniline	ND	5.0	10		µg/L	1	8/8/2023 1:36:52 PM	76673
4-Nitroaniline	ND	4.5	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
Nitrobenzene	ND	3.6	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
2-Nitrophenol	ND	4.4	10		µg/L	1	8/8/2023 1:36:52 PM	76673
4-Nitrophenol	ND	2.9	10		µg/L	1	8/8/2023 1:36:52 PM	76673
Pentachlorophenol	ND	4.9	20		µg/L	1	8/8/2023 1:36:52 PM	76673
Phenanthrene	ND	4.8	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
Phenol	ND	3.9	10		µg/L	1	8/8/2023 1:36:52 PM	76673
Pyrene	ND	5.2	10		µg/L	1	8/8/2023 1:36:52 PM	76673
Pyridine	ND	31	40		µg/L	1	8/8/2023 1:36:52 PM	76673
1,2,4-Trichlorobenzene	ND	2.6	5.0		µg/L	1	8/8/2023 1:36:52 PM	76673
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	8/8/2023 1:36:52 PM	76673
2,4,6-Trichlorophenol	ND	4.1	10		µg/L	1	8/8/2023 1:36:52 PM	76673
Surr: 2-Fluorophenol	61.1	0	15-84.1		%Rec	1	8/8/2023 1:36:52 PM	76673
Surr: Phenol-d5	45.4	0	16.5-50.7		%Rec	1	8/8/2023 1:36:52 PM	76673
Surr: 2,4,6-Tribromophenol	64.8	0	15-133		%Rec	1	8/8/2023 1:36:52 PM	76673
Surr: Nitrobenzene-d5	76.9	0	30.9-86.8		%Rec	1	8/8/2023 1:36:52 PM	76673
Surr: 2-Fluorobiphenyl	71.2	0	24.3-77.2		%Rec	1	8/8/2023 1:36:52 PM	76673
Surr: 4-Terphenyl-d14	90.4	0	52.3-118		%Rec	1	8/8/2023 1:36:52 PM	76673
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	ND	0.23	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Toluene	ND	0.20	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Ethylbenzene	ND	0.21	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
1,2,4-Trimethylbenzene	0.13	0.12	1.0	JP	µg/L	1	8/3/2023 5:44:00 PM	R98695
1,3,5-Trimethylbenzene	ND	0.18	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
1,2-Dichloroethane (EDC)	ND	0.30	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
1,2-Dibromoethane (EDB)	ND	0.30	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Naphthalene	ND	0.24	2.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
1-Methylnaphthalene	ND	0.84	4.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
2-Methylnaphthalene	ND	0.69	4.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Acetone	ND	2.5	10	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Bromobenzene	ND	0.28	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Bromodichloromethane	ND	0.20	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Bromoform	ND	0.31	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Bromomethane	ND	0.85	3.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
2-Butanone	ND	2.0	10	P	µg/L	1	8/3/2023 5:44:00 PM	R98695

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Qualifiers:

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

Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** EB-8-2-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 8:25:00 AM
Lab ID: 2308192-001 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Carbon disulfide	ND	0.59	10	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Carbon Tetrachloride	ND	0.18	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Chlorobenzene	ND	0.46	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Chloroethane	ND	0.38	2.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Chloroform	ND	0.13	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Chloromethane	ND	0.41	3.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
2-Chlorotoluene	ND	0.13	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
4-Chlorotoluene	ND	0.13	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
cis-1,2-DCE	ND	0.39	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
cis-1,3-Dichloropropene	ND	0.12	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
1,2-Dibromo-3-chloropropane	ND	0.59	2.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Dibromochloromethane	ND	0.28	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Dibromomethane	ND	0.31	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
1,2-Dichlorobenzene	ND	0.15	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
1,3-Dichlorobenzene	ND	0.16	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
1,4-Dichlorobenzene	ND	0.10	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Dichlorodifluoromethane	ND	0.26	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
1,1-Dichloroethane	ND	0.30	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
1,1-Dichloroethene	ND	0.20	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
1,2-Dichloropropane	ND	0.20	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
1,3-Dichloropropane	ND	0.18	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
2,2-Dichloropropane	ND	0.26	2.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
1,1-Dichloropropene	ND	0.18	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Hexachlorobutadiene	ND	0.42	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
2-Hexanone	ND	1.8	10	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Isopropylbenzene	ND	0.18	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
4-Isopropyltoluene	ND	0.20	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
4-Methyl-2-pentanone	ND	0.67	10	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Methylene Chloride	ND	0.50	3.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
n-Butylbenzene	ND	0.13	3.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
n-Propylbenzene	ND	0.11	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
sec-Butylbenzene	ND	0.14	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Styrene	0.14	0.14	1.0	JP	µg/L	1	8/3/2023 5:44:00 PM	R98695
tert-Butylbenzene	ND	0.24	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
1,1,1,2-Tetrachloroethane	ND	0.27	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
1,1,2,2-Tetrachloroethane	ND	0.27	2.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Tetrachloroethene (PCE)	ND	0.18	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
trans-1,2-DCE	ND	0.19	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
trans-1,3-Dichloropropene	ND	0.34	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695

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Qualifiers:

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

Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** EB-8-2-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 8:25:00 AM
Lab ID: 2308192-001 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
1,2,3-Trichlorobenzene	ND	0.25	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
1,2,4-Trichlorobenzene	ND	0.24	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
1,1,1-Trichloroethane	ND	0.081	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
1,1,2-Trichloroethane	ND	0.20	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Trichloroethene (TCE)	ND	0.20	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Trichlorofluoromethane	ND	0.16	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
1,2,3-Trichloropropane	ND	0.16	2.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Vinyl chloride	ND	0.32	1.0	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Xylenes, Total	ND	0.37	1.5	P	µg/L	1	8/3/2023 5:44:00 PM	R98695
Surr: 1,2-Dichloroethane-d4	116	0	70-130	P	%Rec	1	8/3/2023 5:44:00 PM	R98695
Surr: 4-Bromofluorobenzene	111	0	70-130	P	%Rec	1	8/3/2023 5:44:00 PM	R98695
Surr: Dibromofluoromethane	112	0	70-130	P	%Rec	1	8/3/2023 5:44:00 PM	R98695
Surr: Toluene-d8	108	0	70-130	P	%Rec	1	8/3/2023 5:44:00 PM	R98695
SM4500-H+B / 9040C: PH							Analyst: **RBC**	
pH	5.67			H	pH units	1	8/7/2023 4:53:33 PM	R98783
SM2320B: ALKALINITY							Analyst: **RBC**	
Bicarbonate (As CaCO3)	ND	20.00	20.00		mg/L Ca	1	8/7/2023 4:53:33 PM	R98783
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	8/7/2023 4:53:33 PM	R98783
Total Alkalinity (as CaCO3)	ND	20.00	20.00		mg/L Ca	1	8/7/2023 4:53:33 PM	R98783
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	25.0	25.0	50.0	J	mg/L	1	8/8/2023 12:00:00 PM	76681

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Qualifiers:

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PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-7
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 8:30:00 AM
Lab ID: 2308192-002 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **JMT**	
Chloride	190	5.0	10		mg/L	20	8/3/2023 1:02:25 PM	R98720
Nitrogen, Nitrite (As N)	ND	0.011	0.10		mg/L	1	8/3/2023 12:49:34 PM	R98720
Nitrogen, Nitrate (As N)	ND	0.020	0.10		mg/L	1	8/3/2023 12:49:34 PM	R98720
Sulfate	880	12	25	*	mg/L	50	8/11/2023 12:20:28 AM	A98893
EPA 200.8: METALS							Analyst: **bcv**	
Uranium	0.028	0.00038	0.0025		mg/L	5	8/7/2023 12:28:43 PM	76676
EPA METHOD 6020A: DISSOLVED METALS							Analyst: **ELS**	
Arsenic	ND	0.0025	0.0050		mg/L	5	8/4/2023 2:21:01 PM	D98751
Lead	ND	0.0025	0.0050		mg/L	5	8/4/2023 2:21:01 PM	D98751
Selenium	ND	0.0040	0.0050		mg/L	5	8/4/2023 2:21:01 PM	D98751
EPA METHOD 7470A: MERCURY							Analyst: **tem**	
Mercury	ND	0.000081	0.00020		mg/L	1	8/8/2023 1:42:53 PM	76699
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **VP**	
Barium	0.022	0.00074	0.020		mg/L	1	8/4/2023 9:37:42 AM	A98732
Cadmium	ND	0.00083	0.0020		mg/L	1	8/4/2023 9:37:42 AM	A98732
Calcium	28	0.089	1.0		mg/L	1	8/4/2023 9:37:42 AM	A98732
Chromium	ND	0.00099	0.0060		mg/L	1	8/4/2023 9:37:42 AM	A98732
Silver	ND	0.0012	0.0050		mg/L	1	8/4/2023 9:37:42 AM	A98732
Sodium	840	3.0	10		mg/L	10	8/4/2023 10:18:38 AM	A98732
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.3	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
Acenaphthylene	ND	4.6	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
Aniline	ND	5.4	10		µg/L	1	8/8/2023 2:17:44 PM	76673
Anthracene	ND	3.9	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
Azobenzene	ND	3.8	10		µg/L	1	8/8/2023 2:17:44 PM	76673
Benz(a)anthracene	ND	6.7	10		µg/L	1	8/8/2023 2:17:44 PM	76673
Benzo(a)pyrene	ND	4.9	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
Benzo(b)fluoranthene	ND	5.7	10		µg/L	1	8/8/2023 2:17:44 PM	76673
Benzo(g,h,i)perylene	ND	4.9	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
Benzo(k)fluoranthene	ND	4.5	10		µg/L	1	8/8/2023 2:17:44 PM	76673
Benzoic acid	ND	15	20		µg/L	1	8/8/2023 2:17:44 PM	76673
Benzyl alcohol	ND	4.8	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	8/8/2023 2:17:44 PM	76673
Bis(2-chloroethyl)ether	ND	5.0	10		µg/L	1	8/8/2023 2:17:44 PM	76673
Bis(2-chloroisopropyl)ether	ND	3.6	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
Bis(2-ethylhexyl)phthalate	ND	7.0	10		µg/L	1	8/8/2023 2:17:44 PM	76673
4-Bromophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673

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Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-7
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 8:30:00 AM
Lab ID: 2308192-002 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Butyl benzyl phthalate	ND	6.5	10		µg/L	1	8/8/2023 2:17:44 PM	76673
Carbazole	ND	5.3	10		µg/L	1	8/8/2023 2:17:44 PM	76673
4-Chloro-3-methylphenol	ND	4.6	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
4-Chloroaniline	ND	4.7	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
2-Chloronaphthalene	ND	3.2	10		µg/L	1	8/8/2023 2:17:44 PM	76673
2-Chlorophenol	ND	4.5	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
4-Chlorophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
Chrysene	ND	4.7	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
Di-n-butyl phthalate	ND	19	20		µg/L	1	8/8/2023 2:17:44 PM	76673
Di-n-octyl phthalate	ND	5.6	10		µg/L	1	8/8/2023 2:17:44 PM	76673
Dibenz(a,h)anthracene	ND	4.9	10		µg/L	1	8/8/2023 2:17:44 PM	76673
Dibenzofuran	ND	4.9	10		µg/L	1	8/8/2023 2:17:44 PM	76673
1,2-Dichlorobenzene	ND	2.9	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
1,3-Dichlorobenzene	ND	3.0	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
1,4-Dichlorobenzene	ND	1.8	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
3,3´-Dichlorobenzidine	ND	5.9	10		µg/L	1	8/8/2023 2:17:44 PM	76673
Diethyl phthalate	ND	5.6	10		µg/L	1	8/8/2023 2:17:44 PM	76673
Dimethyl phthalate	ND	5.4	10		µg/L	1	8/8/2023 2:17:44 PM	76673
2,4-Dichlorophenol	ND	3.8	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
2,4-Dimethylphenol	ND	4.8	10		µg/L	1	8/8/2023 2:17:44 PM	76673
4,6-Dinitro-2-methylphenol	ND	4.2	10		µg/L	1	8/8/2023 2:17:44 PM	76673
2,4-Dinitrophenol	ND	4.7	10		µg/L	1	8/8/2023 2:17:44 PM	76673
2,4-Dinitrotoluene	ND	5.0	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
2,6-Dinitrotoluene	ND	5.3	10		µg/L	1	8/8/2023 2:17:44 PM	76673
Fluoranthene	ND	5.5	10		µg/L	1	8/8/2023 2:17:44 PM	76673
Fluorene	ND	4.7	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
Hexachlorobenzene	ND	4.6	20		µg/L	1	8/8/2023 2:17:44 PM	76673
Hexachlorobutadiene	ND	2.5	20		µg/L	1	8/8/2023 2:17:44 PM	76673
Hexachlorocyclopentadiene	ND	2.2	20		µg/L	1	8/8/2023 2:17:44 PM	76673
Hexachloroethane	ND	2.8	20		µg/L	1	8/8/2023 2:17:44 PM	76673
Indeno(1,2,3-cd)pyrene	ND	5.3	10		µg/L	1	8/8/2023 2:17:44 PM	76673
Isophorone	ND	4.3	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
1-Methylnaphthalene	ND	3.1	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
2-Methylnaphthalene	ND	2.4	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
2-Methylphenol	ND	4.7	10		µg/L	1	8/8/2023 2:17:44 PM	76673
3+4-Methylphenol	ND	4.9	10		µg/L	1	8/8/2023 2:17:44 PM	76673
N-Nitrosodi-n-propylamine	ND	3.7	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
N-Nitrosodimethylamine	ND	3.1	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
N-Nitrosodiphenylamine	ND	5.2	10		µg/L	1	8/8/2023 2:17:44 PM	76673

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Qualifiers:

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

Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-7
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 8:30:00 AM
Lab ID: 2308192-002 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Naphthalene	ND	3.2	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
2-Nitroaniline	ND	5.0	10		µg/L	1	8/8/2023 2:17:44 PM	76673
3-Nitroaniline	ND	5.0	10		µg/L	1	8/8/2023 2:17:44 PM	76673
4-Nitroaniline	ND	4.5	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
Nitrobenzene	ND	3.6	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
2-Nitrophenol	ND	4.4	10		µg/L	1	8/8/2023 2:17:44 PM	76673
4-Nitrophenol	ND	2.9	10		µg/L	1	8/8/2023 2:17:44 PM	76673
Pentachlorophenol	ND	4.9	20		µg/L	1	8/8/2023 2:17:44 PM	76673
Phenanthrene	ND	4.8	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
Phenol	ND	3.9	10		µg/L	1	8/8/2023 2:17:44 PM	76673
Pyrene	ND	5.2	10		µg/L	1	8/8/2023 2:17:44 PM	76673
Pyridine	ND	31	40		µg/L	1	8/8/2023 2:17:44 PM	76673
1,2,4-Trichlorobenzene	ND	2.6	5.0		µg/L	1	8/8/2023 2:17:44 PM	76673
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	8/8/2023 2:17:44 PM	76673
2,4,6-Trichlorophenol	ND	4.1	10		µg/L	1	8/8/2023 2:17:44 PM	76673
Surr: 2-Fluorophenol	51.7	0	15-84.1		%Rec	1	8/8/2023 2:17:44 PM	76673
Surr: Phenol-d5	38.8	0	16.5-50.7		%Rec	1	8/8/2023 2:17:44 PM	76673
Surr: 2,4,6-Tribromophenol	46.9	0	15-133		%Rec	1	8/8/2023 2:17:44 PM	76673
Surr: Nitrobenzene-d5	70.1	0	30.9-86.8		%Rec	1	8/8/2023 2:17:44 PM	76673
Surr: 2-Fluorobiphenyl	63.8	0	24.3-77.2		%Rec	1	8/8/2023 2:17:44 PM	76673
Surr: 4-Terphenyl-d14	81.7	0	52.3-118		%Rec	1	8/8/2023 2:17:44 PM	76673
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	ND	0.23	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Toluene	ND	0.20	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Ethylbenzene	ND	0.21	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
1,2,4-Trimethylbenzene	0.13	0.12	1.0	J	µg/L	1	8/3/2023 6:09:00 PM	R98695
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
1,2-Dichloroethane (EDC)	ND	0.30	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Naphthalene	ND	0.24	2.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
2-Methylnaphthalene	ND	0.69	4.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Acetone	ND	2.5	10		µg/L	1	8/3/2023 6:09:00 PM	R98695
Bromobenzene	ND	0.28	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Bromodichloromethane	ND	0.20	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Bromoform	ND	0.31	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Bromomethane	ND	0.85	3.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
2-Butanone	ND	2.0	10		µg/L	1	8/3/2023 6:09:00 PM	R98695

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
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Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-7
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 8:30:00 AM
Lab ID: 2308192-002 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Carbon disulfide	ND	0.59	10		µg/L	1	8/3/2023 6:09:00 PM	R98695
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Chlorobenzene	ND	0.46	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Chloroethane	ND	0.38	2.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Chloroform	ND	0.13	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Chloromethane	ND	0.41	3.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
cis-1,3-Dichloropropene	ND	0.12	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Dibromochloromethane	ND	0.28	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Dibromomethane	ND	0.31	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
1,4-Dichlorobenzene	ND	0.10	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
1,1-Dichloroethane	ND	0.30	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
1,1-Dichloroethene	ND	0.20	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
1,2-Dichloropropane	ND	0.20	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
1,1-Dichloropropene	ND	0.18	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Hexachlorobutadiene	ND	0.42	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
2-Hexanone	ND	1.8	10		µg/L	1	8/3/2023 6:09:00 PM	R98695
Isopropylbenzene	ND	0.18	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
4-Methyl-2-pentanone	ND	0.67	10		µg/L	1	8/3/2023 6:09:00 PM	R98695
Methylene Chloride	ND	0.50	3.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
n-Butylbenzene	ND	0.13	3.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
n-Propylbenzene	ND	0.11	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
sec-Butylbenzene	ND	0.14	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Styrene	ND	0.14	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Tetrachloroethene (PCE)	ND	0.18	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
trans-1,2-DCE	ND	0.19	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
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Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-7
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 8:30:00 AM
Lab ID: 2308192-002 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
1,2,3-Trichlorobenzene	ND	0.25	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
1,1,1-Trichloroethane	ND	0.081	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
1,1,2-Trichloroethane	ND	0.20	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Trichloroethene (TCE)	ND	0.20	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Trichlorofluoromethane	ND	0.16	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
1,2,3-Trichloropropane	ND	0.16	2.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Vinyl chloride	ND	0.32	1.0		µg/L	1	8/3/2023 6:09:00 PM	R98695
Xylenes, Total	ND	0.37	1.5		µg/L	1	8/3/2023 6:09:00 PM	R98695
Surr: 1,2-Dichloroethane-d4	114	0	70-130		%Rec	1	8/3/2023 6:09:00 PM	R98695
Surr: 4-Bromofluorobenzene	111	0	70-130		%Rec	1	8/3/2023 6:09:00 PM	R98695
Surr: Dibromofluoromethane	112	0	70-130		%Rec	1	8/3/2023 6:09:00 PM	R98695
Surr: Toluene-d8	106	0	70-130		%Rec	1	8/3/2023 6:09:00 PM	R98695
SM4500-H+B / 9040C: PH							Analyst: **RBC**	
pH	8.13			H	pH units	1	8/7/2023 4:59:22 PM	R98783
SM2320B: ALKALINITY							Analyst: **RBC**	
Bicarbonate (As CaCO3)	712.6	20.00	20.00		mg/L Ca	1	8/7/2023 4:59:22 PM	R98783
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	8/7/2023 4:59:22 PM	R98783
Total Alkalinity (as CaCO3)	712.6	20.00	20.00		mg/L Ca	1	8/7/2023 4:59:22 PM	R98783
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	2460	25.0	50.0	*	mg/L	1	8/8/2023 12:00:00 PM	76681

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P	Sample pH Not In Range
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Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-10
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 9:30:00 AM
Lab ID: 2308192-003 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **JTT**	
Chloride	500	12	25	*	mg/L	50	8/11/2023 7:07:23 PM	R98916
Nitrogen, Nitrite (As N)	ND	0.057	0.50		mg/L	5	8/3/2023 1:41:00 PM	R98720
Nitrogen, Nitrate (As N)	ND	0.10	0.50		mg/L	5	8/3/2023 1:41:00 PM	R98720
Sulfate	74	1.2	2.5		mg/L	5	8/3/2023 1:41:00 PM	R98720
EPA 200.8: METALS							Analyst: **bcv**	
Uranium	0.0030	0.000076	0.00050		mg/L	1	8/7/2023 11:33:20 AM	76676
EPA METHOD 6020A: DISSOLVED METALS							Analyst: **ELS**	
Arsenic	0.0059	0.0025	0.0050		mg/L	5	8/4/2023 3:25:21 PM	D98751
Lead	ND	0.0025	0.0050		mg/L	5	8/4/2023 2:35:19 PM	D98751
Selenium	ND	0.0040	0.0050		mg/L	5	8/4/2023 2:35:19 PM	D98751
EPA METHOD 7470A: MERCURY							Analyst: **tem**	
Mercury	0.00010	0.000081	0.00020	J	mg/L	1	8/8/2023 1:45:12 PM	76699
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **VP**	
Barium	0.81	0.00074	0.020		mg/L	1	8/4/2023 9:40:50 AM	A98732
Cadmium	ND	0.00083	0.0020		mg/L	1	8/4/2023 9:40:50 AM	A98732
Calcium	46	0.089	1.0		mg/L	1	8/4/2023 9:40:50 AM	A98732
Chromium	ND	0.00099	0.0060		mg/L	1	8/4/2023 9:40:50 AM	A98732
Silver	ND	0.0012	0.0050		mg/L	1	8/4/2023 9:40:50 AM	A98732
Sodium	800	3.0	10		mg/L	10	8/4/2023 10:20:11 AM	A98732
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.3	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
Acenaphthylene	ND	4.6	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
Aniline	ND	5.4	10		µg/L	1	8/8/2023 2:59:28 PM	76673
Anthracene	ND	3.9	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
Azobenzene	ND	3.8	10		µg/L	1	8/8/2023 2:59:28 PM	76673
Benz(a)anthracene	ND	6.7	10		µg/L	1	8/8/2023 2:59:28 PM	76673
Benzo(a)pyrene	ND	4.9	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
Benzo(b)fluoranthene	ND	5.7	10		µg/L	1	8/8/2023 2:59:28 PM	76673
Benzo(g,h,i)perylene	ND	4.9	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
Benzo(k)fluoranthene	ND	4.5	10		µg/L	1	8/8/2023 2:59:28 PM	76673
Benzoic acid	ND	15	20		µg/L	1	8/8/2023 2:59:28 PM	76673
Benzyl alcohol	ND	4.8	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	8/8/2023 2:59:28 PM	76673
Bis(2-chloroethyl)ether	ND	5.0	10		µg/L	1	8/8/2023 2:59:28 PM	76673
Bis(2-chloroisopropyl)ether	ND	3.6	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
Bis(2-ethylhexyl)phthalate	ND	7.0	10		µg/L	1	8/8/2023 2:59:28 PM	76673
4-Bromophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673

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Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
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Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-10
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 9:30:00 AM
Lab ID: 2308192-003 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Butyl benzyl phthalate	ND	6.5	10		µg/L	1	8/8/2023 2:59:28 PM	76673
Carbazole	ND	5.3	10		µg/L	1	8/8/2023 2:59:28 PM	76673
4-Chloro-3-methylphenol	ND	4.6	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
4-Chloroaniline	ND	4.7	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
2-Chloronaphthalene	ND	3.2	10		µg/L	1	8/8/2023 2:59:28 PM	76673
2-Chlorophenol	ND	4.5	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
4-Chlorophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
Chrysene	ND	4.7	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
Di-n-butyl phthalate	ND	19	20		µg/L	1	8/8/2023 2:59:28 PM	76673
Di-n-octyl phthalate	ND	5.6	10		µg/L	1	8/8/2023 2:59:28 PM	76673
Dibenz(a,h)anthracene	ND	4.9	10		µg/L	1	8/8/2023 2:59:28 PM	76673
Dibenzofuran	ND	4.9	10		µg/L	1	8/8/2023 2:59:28 PM	76673
1,2-Dichlorobenzene	ND	2.9	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
1,3-Dichlorobenzene	ND	3.0	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
1,4-Dichlorobenzene	ND	1.8	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
3,3´-Dichlorobenzidine	ND	5.9	10		µg/L	1	8/8/2023 2:59:28 PM	76673
Diethyl phthalate	ND	5.6	10		µg/L	1	8/8/2023 2:59:28 PM	76673
Dimethyl phthalate	ND	5.4	10		µg/L	1	8/8/2023 2:59:28 PM	76673
2,4-Dichlorophenol	ND	3.8	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
2,4-Dimethylphenol	ND	4.8	10		µg/L	1	8/8/2023 2:59:28 PM	76673
4,6-Dinitro-2-methylphenol	ND	4.2	10		µg/L	1	8/8/2023 2:59:28 PM	76673
2,4-Dinitrophenol	ND	4.7	10		µg/L	1	8/8/2023 2:59:28 PM	76673
2,4-Dinitrotoluene	ND	5.0	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
2,6-Dinitrotoluene	ND	5.3	10		µg/L	1	8/8/2023 2:59:28 PM	76673
Fluoranthene	ND	5.5	10		µg/L	1	8/8/2023 2:59:28 PM	76673
Fluorene	ND	4.7	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
Hexachlorobenzene	ND	4.6	20		µg/L	1	8/8/2023 2:59:28 PM	76673
Hexachlorobutadiene	ND	2.5	20		µg/L	1	8/8/2023 2:59:28 PM	76673
Hexachlorocyclopentadiene	ND	2.2	20		µg/L	1	8/8/2023 2:59:28 PM	76673
Hexachloroethane	ND	2.8	20		µg/L	1	8/8/2023 2:59:28 PM	76673
Indeno(1,2,3-cd)pyrene	ND	5.3	10		µg/L	1	8/8/2023 2:59:28 PM	76673
Isophorone	ND	4.3	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
1-Methylnaphthalene	ND	3.1	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
2-Methylnaphthalene	ND	2.4	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
2-Methylphenol	ND	4.7	10		µg/L	1	8/8/2023 2:59:28 PM	76673
3+4-Methylphenol	ND	4.9	10		µg/L	1	8/8/2023 2:59:28 PM	76673
N-Nitrosodi-n-propylamine	ND	3.7	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
N-Nitrosodimethylamine	ND	3.1	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
N-Nitrosodiphenylamine	ND	5.2	10		µg/L	1	8/8/2023 2:59:28 PM	76673

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 **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-10
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 9:30:00 AM
Lab ID: 2308192-003 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Naphthalene	ND	3.2	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
2-Nitroaniline	ND	5.0	10		µg/L	1	8/8/2023 2:59:28 PM	76673
3-Nitroaniline	ND	5.0	10		µg/L	1	8/8/2023 2:59:28 PM	76673
4-Nitroaniline	ND	4.5	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
Nitrobenzene	ND	3.6	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
2-Nitrophenol	ND	4.4	10		µg/L	1	8/8/2023 2:59:28 PM	76673
4-Nitrophenol	ND	2.9	10		µg/L	1	8/8/2023 2:59:28 PM	76673
Pentachlorophenol	ND	4.9	20		µg/L	1	8/8/2023 2:59:28 PM	76673
Phenanthrene	ND	4.8	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
Phenol	ND	3.9	10		µg/L	1	8/8/2023 2:59:28 PM	76673
Pyrene	ND	5.2	10		µg/L	1	8/8/2023 2:59:28 PM	76673
Pyridine	ND	31	40		µg/L	1	8/8/2023 2:59:28 PM	76673
1,2,4-Trichlorobenzene	ND	2.6	5.0		µg/L	1	8/8/2023 2:59:28 PM	76673
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	8/8/2023 2:59:28 PM	76673
2,4,6-Trichlorophenol	ND	4.1	10		µg/L	1	8/8/2023 2:59:28 PM	76673
Surr: 2-Fluorophenol	68.0	0	15-84.1		%Rec	1	8/8/2023 2:59:28 PM	76673
Surr: Phenol-d5	52.2	0	16.5-50.7	S	%Rec	1	8/8/2023 2:59:28 PM	76673
Surr: 2,4,6-Tribromophenol	67.4	0	15-133		%Rec	1	8/8/2023 2:59:28 PM	76673
Surr: Nitrobenzene-d5	82.1	0	30.9-86.8		%Rec	1	8/8/2023 2:59:28 PM	76673
Surr: 2-Fluorobiphenyl	74.4	0	24.3-77.2		%Rec	1	8/8/2023 2:59:28 PM	76673
Surr: 4-Terphenyl-d14	90.0	0	52.3-118		%Rec	1	8/8/2023 2:59:28 PM	76673
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	2900	11	50		µg/L	50	8/3/2023 9:01:00 PM	R98695
Toluene	ND	1.0	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
Ethylbenzene	8.8	1.1	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
Methyl tert-butyl ether (MTBE)	ND	2.0	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
1,2,4-Trimethylbenzene	1.8	0.61	5.0	J	µg/L	5	8/3/2023 9:25:00 PM	R98695
1,3,5-Trimethylbenzene	ND	0.91	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
1,2-Dichloroethane (EDC)	ND	1.5	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
1,2-Dibromoethane (EDB)	ND	1.5	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
Naphthalene	5.3	1.2	10	J	µg/L	5	8/3/2023 9:25:00 PM	R98695
1-Methylnaphthalene	6.3	4.2	20	J	µg/L	5	8/3/2023 9:25:00 PM	R98695
2-Methylnaphthalene	ND	3.5	20		µg/L	5	8/3/2023 9:25:00 PM	R98695
Acetone	ND	13	50		µg/L	5	8/3/2023 9:25:00 PM	R98695
Bromobenzene	ND	1.4	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
Bromodichloromethane	ND	1.0	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
Bromoform	ND	1.6	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
Bromomethane	ND	4.3	15		µg/L	5	8/3/2023 9:25:00 PM	R98695
2-Butanone	ND	10	50		µg/L	5	8/3/2023 9:25:00 PM	R98695

Refer to the QC Summary report and sample login checklist for flagged QC data 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 **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-10
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 9:30:00 AM
Lab ID: 2308192-003 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Carbon disulfide	ND	3.0	50		µg/L	5	8/3/2023 9:25:00 PM	R98695
Carbon Tetrachloride	ND	0.88	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
Chlorobenzene	ND	2.3	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
Chloroethane	ND	1.9	10		µg/L	5	8/3/2023 9:25:00 PM	R98695
Chloroform	ND	0.67	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
Chloromethane	ND	2.1	15		µg/L	5	8/3/2023 9:25:00 PM	R98695
2-Chlorotoluene	ND	0.66	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
4-Chlorotoluene	ND	0.67	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
cis-1,2-DCE	ND	1.9	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
cis-1,3-Dichloropropene	ND	0.58	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
1,2-Dibromo-3-chloropropane	ND	2.9	10		µg/L	5	8/3/2023 9:25:00 PM	R98695
Dibromochloromethane	ND	1.4	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
Dibromomethane	ND	1.5	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
1,2-Dichlorobenzene	ND	0.77	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
1,3-Dichlorobenzene	ND	0.81	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
1,4-Dichlorobenzene	ND	0.52	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
Dichlorodifluoromethane	ND	1.3	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
1,1-Dichloroethane	ND	1.5	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
1,1-Dichloroethene	ND	1.0	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
1,2-Dichloropropane	ND	1.0	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
1,3-Dichloropropane	ND	0.90	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
2,2-Dichloropropane	ND	1.3	10		µg/L	5	8/3/2023 9:25:00 PM	R98695
1,1-Dichloropropene	ND	0.90	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
Hexachlorobutadiene	ND	2.1	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
2-Hexanone	30	9.0	50	J	µg/L	5	8/3/2023 9:25:00 PM	R98695
Isopropylbenzene	1.1	0.91	5.0	J	µg/L	5	8/3/2023 9:25:00 PM	R98695
4-Isopropyltoluene	ND	1.0	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
4-Methyl-2-pentanone	ND	3.4	50		µg/L	5	8/3/2023 9:25:00 PM	R98695
Methylene Chloride	ND	2.5	15		µg/L	5	8/3/2023 9:25:00 PM	R98695
n-Butylbenzene	ND	0.63	15		µg/L	5	8/3/2023 9:25:00 PM	R98695
n-Propylbenzene	0.74	0.55	5.0	J	µg/L	5	8/3/2023 9:25:00 PM	R98695
sec-Butylbenzene	ND	0.72	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
Styrene	ND	0.68	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
tert-Butylbenzene	ND	1.2	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
1,1,1,2-Tetrachloroethane	ND	1.3	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
1,1,2,2-Tetrachloroethane	ND	1.4	10		µg/L	5	8/3/2023 9:25:00 PM	R98695
Tetrachloroethene (PCE)	ND	0.89	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
trans-1,2-DCE	ND	0.97	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
trans-1,3-Dichloropropene	ND	1.7	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695

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Qualifiers:

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

Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-10
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 9:30:00 AM
Lab ID: 2308192-003 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
1,2,3-Trichlorobenzene	ND	1.2	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
1,2,4-Trichlorobenzene	ND	1.2	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
1,1,1-Trichloroethane	ND	0.41	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
1,1,2-Trichloroethane	ND	0.99	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
Trichloroethene (TCE)	ND	1.0	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
Trichlorofluoromethane	ND	0.79	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
1,2,3-Trichloropropane	ND	0.80	10		µg/L	5	8/3/2023 9:25:00 PM	R98695
Vinyl chloride	ND	1.6	5.0		µg/L	5	8/3/2023 9:25:00 PM	R98695
Xylenes, Total	13	1.9	7.5		µg/L	5	8/3/2023 9:25:00 PM	R98695
Surr: 1,2-Dichloroethane-d4	112	0	70-130		%Rec	5	8/3/2023 9:25:00 PM	R98695
Surr: 4-Bromofluorobenzene	116	0	70-130		%Rec	5	8/3/2023 9:25:00 PM	R98695
Surr: Dibromofluoromethane	111	0	70-130		%Rec	5	8/3/2023 9:25:00 PM	R98695
Surr: Toluene-d8	112	0	70-130		%Rec	5	8/3/2023 9:25:00 PM	R98695
SM4500-H+B / 9040C: PH							Analyst: **RBC**	
pH	7.88			H	pH units	1	8/7/2023 5:24:31 PM	R98783
SM2320B: ALKALINITY							Analyst: **RBC**	
Bicarbonate (As CaCO3)	1339	50.00	50.00		mg/L Ca	2.5	8/8/2023 2:49:37 PM	R98841
Carbonate (As CaCO3)	ND	5.000	5.000		mg/L Ca	2.5	8/8/2023 2:49:37 PM	R98841
Total Alkalinity (as CaCO3)	1339	50.00	50.00		mg/L Ca	2.5	8/8/2023 2:49:37 PM	R98841
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	2370	50.0	100	*D	mg/L	1	8/8/2023 12:00:00 PM	76681

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Qualifiers:

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

Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-9
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 9:45:00 AM
Lab ID: 2308192-004 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **JTT**	
Chloride	380	12	25	*	mg/L	50	8/11/2023 7:19:48 PM	R98916
Nitrogen, Nitrite (As N)	ND	0.057	0.50		mg/L	5	8/3/2023 2:06:44 PM	R98720
Nitrogen, Nitrate (As N)	ND	0.10	0.50		mg/L	5	8/3/2023 2:06:44 PM	R98720
Sulfate	15	1.2	2.5		mg/L	5	8/3/2023 2:06:44 PM	R98720
EPA 200.8: METALS							Analyst: **bcv**	
Uranium	0.0091	0.000076	0.00050		mg/L	1	8/7/2023 11:44:59 AM	76676
EPA METHOD 6020A: DISSOLVED METALS							Analyst: **ELS**	
Arsenic	0.0058	0.0025	0.0050		mg/L	5	8/4/2023 3:28:55 PM	D98751
Lead	ND	0.0025	0.0050		mg/L	5	8/4/2023 2:38:53 PM	D98751
Selenium	0.0041	0.0040	0.0050	J	mg/L	5	8/4/2023 2:38:53 PM	D98751
EPA METHOD 7470A: MERCURY							Analyst: **tem**	
Mercury	ND	0.000081	0.00020		mg/L	1	8/8/2023 1:47:31 PM	76699
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **VP**	
Barium	0.71	0.00074	0.020		mg/L	1	8/4/2023 9:43:56 AM	A98732
Cadmium	ND	0.00083	0.0020		mg/L	1	8/4/2023 9:43:56 AM	A98732
Calcium	21	0.089	1.0		mg/L	1	8/4/2023 9:43:56 AM	A98732
Chromium	ND	0.00099	0.0060		mg/L	1	8/4/2023 9:43:56 AM	A98732
Silver	ND	0.0012	0.0050		mg/L	1	8/4/2023 9:43:56 AM	A98732
Sodium	840	3.0	10		mg/L	10	8/4/2023 10:21:43 AM	A98732
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.3	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
Acenaphthylene	ND	4.6	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
Aniline	ND	5.4	10		µg/L	1	8/8/2023 3:40:35 PM	76673
Anthracene	ND	3.9	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
Azobenzene	ND	3.8	10		µg/L	1	8/8/2023 3:40:35 PM	76673
Benz(a)anthracene	ND	6.7	10		µg/L	1	8/8/2023 3:40:35 PM	76673
Benzo(a)pyrene	ND	4.9	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
Benzo(b)fluoranthene	ND	5.7	10		µg/L	1	8/8/2023 3:40:35 PM	76673
Benzo(g,h,i)perylene	ND	4.9	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
Benzo(k)fluoranthene	ND	4.5	10		µg/L	1	8/8/2023 3:40:35 PM	76673
Benzoic acid	ND	15	20		µg/L	1	8/8/2023 3:40:35 PM	76673
Benzyl alcohol	ND	4.8	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	8/8/2023 3:40:35 PM	76673
Bis(2-chloroethyl)ether	ND	5.0	10		µg/L	1	8/8/2023 3:40:35 PM	76673
Bis(2-chloroisopropyl)ether	ND	3.6	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
Bis(2-ethylhexyl)phthalate	ND	7.0	10		µg/L	1	8/8/2023 3:40:35 PM	76673
4-Bromophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673

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 **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-9
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 9:45:00 AM
Lab ID: 2308192-004 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Butyl benzyl phthalate	ND	6.5	10		µg/L	1	8/8/2023 3:40:35 PM	76673
Carbazole	ND	5.3	10		µg/L	1	8/8/2023 3:40:35 PM	76673
4-Chloro-3-methylphenol	ND	4.6	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
4-Chloroaniline	ND	4.7	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
2-Chloronaphthalene	ND	3.2	10		µg/L	1	8/8/2023 3:40:35 PM	76673
2-Chlorophenol	ND	4.5	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
4-Chlorophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
Chrysene	ND	4.7	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
Di-n-butyl phthalate	ND	19	20		µg/L	1	8/8/2023 3:40:35 PM	76673
Di-n-octyl phthalate	ND	5.6	10		µg/L	1	8/8/2023 3:40:35 PM	76673
Dibenz(a,h)anthracene	ND	4.9	10		µg/L	1	8/8/2023 3:40:35 PM	76673
Dibenzofuran	ND	4.9	10		µg/L	1	8/8/2023 3:40:35 PM	76673
1,2-Dichlorobenzene	ND	2.9	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
1,3-Dichlorobenzene	ND	3.0	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
1,4-Dichlorobenzene	ND	1.8	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
3,3´-Dichlorobenzidine	ND	5.9	10		µg/L	1	8/8/2023 3:40:35 PM	76673
Diethyl phthalate	ND	5.6	10		µg/L	1	8/8/2023 3:40:35 PM	76673
Dimethyl phthalate	ND	5.4	10		µg/L	1	8/8/2023 3:40:35 PM	76673
2,4-Dichlorophenol	ND	3.8	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
2,4-Dimethylphenol	ND	4.8	10		µg/L	1	8/8/2023 3:40:35 PM	76673
4,6-Dinitro-2-methylphenol	ND	4.2	10		µg/L	1	8/8/2023 3:40:35 PM	76673
2,4-Dinitrophenol	ND	4.7	10		µg/L	1	8/8/2023 3:40:35 PM	76673
2,4-Dinitrotoluene	ND	5.0	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
2,6-Dinitrotoluene	ND	5.3	10		µg/L	1	8/8/2023 3:40:35 PM	76673
Fluoranthene	ND	5.5	10		µg/L	1	8/8/2023 3:40:35 PM	76673
Fluorene	ND	4.7	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
Hexachlorobenzene	ND	4.6	20		µg/L	1	8/8/2023 3:40:35 PM	76673
Hexachlorobutadiene	ND	2.5	20		µg/L	1	8/8/2023 3:40:35 PM	76673
Hexachlorocyclopentadiene	ND	2.2	20		µg/L	1	8/8/2023 3:40:35 PM	76673
Hexachloroethane	ND	2.8	20		µg/L	1	8/8/2023 3:40:35 PM	76673
Indeno(1,2,3-cd)pyrene	ND	5.3	10		µg/L	1	8/8/2023 3:40:35 PM	76673
Isophorone	ND	4.3	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
1-Methylnaphthalene	ND	3.1	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
2-Methylnaphthalene	ND	2.4	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
2-Methylphenol	ND	4.7	10		µg/L	1	8/8/2023 3:40:35 PM	76673
3+4-Methylphenol	ND	4.9	10		µg/L	1	8/8/2023 3:40:35 PM	76673
N-Nitrosodi-n-propylamine	ND	3.7	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
N-Nitrosodimethylamine	ND	3.1	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
N-Nitrosodiphenylamine	ND	5.2	10		µg/L	1	8/8/2023 3:40:35 PM	76673

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 **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-9
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 9:45:00 AM
Lab ID: 2308192-004 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Naphthalene	4.3	3.2	5.0	J	µg/L	1	8/8/2023 3:40:35 PM	76673
2-Nitroaniline	ND	5.0	10		µg/L	1	8/8/2023 3:40:35 PM	76673
3-Nitroaniline	ND	5.0	10		µg/L	1	8/8/2023 3:40:35 PM	76673
4-Nitroaniline	ND	4.5	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
Nitrobenzene	ND	3.6	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
2-Nitrophenol	ND	4.4	10		µg/L	1	8/8/2023 3:40:35 PM	76673
4-Nitrophenol	ND	2.9	10		µg/L	1	8/8/2023 3:40:35 PM	76673
Pentachlorophenol	ND	4.9	20		µg/L	1	8/8/2023 3:40:35 PM	76673
Phenanthrene	ND	4.8	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
Phenol	21	3.9	10		µg/L	1	8/8/2023 3:40:35 PM	76673
Pyrene	ND	5.2	10		µg/L	1	8/8/2023 3:40:35 PM	76673
Pyridine	ND	31	40		µg/L	1	8/8/2023 3:40:35 PM	76673
1,2,4-Trichlorobenzene	ND	2.6	5.0		µg/L	1	8/8/2023 3:40:35 PM	76673
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	8/8/2023 3:40:35 PM	76673
2,4,6-Trichlorophenol	ND	4.1	10		µg/L	1	8/8/2023 3:40:35 PM	76673
Surr: 2-Fluorophenol	63.9	0	15-84.1		%Rec	1	8/8/2023 3:40:35 PM	76673
Surr: Phenol-d5	47.4	0	16.5-50.7		%Rec	1	8/8/2023 3:40:35 PM	76673
Surr: 2,4,6-Tribromophenol	77.5	0	15-133		%Rec	1	8/8/2023 3:40:35 PM	76673
Surr: Nitrobenzene-d5	72.6	0	30.9-86.8		%Rec	1	8/8/2023 3:40:35 PM	76673
Surr: 2-Fluorobiphenyl	72.2	0	24.3-77.2		%Rec	1	8/8/2023 3:40:35 PM	76673
Surr: 4-Terphenyl-d14	92.5	0	52.3-118		%Rec	1	8/8/2023 3:40:35 PM	76673
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	4400	11	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Toluene	ND	10	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Ethylbenzene	39	11	50	JD	µg/L	50	8/3/2023 10:14:00 PM	R98695
Methyl tert-butyl ether (MTBE)	ND	20	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
1,2,4-Trimethylbenzene	9.5	6.1	50	JD	µg/L	50	8/3/2023 10:14:00 PM	R98695
1,3,5-Trimethylbenzene	ND	9.1	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
1,2-Dichloroethane (EDC)	ND	15	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
1,2-Dibromoethane (EDB)	ND	15	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Naphthalene	46	12	100	JD	µg/L	50	8/3/2023 10:14:00 PM	R98695
1-Methylnaphthalene	ND	42	200	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
2-Methylnaphthalene	ND	35	200	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Acetone	ND	130	500	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Bromobenzene	ND	14	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Bromodichloromethane	ND	10	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Bromoform	ND	16	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Bromomethane	ND	43	150	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
2-Butanone	ND	100	500	D	µg/L	50	8/3/2023 10:14:00 PM	R98695

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Qualifiers:

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

Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-9
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 9:45:00 AM
Lab ID: 2308192-004 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Carbon disulfide	ND	30	500	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Carbon Tetrachloride	ND	8.8	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Chlorobenzene	ND	23	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Chloroethane	ND	19	100	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Chloroform	ND	6.7	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Chloromethane	ND	21	150	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
2-Chlorotoluene	ND	6.6	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
4-Chlorotoluene	ND	6.7	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
cis-1,2-DCE	ND	19	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
cis-1,3-Dichloropropene	ND	5.8	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
1,2-Dibromo-3-chloropropane	ND	29	100	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Dibromochloromethane	ND	14	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Dibromomethane	ND	15	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
1,2-Dichlorobenzene	ND	7.7	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
1,3-Dichlorobenzene	ND	8.1	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
1,4-Dichlorobenzene	ND	5.2	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Dichlorodifluoromethane	ND	13	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
1,1-Dichloroethane	ND	15	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
1,1-Dichloroethene	ND	10	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
1,2-Dichloropropane	ND	10	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
1,3-Dichloropropane	ND	9.0	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
2,2-Dichloropropane	ND	13	100	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
1,1-Dichloropropene	ND	9.0	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Hexachlorobutadiene	ND	21	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
2-Hexanone	ND	90	500	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Isopropylbenzene	ND	9.1	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
4-Isopropyltoluene	ND	10	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
4-Methyl-2-pentanone	ND	34	500	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Methylene Chloride	ND	25	150	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
n-Butylbenzene	ND	6.3	150	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
n-Propylbenzene	ND	5.5	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
sec-Butylbenzene	ND	7.2	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Styrene	ND	6.8	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
tert-Butylbenzene	ND	12	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
1,1,1,2-Tetrachloroethane	ND	13	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
1,1,2,2-Tetrachloroethane	ND	14	100	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Tetrachloroethene (PCE)	ND	8.9	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
trans-1,2-DCE	ND	9.7	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
trans-1,3-Dichloropropene	ND	17	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
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Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-9
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 9:45:00 AM
Lab ID: 2308192-004 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
1,2,3-Trichlorobenzene	ND	12	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
1,2,4-Trichlorobenzene	ND	12	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
1,1,1-Trichloroethane	ND	4.1	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
1,1,2-Trichloroethane	ND	9.9	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Trichloroethene (TCE)	ND	10	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Trichlorofluoromethane	ND	7.9	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
1,2,3-Trichloropropane	ND	8.0	100	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Vinyl chloride	ND	16	50	D	µg/L	50	8/3/2023 10:14:00 PM	R98695
Xylenes, Total	52	19	75	JD	µg/L	50	8/3/2023 10:14:00 PM	R98695
Surr: 1,2-Dichloroethane-d4	111	0	70-130	D	%Rec	50	8/3/2023 10:14:00 PM	R98695
Surr: 4-Bromofluorobenzene	115	0	70-130	D	%Rec	50	8/3/2023 10:14:00 PM	R98695
Surr: Dibromofluoromethane	111	0	70-130	D	%Rec	50	8/3/2023 10:14:00 PM	R98695
Surr: Toluene-d8	111	0	70-130	D	%Rec	50	8/3/2023 10:14:00 PM	R98695
SM4500-H+B / 9040C: PH							Analyst: **RBC**	
pH	8.03			H	pH units	1	8/7/2023 5:57:18 PM	R98783
SM2320B: ALKALINITY							Analyst: **RBC**	
Bicarbonate (As CaCO3)	1322	50.00	50.00		mg/L Ca	2.5	8/8/2023 3:09:19 PM	R98841
Carbonate (As CaCO3)	ND	5.000	5.000		mg/L Ca	2.5	8/8/2023 3:09:19 PM	R98841
Total Alkalinity (as CaCO3)	1322	50.00	50.00		mg/L Ca	2.5	8/8/2023 3:09:19 PM	R98841
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	2170	25.0	50.0	*	mg/L	1	8/9/2023 9:53:00 AM	76711

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D	Sample Diluted Due to Matrix
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ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-4
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 10:10:00 AM
Lab ID: 2308192-005 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **JMT**	
Chloride	170	5.0	10		mg/L	20	8/3/2023 2:45:19 PM	R98720
Nitrogen, Nitrite (As N)	ND	0.057	0.50		mg/L	5	8/3/2023 2:32:27 PM	R98720
Nitrogen, Nitrate (As N)	0.25	0.10	0.50	J	mg/L	5	8/3/2023 2:32:27 PM	R98720
Sulfate	380	5.0	10	*	mg/L	20	8/3/2023 2:45:19 PM	R98720
EPA 200.8: METALS							Analyst: **bcv**	
Uranium	0.0013	0.000076	0.00050		mg/L	1	8/7/2023 11:47:53 AM	76676
EPA METHOD 6020A: DISSOLVED METALS							Analyst: **ELS**	
Arsenic	ND	0.0025	0.0050		mg/L	5	8/4/2023 2:42:27 PM	D98751
Lead	ND	0.0025	0.0050		mg/L	5	8/4/2023 2:42:27 PM	D98751
Selenium	ND	0.0040	0.0050		mg/L	5	8/4/2023 2:42:27 PM	D98751
EPA METHOD 7470A: MERCURY							Analyst: **tem**	
Mercury	ND	0.000081	0.00020		mg/L	1	8/8/2023 1:49:51 PM	76699
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **VP**	
Barium	0.048	0.00074	0.020		mg/L	1	8/4/2023 9:53:49 AM	A98732
Cadmium	ND	0.00083	0.0020		mg/L	1	8/4/2023 9:53:49 AM	A98732
Calcium	23	0.089	1.0		mg/L	1	8/4/2023 9:53:49 AM	A98732
Chromium	ND	0.00099	0.0060		mg/L	1	8/4/2023 9:53:49 AM	A98732
Silver	ND	0.0012	0.0050		mg/L	1	8/4/2023 9:53:49 AM	A98732
Sodium	600	3.0	10		mg/L	10	8/4/2023 10:02:20 AM	A98732
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.3	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
Acenaphthylene	ND	4.6	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
Aniline	ND	5.4	10		µg/L	1	8/8/2023 4:22:25 PM	76673
Anthracene	ND	3.9	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
Azobenzene	ND	3.8	10		µg/L	1	8/8/2023 4:22:25 PM	76673
Benz(a)anthracene	ND	6.7	10		µg/L	1	8/8/2023 4:22:25 PM	76673
Benzo(a)pyrene	ND	4.9	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
Benzo(b)fluoranthene	ND	5.7	10		µg/L	1	8/8/2023 4:22:25 PM	76673
Benzo(g,h,i)perylene	ND	4.9	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
Benzo(k)fluoranthene	ND	4.5	10		µg/L	1	8/8/2023 4:22:25 PM	76673
Benzoic acid	ND	15	20		µg/L	1	8/8/2023 4:22:25 PM	76673
Benzyl alcohol	ND	4.8	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	8/8/2023 4:22:25 PM	76673
Bis(2-chloroethyl)ether	ND	5.0	10		µg/L	1	8/8/2023 4:22:25 PM	76673
Bis(2-chloroisopropyl)ether	ND	3.6	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
Bis(2-ethylhexyl)phthalate	ND	7.0	10		µg/L	1	8/8/2023 4:22:25 PM	76673
4-Bromophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673

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 **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-4
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 10:10:00 AM
Lab ID: 2308192-005 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Butyl benzyl phthalate	ND	6.5	10		µg/L	1	8/8/2023 4:22:25 PM	76673
Carbazole	ND	5.3	10		µg/L	1	8/8/2023 4:22:25 PM	76673
4-Chloro-3-methylphenol	ND	4.6	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
4-Chloroaniline	ND	4.7	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
2-Chloronaphthalene	ND	3.2	10		µg/L	1	8/8/2023 4:22:25 PM	76673
2-Chlorophenol	ND	4.5	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
4-Chlorophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
Chrysene	ND	4.7	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
Di-n-butyl phthalate	ND	19	20		µg/L	1	8/8/2023 4:22:25 PM	76673
Di-n-octyl phthalate	ND	5.6	10		µg/L	1	8/8/2023 4:22:25 PM	76673
Dibenz(a,h)anthracene	ND	4.9	10		µg/L	1	8/8/2023 4:22:25 PM	76673
Dibenzofuran	ND	4.9	10		µg/L	1	8/8/2023 4:22:25 PM	76673
1,2-Dichlorobenzene	ND	2.9	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
1,3-Dichlorobenzene	ND	3.0	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
1,4-Dichlorobenzene	ND	1.8	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
3,3´-Dichlorobenzidine	ND	5.9	10		µg/L	1	8/8/2023 4:22:25 PM	76673
Diethyl phthalate	ND	5.6	10		µg/L	1	8/8/2023 4:22:25 PM	76673
Dimethyl phthalate	ND	5.4	10		µg/L	1	8/8/2023 4:22:25 PM	76673
2,4-Dichlorophenol	ND	3.8	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
2,4-Dimethylphenol	ND	4.8	10		µg/L	1	8/8/2023 4:22:25 PM	76673
4,6-Dinitro-2-methylphenol	ND	4.2	10		µg/L	1	8/8/2023 4:22:25 PM	76673
2,4-Dinitrophenol	ND	4.7	10		µg/L	1	8/8/2023 4:22:25 PM	76673
2,4-Dinitrotoluene	ND	5.0	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
2,6-Dinitrotoluene	ND	5.3	10		µg/L	1	8/8/2023 4:22:25 PM	76673
Fluoranthene	ND	5.5	10		µg/L	1	8/8/2023 4:22:25 PM	76673
Fluorene	ND	4.7	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
Hexachlorobenzene	ND	4.6	20		µg/L	1	8/8/2023 4:22:25 PM	76673
Hexachlorobutadiene	ND	2.5	20		µg/L	1	8/8/2023 4:22:25 PM	76673
Hexachlorocyclopentadiene	ND	2.2	20		µg/L	1	8/8/2023 4:22:25 PM	76673
Hexachloroethane	ND	2.8	20		µg/L	1	8/8/2023 4:22:25 PM	76673
Indeno(1,2,3-cd)pyrene	ND	5.3	10		µg/L	1	8/8/2023 4:22:25 PM	76673
Isophorone	ND	4.3	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
1-Methylnaphthalene	ND	3.1	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
2-Methylnaphthalene	ND	2.4	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
2-Methylphenol	ND	4.7	10		µg/L	1	8/8/2023 4:22:25 PM	76673
3+4-Methylphenol	ND	4.9	10		µg/L	1	8/8/2023 4:22:25 PM	76673
N-Nitrosodi-n-propylamine	ND	3.7	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
N-Nitrosodimethylamine	ND	3.1	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
N-Nitrosodiphenylamine	ND	5.2	10		µg/L	1	8/8/2023 4:22:25 PM	76673

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Qualifiers:

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

Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-4
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 10:10:00 AM
Lab ID: 2308192-005 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Naphthalene	ND	3.2	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
2-Nitroaniline	ND	5.0	10		µg/L	1	8/8/2023 4:22:25 PM	76673
3-Nitroaniline	ND	5.0	10		µg/L	1	8/8/2023 4:22:25 PM	76673
4-Nitroaniline	ND	4.5	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
Nitrobenzene	ND	3.6	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
2-Nitrophenol	ND	4.4	10		µg/L	1	8/8/2023 4:22:25 PM	76673
4-Nitrophenol	ND	2.9	10		µg/L	1	8/8/2023 4:22:25 PM	76673
Pentachlorophenol	ND	4.9	20		µg/L	1	8/8/2023 4:22:25 PM	76673
Phenanthrene	ND	4.8	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
Phenol	ND	3.9	10		µg/L	1	8/8/2023 4:22:25 PM	76673
Pyrene	ND	5.2	10		µg/L	1	8/8/2023 4:22:25 PM	76673
Pyridine	ND	31	40		µg/L	1	8/8/2023 4:22:25 PM	76673
1,2,4-Trichlorobenzene	ND	2.6	5.0		µg/L	1	8/8/2023 4:22:25 PM	76673
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	8/8/2023 4:22:25 PM	76673
2,4,6-Trichlorophenol	ND	4.1	10		µg/L	1	8/8/2023 4:22:25 PM	76673
Surr: 2-Fluorophenol	49.7	0	15-84.1		%Rec	1	8/8/2023 4:22:25 PM	76673
Surr: Phenol-d5	36.9	0	16.5-50.7		%Rec	1	8/8/2023 4:22:25 PM	76673
Surr: 2,4,6-Tribromophenol	48.4	0	15-133		%Rec	1	8/8/2023 4:22:25 PM	76673
Surr: Nitrobenzene-d5	61.4	0	30.9-86.8		%Rec	1	8/8/2023 4:22:25 PM	76673
Surr: 2-Fluorobiphenyl	51.3	0	24.3-77.2		%Rec	1	8/8/2023 4:22:25 PM	76673
Surr: 4-Terphenyl-d14	81.7	0	52.3-118		%Rec	1	8/8/2023 4:22:25 PM	76673
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	ND	0.23	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Toluene	0.27	0.20	1.0	J	µg/L	1	8/3/2023 6:34:00 PM	R98695
Ethylbenzene	ND	0.21	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Methyl tert-butyl ether (MTBE)	0.54	0.39	1.0	J	µg/L	1	8/3/2023 6:34:00 PM	R98695
1,2,4-Trimethylbenzene	0.14	0.12	1.0	J	µg/L	1	8/3/2023 6:34:00 PM	R98695
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
1,2-Dichloroethane (EDC)	ND	0.30	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Naphthalene	0.87	0.24	2.0	J	µg/L	1	8/3/2023 6:34:00 PM	R98695
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
2-Methylnaphthalene	ND	0.69	4.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Acetone	ND	2.5	10		µg/L	1	8/3/2023 6:34:00 PM	R98695
Bromobenzene	ND	0.28	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Bromodichloromethane	ND	0.20	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Bromoform	ND	0.31	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Bromomethane	ND	0.85	3.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
2-Butanone	ND	2.0	10		µg/L	1	8/3/2023 6:34:00 PM	R98695

Refer to the QC Summary report and sample login checklist for flagged QC data 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 **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-4
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 10:10:00 AM
Lab ID: 2308192-005 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Carbon disulfide	ND	0.59	10		µg/L	1	8/3/2023 6:34:00 PM	R98695
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Chlorobenzene	ND	0.46	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Chloroethane	ND	0.38	2.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Chloroform	ND	0.13	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Chloromethane	ND	0.41	3.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
cis-1,3-Dichloropropene	ND	0.12	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Dibromochloromethane	ND	0.28	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Dibromomethane	ND	0.31	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
1,4-Dichlorobenzene	ND	0.10	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
1,1-Dichloroethane	ND	0.30	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
1,1-Dichloroethene	ND	0.20	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
1,2-Dichloropropane	ND	0.20	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
1,1-Dichloropropene	ND	0.18	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Hexachlorobutadiene	ND	0.42	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
2-Hexanone	ND	1.8	10		µg/L	1	8/3/2023 6:34:00 PM	R98695
Isopropylbenzene	ND	0.18	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
4-Methyl-2-pentanone	ND	0.67	10		µg/L	1	8/3/2023 6:34:00 PM	R98695
Methylene Chloride	ND	0.50	3.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
n-Butylbenzene	ND	0.13	3.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
n-Propylbenzene	ND	0.11	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
sec-Butylbenzene	ND	0.14	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Styrene	0.16	0.14	1.0	J	µg/L	1	8/3/2023 6:34:00 PM	R98695
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Tetrachloroethene (PCE)	ND	0.18	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
trans-1,2-DCE	ND	0.19	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695

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H	Holding times for preparation or analysis exceeded
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P	Sample pH Not In Range
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Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-4
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 10:10:00 AM
Lab ID: 2308192-005 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
1,2,3-Trichlorobenzene	ND	0.25	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
1,1,1-Trichloroethane	ND	0.081	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
1,1,2-Trichloroethane	ND	0.20	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Trichloroethene (TCE)	ND	0.20	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Trichlorofluoromethane	ND	0.16	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
1,2,3-Trichloropropane	ND	0.16	2.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Vinyl chloride	ND	0.32	1.0		µg/L	1	8/3/2023 6:34:00 PM	R98695
Xylenes, Total	ND	0.37	1.5		µg/L	1	8/3/2023 6:34:00 PM	R98695
Surr: 1,2-Dichloroethane-d4	110	0	70-130		%Rec	1	8/3/2023 6:34:00 PM	R98695
Surr: 4-Bromofluorobenzene	116	0	70-130		%Rec	1	8/3/2023 6:34:00 PM	R98695
Surr: Dibromofluoromethane	108	0	70-130		%Rec	1	8/3/2023 6:34:00 PM	R98695
Surr: Toluene-d8	112	0	70-130		%Rec	1	8/3/2023 6:34:00 PM	R98695
SM4500-H+B / 9040C: PH							Analyst: **RBC**	
pH	8.00			H	pH units	1	8/7/2023 6:28:29 PM	R98783
SM2320B: ALKALINITY							Analyst: **RBC**	
Bicarbonate (As CaCO3)	779.7	20.00	20.00		mg/L Ca	1	8/7/2023 6:28:29 PM	R98783
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	8/7/2023 6:28:29 PM	R98783
Total Alkalinity (as CaCO3)	779.7	20.00	20.00		mg/L Ca	1	8/7/2023 6:28:29 PM	R98783
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	1700	25.0	50.0	*	mg/L	1	8/9/2023 9:53:00 AM	76711

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

Qualifiers:

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B	Analyte detected in the associated Method Blank
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 **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-5
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 10:30:00 AM
Lab ID: 2308192-006 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **JTT**	
Chloride	480	12	25	*	mg/L	50	8/11/2023 7:32:12 PM	R98916
Nitrogen, Nitrite (As N)	ND	0.23	2.0		mg/L	20	8/3/2023 3:11:03 PM	R98720
Nitrogen, Nitrate (As N)	0.13	0.020	0.10		mg/L	1	8/3/2023 2:58:11 PM	R98720
Sulfate	2100	12	25	*	mg/L	50	8/11/2023 12:59:03 AM	A98893
EPA 200.8: METALS							Analyst: **bcv**	
Uranium	0.022	0.000076	0.00050		mg/L	1	8/7/2023 11:50:48 AM	76676
EPA METHOD 6020A: DISSOLVED METALS							Analyst: **ELS**	
Arsenic	ND	0.0025	0.0050		mg/L	5	8/4/2023 2:46:01 PM	D98751
Lead	ND	0.0025	0.0050		mg/L	5	8/4/2023 2:46:01 PM	D98751
Selenium	0.0046	0.0040	0.0050	J	mg/L	5	8/4/2023 2:46:01 PM	D98751
EPA METHOD 7470A: MERCURY							Analyst: **tem**	
Mercury	ND	0.000081	0.00020		mg/L	1	8/8/2023 1:59:05 PM	76699
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **VP**	
Barium	0.0058	0.00074	0.020	J	mg/L	1	8/4/2023 10:03:51 AM	A98732
Cadmium	ND	0.00083	0.0020		mg/L	1	8/4/2023 10:03:51 AM	A98732
Calcium	240	0.45	5.0		mg/L	5	8/4/2023 10:10:35 AM	A98732
Chromium	ND	0.00099	0.0060		mg/L	1	8/4/2023 10:03:51 AM	A98732
Silver	0.0050	0.0012	0.0050	J	mg/L	1	8/4/2023 10:03:51 AM	A98732
Sodium	1200	5.9	20		mg/L	20	8/4/2023 10:24:47 AM	A98732
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.3	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
Acenaphthylene	ND	4.6	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
Aniline	ND	5.4	10		µg/L	1	8/8/2023 5:03:31 PM	76673
Anthracene	ND	3.9	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
Azobenzene	ND	3.8	10		µg/L	1	8/8/2023 5:03:31 PM	76673
Benz(a)anthracene	ND	6.7	10		µg/L	1	8/8/2023 5:03:31 PM	76673
Benzo(a)pyrene	ND	4.9	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
Benzo(b)fluoranthene	ND	5.7	10		µg/L	1	8/8/2023 5:03:31 PM	76673
Benzo(g,h,i)perylene	ND	4.9	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
Benzo(k)fluoranthene	ND	4.5	10		µg/L	1	8/8/2023 5:03:31 PM	76673
Benzoic acid	ND	15	20		µg/L	1	8/8/2023 5:03:31 PM	76673
Benzyl alcohol	ND	4.8	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	8/8/2023 5:03:31 PM	76673
Bis(2-chloroethyl)ether	ND	5.0	10		µg/L	1	8/8/2023 5:03:31 PM	76673
Bis(2-chloroisopropyl)ether	ND	3.6	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
Bis(2-ethylhexyl)phthalate	ND	7.0	10		µg/L	1	8/8/2023 5:03:31 PM	76673
4-Bromophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673

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Qualifiers:

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
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B	Analyte detected in the associated Method Blank
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P	Sample pH Not In Range
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Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-5
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 10:30:00 AM
Lab ID: 2308192-006 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Butyl benzyl phthalate	ND	6.5	10		µg/L	1	8/8/2023 5:03:31 PM	76673
Carbazole	ND	5.3	10		µg/L	1	8/8/2023 5:03:31 PM	76673
4-Chloro-3-methylphenol	ND	4.6	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
4-Chloroaniline	ND	4.7	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
2-Chloronaphthalene	ND	3.2	10		µg/L	1	8/8/2023 5:03:31 PM	76673
2-Chlorophenol	ND	4.5	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
4-Chlorophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
Chrysene	ND	4.7	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
Di-n-butyl phthalate	ND	19	20		µg/L	1	8/8/2023 5:03:31 PM	76673
Di-n-octyl phthalate	ND	5.6	10		µg/L	1	8/8/2023 5:03:31 PM	76673
Dibenz(a,h)anthracene	ND	4.9	10		µg/L	1	8/8/2023 5:03:31 PM	76673
Dibenzofuran	ND	4.9	10		µg/L	1	8/8/2023 5:03:31 PM	76673
1,2-Dichlorobenzene	ND	2.9	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
1,3-Dichlorobenzene	ND	3.0	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
1,4-Dichlorobenzene	ND	1.8	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
3,3´-Dichlorobenzidine	ND	5.9	10		µg/L	1	8/8/2023 5:03:31 PM	76673
Diethyl phthalate	ND	5.6	10		µg/L	1	8/8/2023 5:03:31 PM	76673
Dimethyl phthalate	ND	5.4	10		µg/L	1	8/8/2023 5:03:31 PM	76673
2,4-Dichlorophenol	ND	3.8	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
2,4-Dimethylphenol	ND	4.8	10		µg/L	1	8/8/2023 5:03:31 PM	76673
4,6-Dinitro-2-methylphenol	ND	4.2	10		µg/L	1	8/8/2023 5:03:31 PM	76673
2,4-Dinitrophenol	ND	4.7	10		µg/L	1	8/8/2023 5:03:31 PM	76673
2,4-Dinitrotoluene	ND	5.0	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
2,6-Dinitrotoluene	ND	5.3	10		µg/L	1	8/8/2023 5:03:31 PM	76673
Fluoranthene	ND	5.5	10		µg/L	1	8/8/2023 5:03:31 PM	76673
Fluorene	ND	4.7	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
Hexachlorobenzene	ND	4.6	20		µg/L	1	8/8/2023 5:03:31 PM	76673
Hexachlorobutadiene	ND	2.5	20		µg/L	1	8/8/2023 5:03:31 PM	76673
Hexachlorocyclopentadiene	ND	2.2	20		µg/L	1	8/8/2023 5:03:31 PM	76673
Hexachloroethane	ND	2.8	20		µg/L	1	8/8/2023 5:03:31 PM	76673
Indeno(1,2,3-cd)pyrene	ND	5.3	10		µg/L	1	8/8/2023 5:03:31 PM	76673
Isophorone	ND	4.3	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
1-Methylnaphthalene	ND	3.1	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
2-Methylnaphthalene	ND	2.4	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
2-Methylphenol	ND	4.7	10		µg/L	1	8/8/2023 5:03:31 PM	76673
3+4-Methylphenol	ND	4.9	10		µg/L	1	8/8/2023 5:03:31 PM	76673
N-Nitrosodi-n-propylamine	ND	3.7	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
N-Nitrosodimethylamine	ND	3.1	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
N-Nitrosodiphenylamine	ND	5.2	10		µg/L	1	8/8/2023 5:03:31 PM	76673

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Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-5
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 10:30:00 AM
Lab ID: 2308192-006 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Naphthalene	ND	3.2	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
2-Nitroaniline	ND	5.0	10		µg/L	1	8/8/2023 5:03:31 PM	76673
3-Nitroaniline	ND	5.0	10		µg/L	1	8/8/2023 5:03:31 PM	76673
4-Nitroaniline	ND	4.5	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
Nitrobenzene	ND	3.6	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
2-Nitrophenol	ND	4.4	10		µg/L	1	8/8/2023 5:03:31 PM	76673
4-Nitrophenol	ND	2.9	10		µg/L	1	8/8/2023 5:03:31 PM	76673
Pentachlorophenol	ND	4.9	20		µg/L	1	8/8/2023 5:03:31 PM	76673
Phenanthrene	ND	4.8	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
Phenol	ND	3.9	10		µg/L	1	8/8/2023 5:03:31 PM	76673
Pyrene	ND	5.2	10		µg/L	1	8/8/2023 5:03:31 PM	76673
Pyridine	ND	31	40		µg/L	1	8/8/2023 5:03:31 PM	76673
1,2,4-Trichlorobenzene	ND	2.6	5.0		µg/L	1	8/8/2023 5:03:31 PM	76673
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	8/8/2023 5:03:31 PM	76673
2,4,6-Trichlorophenol	ND	4.1	10		µg/L	1	8/8/2023 5:03:31 PM	76673
Surr: 2-Fluorophenol	51.6	0	15-84.1		%Rec	1	8/8/2023 5:03:31 PM	76673
Surr: Phenol-d5	44.5	0	16.5-50.7		%Rec	1	8/8/2023 5:03:31 PM	76673
Surr: 2,4,6-Tribromophenol	28.6	0	15-133		%Rec	1	8/8/2023 5:03:31 PM	76673
Surr: Nitrobenzene-d5	70.6	0	30.9-86.8		%Rec	1	8/8/2023 5:03:31 PM	76673
Surr: 2-Fluorobiphenyl	63.5	0	24.3-77.2		%Rec	1	8/8/2023 5:03:31 PM	76673
Surr: 4-Terphenyl-d14	88.8	0	52.3-118		%Rec	1	8/8/2023 5:03:31 PM	76673
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	ND	0.23	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Toluene	0.46	0.20	1.0	J	µg/L	1	8/3/2023 6:58:00 PM	R98695
Ethylbenzene	ND	0.21	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
1,2,4-Trimethylbenzene	0.13	0.12	1.0	J	µg/L	1	8/3/2023 6:58:00 PM	R98695
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
1,2-Dichloroethane (EDC)	ND	0.30	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Naphthalene	ND	0.24	2.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
2-Methylnaphthalene	ND	0.69	4.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Acetone	3.6	2.5	10	J	µg/L	1	8/3/2023 6:58:00 PM	R98695
Bromobenzene	ND	0.28	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Bromodichloromethane	ND	0.20	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Bromoform	ND	0.31	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Bromomethane	ND	0.85	3.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
2-Butanone	ND	2.0	10		µg/L	1	8/3/2023 6:58:00 PM	R98695

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Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-5
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 10:30:00 AM
Lab ID: 2308192-006 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Carbon disulfide	ND	0.59	10		µg/L	1	8/3/2023 6:58:00 PM	R98695
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Chlorobenzene	ND	0.46	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Chloroethane	ND	0.38	2.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Chloroform	ND	0.13	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Chloromethane	ND	0.41	3.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
cis-1,3-Dichloropropene	ND	0.12	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Dibromochloromethane	ND	0.28	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Dibromomethane	ND	0.31	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
1,4-Dichlorobenzene	ND	0.10	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
1,1-Dichloroethane	ND	0.30	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
1,1-Dichloroethene	ND	0.20	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
1,2-Dichloropropane	ND	0.20	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
1,1-Dichloropropene	ND	0.18	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Hexachlorobutadiene	ND	0.42	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
2-Hexanone	ND	1.8	10		µg/L	1	8/3/2023 6:58:00 PM	R98695
Isopropylbenzene	ND	0.18	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
4-Methyl-2-pentanone	ND	0.67	10		µg/L	1	8/3/2023 6:58:00 PM	R98695
Methylene Chloride	ND	0.50	3.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
n-Butylbenzene	ND	0.13	3.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
n-Propylbenzene	ND	0.11	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
sec-Butylbenzene	ND	0.14	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Styrene	0.15	0.14	1.0	J	µg/L	1	8/3/2023 6:58:00 PM	R98695
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Tetrachloroethene (PCE)	ND	0.18	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
trans-1,2-DCE	ND	0.19	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695

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Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-5
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 10:30:00 AM
Lab ID: 2308192-006 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
1,2,3-Trichlorobenzene	ND	0.25	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
1,1,1-Trichloroethane	ND	0.081	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
1,1,2-Trichloroethane	ND	0.20	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Trichloroethene (TCE)	ND	0.20	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Trichlorofluoromethane	ND	0.16	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
1,2,3-Trichloropropane	ND	0.16	2.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Vinyl chloride	ND	0.32	1.0		µg/L	1	8/3/2023 6:58:00 PM	R98695
Xylenes, Total	ND	0.37	1.5		µg/L	1	8/3/2023 6:58:00 PM	R98695
Surr: 1,2-Dichloroethane-d4	113	0	70-130		%Rec	1	8/3/2023 6:58:00 PM	R98695
Surr: 4-Bromofluorobenzene	111	0	70-130		%Rec	1	8/3/2023 6:58:00 PM	R98695
Surr: Dibromofluoromethane	114	0	70-130		%Rec	1	8/3/2023 6:58:00 PM	R98695
Surr: Toluene-d8	108	0	70-130		%Rec	1	8/3/2023 6:58:00 PM	R98695
SM4500-H+B / 9040C: PH							Analyst: **RBC**	
pH	7.45			H	pH units	1	8/7/2023 6:55:25 PM	R98783
SM2320B: ALKALINITY							Analyst: **RBC**	
Bicarbonate (As CaCO3)	752.1	20.00	20.00		mg/L Ca	1	8/7/2023 6:55:25 PM	R98783
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	8/7/2023 6:55:25 PM	R98783
Total Alkalinity (as CaCO3)	752.1	20.00	20.00		mg/L Ca	1	8/7/2023 6:55:25 PM	R98783
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	4490	25.0	50.0	*	mg/L	1	8/9/2023 1:06:00 PM	76718

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S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-1R
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 11:00:00 AM
Lab ID: 2308192-007 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **JMT**	
Chloride	400	5.0	10	*	mg/L	20	8/3/2023 3:36:45 PM	R98720
Nitrogen, Nitrite (As N)	ND	0.057	0.50		mg/L	5	8/3/2023 3:23:54 PM	R98720
Nitrogen, Nitrate (As N)	0.27	0.10	0.50	J	mg/L	5	8/3/2023 3:23:54 PM	R98720
Sulfate	1200	12	25	*	mg/L	50	8/11/2023 1:11:54 AM	A98893
EPA 200.8: METALS							Analyst: **bcv**	
Uranium	0.040	0.00038	0.0025	*	mg/L	5	8/7/2023 12:31:38 PM	76676
EPA METHOD 6020A: DISSOLVED METALS							Analyst: **ELS**	
Arsenic	0.022	0.0025	0.0050		mg/L	5	8/4/2023 3:32:31 PM	D98751
Lead	ND	0.0025	0.0050		mg/L	5	8/4/2023 2:49:35 PM	D98751
Selenium	ND	0.0040	0.0050		mg/L	5	8/4/2023 2:49:35 PM	D98751
EPA METHOD 7470A: MERCURY							Analyst: **tem**	
Mercury	0.000088	0.000081	0.00020	J	mg/L	1	8/8/2023 2:01:24 PM	76699
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **VP**	
Barium	0.16	0.00074	0.020		mg/L	1	8/4/2023 10:12:14 AM	A98732
Cadmium	ND	0.00083	0.0020		mg/L	1	8/4/2023 10:12:14 AM	A98732
Calcium	330	0.45	5.0		mg/L	5	8/4/2023 10:13:50 AM	A98732
Chromium	ND	0.00099	0.0060		mg/L	1	8/4/2023 10:12:14 AM	A98732
Silver	0.0063	0.0012	0.0050		mg/L	1	8/4/2023 10:12:14 AM	A98732
Sodium	610	3.0	10		mg/L	10	8/4/2023 10:31:25 AM	A98732
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.3	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
Acenaphthylene	ND	4.6	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
Aniline	ND	5.4	10		µg/L	1	8/8/2023 5:45:01 PM	76673
Anthracene	ND	3.9	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
Azobenzene	ND	3.8	10		µg/L	1	8/8/2023 5:45:01 PM	76673
Benz(a)anthracene	ND	6.7	10		µg/L	1	8/8/2023 5:45:01 PM	76673
Benzo(a)pyrene	ND	4.9	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
Benzo(b)fluoranthene	ND	5.7	10		µg/L	1	8/8/2023 5:45:01 PM	76673
Benzo(g,h,i)perylene	ND	4.9	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
Benzo(k)fluoranthene	ND	4.5	10		µg/L	1	8/8/2023 5:45:01 PM	76673
Benzoic acid	ND	15	20		µg/L	1	8/8/2023 5:45:01 PM	76673
Benzyl alcohol	ND	4.8	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	8/8/2023 5:45:01 PM	76673
Bis(2-chloroethyl)ether	ND	5.0	10		µg/L	1	8/8/2023 5:45:01 PM	76673
Bis(2-chloroisopropyl)ether	ND	3.6	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
Bis(2-ethylhexyl)phthalate	ND	7.0	10		µg/L	1	8/8/2023 5:45:01 PM	76673
4-Bromophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
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ND	Not Detected at the Reporting Limit
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Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-1R
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 11:00:00 AM
Lab ID: 2308192-007 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Butyl benzyl phthalate	ND	6.5	10		µg/L	1	8/8/2023 5:45:01 PM	76673
Carbazole	ND	5.3	10		µg/L	1	8/8/2023 5:45:01 PM	76673
4-Chloro-3-methylphenol	ND	4.6	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
4-Chloroaniline	ND	4.7	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
2-Chloronaphthalene	ND	3.2	10		µg/L	1	8/8/2023 5:45:01 PM	76673
2-Chlorophenol	ND	4.5	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
4-Chlorophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
Chrysene	ND	4.7	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
Di-n-butyl phthalate	ND	19	20		µg/L	1	8/8/2023 5:45:01 PM	76673
Di-n-octyl phthalate	ND	5.6	10		µg/L	1	8/8/2023 5:45:01 PM	76673
Dibenz(a,h)anthracene	ND	4.9	10		µg/L	1	8/8/2023 5:45:01 PM	76673
Dibenzofuran	ND	4.9	10		µg/L	1	8/8/2023 5:45:01 PM	76673
1,2-Dichlorobenzene	ND	2.9	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
1,3-Dichlorobenzene	ND	3.0	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
1,4-Dichlorobenzene	ND	1.8	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
3,3´-Dichlorobenzidine	ND	5.9	10		µg/L	1	8/8/2023 5:45:01 PM	76673
Diethyl phthalate	ND	5.6	10		µg/L	1	8/8/2023 5:45:01 PM	76673
Dimethyl phthalate	ND	5.4	10		µg/L	1	8/8/2023 5:45:01 PM	76673
2,4-Dichlorophenol	ND	3.8	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
2,4-Dimethylphenol	ND	4.8	10		µg/L	1	8/8/2023 5:45:01 PM	76673
4,6-Dinitro-2-methylphenol	ND	4.2	10		µg/L	1	8/8/2023 5:45:01 PM	76673
2,4-Dinitrophenol	ND	4.7	10		µg/L	1	8/8/2023 5:45:01 PM	76673
2,4-Dinitrotoluene	ND	5.0	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
2,6-Dinitrotoluene	ND	5.3	10		µg/L	1	8/8/2023 5:45:01 PM	76673
Fluoranthene	ND	5.5	10		µg/L	1	8/8/2023 5:45:01 PM	76673
Fluorene	ND	4.7	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
Hexachlorobenzene	ND	4.6	20		µg/L	1	8/8/2023 5:45:01 PM	76673
Hexachlorobutadiene	ND	2.5	20		µg/L	1	8/8/2023 5:45:01 PM	76673
Hexachlorocyclopentadiene	ND	2.2	20		µg/L	1	8/8/2023 5:45:01 PM	76673
Hexachloroethane	ND	2.8	20		µg/L	1	8/8/2023 5:45:01 PM	76673
Indeno(1,2,3-cd)pyrene	ND	5.3	10		µg/L	1	8/8/2023 5:45:01 PM	76673
Isophorone	ND	4.3	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
1-Methylnaphthalene	ND	3.1	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
2-Methylnaphthalene	ND	2.4	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
2-Methylphenol	ND	4.7	10		µg/L	1	8/8/2023 5:45:01 PM	76673
3+4-Methylphenol	ND	4.9	10		µg/L	1	8/8/2023 5:45:01 PM	76673
N-Nitrosodi-n-propylamine	ND	3.7	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
N-Nitrosodimethylamine	ND	3.1	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
N-Nitrosodiphenylamine	ND	5.2	10		µg/L	1	8/8/2023 5:45:01 PM	76673

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Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-1R
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 11:00:00 AM
Lab ID: 2308192-007 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Naphthalene	ND	3.2	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
2-Nitroaniline	ND	5.0	10		µg/L	1	8/8/2023 5:45:01 PM	76673
3-Nitroaniline	ND	5.0	10		µg/L	1	8/8/2023 5:45:01 PM	76673
4-Nitroaniline	ND	4.5	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
Nitrobenzene	ND	3.6	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
2-Nitrophenol	ND	4.4	10		µg/L	1	8/8/2023 5:45:01 PM	76673
4-Nitrophenol	ND	2.9	10		µg/L	1	8/8/2023 5:45:01 PM	76673
Pentachlorophenol	ND	4.9	20		µg/L	1	8/8/2023 5:45:01 PM	76673
Phenanthrene	ND	4.8	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
Phenol	ND	3.9	10		µg/L	1	8/8/2023 5:45:01 PM	76673
Pyrene	ND	5.2	10		µg/L	1	8/8/2023 5:45:01 PM	76673
Pyridine	ND	31	40		µg/L	1	8/8/2023 5:45:01 PM	76673
1,2,4-Trichlorobenzene	ND	2.6	5.0		µg/L	1	8/8/2023 5:45:01 PM	76673
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	8/8/2023 5:45:01 PM	76673
2,4,6-Trichlorophenol	ND	4.1	10		µg/L	1	8/8/2023 5:45:01 PM	76673
Surr: 2-Fluorophenol	55.5	0	15-84.1		%Rec	1	8/8/2023 5:45:01 PM	76673
Surr: Phenol-d5	46.8	0	16.5-50.7		%Rec	1	8/8/2023 5:45:01 PM	76673
Surr: 2,4,6-Tribromophenol	39.9	0	15-133		%Rec	1	8/8/2023 5:45:01 PM	76673
Surr: Nitrobenzene-d5	65.0	0	30.9-86.8		%Rec	1	8/8/2023 5:45:01 PM	76673
Surr: 2-Fluorobiphenyl	63.9	0	24.3-77.2		%Rec	1	8/8/2023 5:45:01 PM	76673
Surr: 4-Terphenyl-d14	84.5	0	52.3-118		%Rec	1	8/8/2023 5:45:01 PM	76673
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	ND	0.23	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Toluene	0.20	0.20	1.0	J	µg/L	1	8/3/2023 7:23:00 PM	R98695
Ethylbenzene	ND	0.21	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
1,2,4-Trimethylbenzene	0.13	0.12	1.0	J	µg/L	1	8/3/2023 7:23:00 PM	R98695
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
1,2-Dichloroethane (EDC)	ND	0.30	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Naphthalene	ND	0.24	2.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
2-Methylnaphthalene	ND	0.69	4.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Acetone	ND	2.5	10		µg/L	1	8/3/2023 7:23:00 PM	R98695
Bromobenzene	ND	0.28	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Bromodichloromethane	ND	0.20	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Bromoform	ND	0.31	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Bromomethane	ND	0.85	3.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
2-Butanone	ND	2.0	10		µg/L	1	8/3/2023 7:23:00 PM	R98695

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-1R
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 11:00:00 AM
Lab ID: 2308192-007 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Carbon disulfide	ND	0.59	10		µg/L	1	8/3/2023 7:23:00 PM	R98695
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Chlorobenzene	ND	0.46	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Chloroethane	ND	0.38	2.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Chloroform	ND	0.13	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Chloromethane	ND	0.41	3.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
cis-1,3-Dichloropropene	ND	0.12	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Dibromochloromethane	ND	0.28	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Dibromomethane	ND	0.31	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
1,4-Dichlorobenzene	ND	0.10	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
1,1-Dichloroethane	ND	0.30	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
1,1-Dichloroethene	ND	0.20	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
1,2-Dichloropropane	ND	0.20	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
1,1-Dichloropropene	ND	0.18	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Hexachlorobutadiene	ND	0.42	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
2-Hexanone	ND	1.8	10		µg/L	1	8/3/2023 7:23:00 PM	R98695
Isopropylbenzene	ND	0.18	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
4-Methyl-2-pentanone	ND	0.67	10		µg/L	1	8/3/2023 7:23:00 PM	R98695
Methylene Chloride	ND	0.50	3.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
n-Butylbenzene	ND	0.13	3.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
n-Propylbenzene	ND	0.11	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
sec-Butylbenzene	ND	0.14	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Styrene	0.14	0.14	1.0	J	µg/L	1	8/3/2023 7:23:00 PM	R98695
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Tetrachloroethene (PCE)	ND	0.18	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
trans-1,2-DCE	ND	0.19	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695

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Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** WMW-1R
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 11:00:00 AM
Lab ID: 2308192-007 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
1,2,3-Trichlorobenzene	ND	0.25	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
1,1,1-Trichloroethane	ND	0.081	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
1,1,2-Trichloroethane	ND	0.20	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Trichloroethene (TCE)	ND	0.20	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Trichlorofluoromethane	ND	0.16	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
1,2,3-Trichloropropane	ND	0.16	2.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Vinyl chloride	ND	0.32	1.0		µg/L	1	8/3/2023 7:23:00 PM	R98695
Xylenes, Total	ND	0.37	1.5		µg/L	1	8/3/2023 7:23:00 PM	R98695
Surr: 1,2-Dichloroethane-d4	111	0	70-130		%Rec	1	8/3/2023 7:23:00 PM	R98695
Surr: 4-Bromofluorobenzene	111	0	70-130		%Rec	1	8/3/2023 7:23:00 PM	R98695
Surr: Dibromofluoromethane	113	0	70-130		%Rec	1	8/3/2023 7:23:00 PM	R98695
Surr: Toluene-d8	106	0	70-130		%Rec	1	8/3/2023 7:23:00 PM	R98695
SM4500-H+B / 9040C: PH							Analyst: **RBC**	
pH	7.60			H	pH units	1	8/7/2023 7:27:27 PM	R98783
SM2320B: ALKALINITY							Analyst: **RBC**	
Bicarbonate (As CaCO3)	586.0	20.00	20.00		mg/L Ca	1	8/7/2023 7:27:27 PM	R98783
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	8/7/2023 7:27:27 PM	R98783
Total Alkalinity (as CaCO3)	586.0	20.00	20.00		mg/L Ca	1	8/7/2023 7:27:27 PM	R98783
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	3080	25.0	50.0	*	mg/L	1	8/9/2023 1:06:00 PM	76718

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

Qualifiers:

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PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
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P	Sample pH Not In Range
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Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-8-2-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023
Lab ID: 2308192-008 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **JMT**	
Chloride	190	5.0	10		mg/L	20	8/3/2023 4:28:11 PM	R98720
Nitrogen, Nitrite (As N)	ND	0.011	0.10		mg/L	1	8/3/2023 4:15:19 PM	R98720
Nitrogen, Nitrate (As N)	ND	0.020	0.10		mg/L	1	8/3/2023 4:15:19 PM	R98720
Sulfate	880	12	25	*	mg/L	50	8/11/2023 1:24:47 AM	A98893
EPA 200.8: METALS							Analyst: **bcv**	
Uranium	0.028	0.00038	0.0025		mg/L	5	8/7/2023 12:34:32 PM	76676
EPA METHOD 6020A: DISSOLVED METALS							Analyst: **ELS**	
Arsenic	ND	0.0025	0.0050		mg/L	5	8/4/2023 2:53:09 PM	D98751
Lead	ND	0.0025	0.0050		mg/L	5	8/4/2023 2:53:09 PM	D98751
Selenium	0.0042	0.0040	0.0050	J	mg/L	5	8/4/2023 2:53:09 PM	D98751
EPA METHOD 7470A: MERCURY							Analyst: **tem**	
Mercury	ND	0.000081	0.00020		mg/L	1	8/8/2023 2:03:42 PM	76699
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **VP**	
Barium	0.022	0.00074	0.020		mg/L	1	8/4/2023 10:15:28 AM	A98732
Cadmium	ND	0.00083	0.0020		mg/L	1	8/4/2023 10:15:28 AM	A98732
Calcium	28	0.089	1.0		mg/L	1	8/4/2023 10:15:28 AM	A98732
Chromium	ND	0.00099	0.0060		mg/L	1	8/4/2023 10:15:28 AM	A98732
Silver	0.0012	0.0012	0.0050	J	mg/L	1	8/4/2023 10:15:28 AM	A98732
Sodium	820	3.0	10		mg/L	10	8/4/2023 10:32:57 AM	A98732
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.3	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
Acenaphthylene	ND	4.6	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
Aniline	ND	5.4	10		µg/L	1	8/8/2023 6:26:42 PM	76673
Anthracene	ND	3.9	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
Azobenzene	ND	3.8	10		µg/L	1	8/8/2023 6:26:42 PM	76673
Benz(a)anthracene	ND	6.7	10		µg/L	1	8/8/2023 6:26:42 PM	76673
Benzo(a)pyrene	ND	4.9	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
Benzo(b)fluoranthene	ND	5.7	10		µg/L	1	8/8/2023 6:26:42 PM	76673
Benzo(g,h,i)perylene	ND	4.9	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
Benzo(k)fluoranthene	ND	4.5	10		µg/L	1	8/8/2023 6:26:42 PM	76673
Benzoic acid	ND	15	20		µg/L	1	8/8/2023 6:26:42 PM	76673
Benzyl alcohol	ND	4.8	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	8/8/2023 6:26:42 PM	76673
Bis(2-chloroethyl)ether	ND	5.0	10		µg/L	1	8/8/2023 6:26:42 PM	76673
Bis(2-chloroisopropyl)ether	ND	3.6	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
Bis(2-ethylhexyl)phthalate	ND	7.0	10		µg/L	1	8/8/2023 6:26:42 PM	76673
4-Bromophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673

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Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-8-2-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023
Lab ID: 2308192-008 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Butyl benzyl phthalate	ND	6.5	10		µg/L	1	8/8/2023 6:26:42 PM	76673
Carbazole	ND	5.3	10		µg/L	1	8/8/2023 6:26:42 PM	76673
4-Chloro-3-methylphenol	ND	4.6	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
4-Chloroaniline	ND	4.7	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
2-Chloronaphthalene	ND	3.2	10		µg/L	1	8/8/2023 6:26:42 PM	76673
2-Chlorophenol	ND	4.5	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
4-Chlorophenyl phenyl ether	ND	3.9	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
Chrysene	ND	4.7	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
Di-n-butyl phthalate	ND	19	20		µg/L	1	8/8/2023 6:26:42 PM	76673
Di-n-octyl phthalate	ND	5.6	10		µg/L	1	8/8/2023 6:26:42 PM	76673
Dibenz(a,h)anthracene	ND	4.9	10		µg/L	1	8/8/2023 6:26:42 PM	76673
Dibenzofuran	ND	4.9	10		µg/L	1	8/8/2023 6:26:42 PM	76673
1,2-Dichlorobenzene	ND	2.9	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
1,3-Dichlorobenzene	ND	3.0	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
1,4-Dichlorobenzene	ND	1.8	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
3,3´-Dichlorobenzidine	ND	5.9	10		µg/L	1	8/8/2023 6:26:42 PM	76673
Diethyl phthalate	ND	5.6	10		µg/L	1	8/8/2023 6:26:42 PM	76673
Dimethyl phthalate	ND	5.4	10		µg/L	1	8/8/2023 6:26:42 PM	76673
2,4-Dichlorophenol	ND	3.8	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
2,4-Dimethylphenol	ND	4.8	10		µg/L	1	8/8/2023 6:26:42 PM	76673
4,6-Dinitro-2-methylphenol	ND	4.2	10		µg/L	1	8/8/2023 6:26:42 PM	76673
2,4-Dinitrophenol	ND	4.7	10		µg/L	1	8/8/2023 6:26:42 PM	76673
2,4-Dinitrotoluene	ND	5.0	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
2,6-Dinitrotoluene	ND	5.3	10		µg/L	1	8/8/2023 6:26:42 PM	76673
Fluoranthene	ND	5.5	10		µg/L	1	8/8/2023 6:26:42 PM	76673
Fluorene	ND	4.7	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
Hexachlorobenzene	ND	4.6	20		µg/L	1	8/8/2023 6:26:42 PM	76673
Hexachlorobutadiene	ND	2.5	20		µg/L	1	8/8/2023 6:26:42 PM	76673
Hexachlorocyclopentadiene	ND	2.2	20		µg/L	1	8/8/2023 6:26:42 PM	76673
Hexachloroethane	ND	2.8	20		µg/L	1	8/8/2023 6:26:42 PM	76673
Indeno(1,2,3-cd)pyrene	ND	5.3	10		µg/L	1	8/8/2023 6:26:42 PM	76673
Isophorone	ND	4.3	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
1-Methylnaphthalene	ND	3.1	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
2-Methylnaphthalene	ND	2.4	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
2-Methylphenol	ND	4.7	10		µg/L	1	8/8/2023 6:26:42 PM	76673
3+4-Methylphenol	ND	4.9	10		µg/L	1	8/8/2023 6:26:42 PM	76673
N-Nitrosodi-n-propylamine	ND	3.7	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
N-Nitrosodimethylamine	ND	3.1	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
N-Nitrosodiphenylamine	ND	5.2	10		µg/L	1	8/8/2023 6:26:42 PM	76673

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Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-8-2-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023
Lab ID: 2308192-008 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Naphthalene	ND	3.2	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
2-Nitroaniline	ND	5.0	10		µg/L	1	8/8/2023 6:26:42 PM	76673
3-Nitroaniline	ND	5.0	10		µg/L	1	8/8/2023 6:26:42 PM	76673
4-Nitroaniline	ND	4.5	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
Nitrobenzene	ND	3.6	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
2-Nitrophenol	ND	4.4	10		µg/L	1	8/8/2023 6:26:42 PM	76673
4-Nitrophenol	ND	2.9	10		µg/L	1	8/8/2023 6:26:42 PM	76673
Pentachlorophenol	ND	4.9	20		µg/L	1	8/8/2023 6:26:42 PM	76673
Phenanthrene	ND	4.8	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
Phenol	ND	3.9	10		µg/L	1	8/8/2023 6:26:42 PM	76673
Pyrene	ND	5.2	10		µg/L	1	8/8/2023 6:26:42 PM	76673
Pyridine	ND	31	40		µg/L	1	8/8/2023 6:26:42 PM	76673
1,2,4-Trichlorobenzene	ND	2.6	5.0		µg/L	1	8/8/2023 6:26:42 PM	76673
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	8/8/2023 6:26:42 PM	76673
2,4,6-Trichlorophenol	ND	4.1	10		µg/L	1	8/8/2023 6:26:42 PM	76673
Surr: 2-Fluorophenol	64.0	0	15-84.1		%Rec	1	8/8/2023 6:26:42 PM	76673
Surr: Phenol-d5	50.1	0	16.5-50.7		%Rec	1	8/8/2023 6:26:42 PM	76673
Surr: 2,4,6-Tribromophenol	71.9	0	15-133		%Rec	1	8/8/2023 6:26:42 PM	76673
Surr: Nitrobenzene-d5	75.0	0	30.9-86.8		%Rec	1	8/8/2023 6:26:42 PM	76673
Surr: 2-Fluorobiphenyl	73.1	0	24.3-77.2		%Rec	1	8/8/2023 6:26:42 PM	76673
Surr: 4-Terphenyl-d14	90.5	0	52.3-118		%Rec	1	8/8/2023 6:26:42 PM	76673
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	ND	0.23	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Toluene	ND	0.20	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Ethylbenzene	ND	0.21	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
1,2,4-Trimethylbenzene	ND	0.12	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
1,2-Dichloroethane (EDC)	ND	0.30	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Naphthalene	ND	0.24	2.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
2-Methylnaphthalene	ND	0.69	4.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Acetone	ND	2.5	10		µg/L	1	8/3/2023 7:47:00 PM	R98695
Bromobenzene	ND	0.28	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Bromodichloromethane	ND	0.20	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Bromoform	ND	0.31	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Bromomethane	ND	0.85	3.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
2-Butanone	ND	2.0	10		µg/L	1	8/3/2023 7:47:00 PM	R98695

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
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Analytical Report
Lab Order **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-8-2-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023
Lab ID: 2308192-008 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Carbon disulfide	ND	0.59	10		µg/L	1	8/3/2023 7:47:00 PM	R98695
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Chlorobenzene	ND	0.46	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Chloroethane	ND	0.38	2.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Chloroform	ND	0.13	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Chloromethane	17	0.41	3.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
cis-1,3-Dichloropropene	ND	0.12	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Dibromochloromethane	ND	0.28	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Dibromomethane	ND	0.31	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
1,4-Dichlorobenzene	ND	0.10	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
1,1-Dichloroethane	ND	0.30	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
1,1-Dichloroethene	ND	0.20	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
1,2-Dichloropropane	ND	0.20	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
1,1-Dichloropropene	ND	0.18	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Hexachlorobutadiene	ND	0.42	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
2-Hexanone	ND	1.8	10		µg/L	1	8/3/2023 7:47:00 PM	R98695
Isopropylbenzene	ND	0.18	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
4-Methyl-2-pentanone	ND	0.67	10		µg/L	1	8/3/2023 7:47:00 PM	R98695
Methylene Chloride	ND	0.50	3.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
n-Butylbenzene	ND	0.13	3.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
n-Propylbenzene	ND	0.11	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
sec-Butylbenzene	ND	0.14	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Styrene	ND	0.14	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Tetrachloroethene (PCE)	ND	0.18	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
trans-1,2-DCE	ND	0.19	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695

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 **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** DUP-8-2-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023
Lab ID: 2308192-008 **Matrix:** GROUNDWA **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
1,2,3-Trichlorobenzene	ND	0.25	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
1,1,1-Trichloroethane	ND	0.081	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
1,1,2-Trichloroethane	ND	0.20	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Trichloroethene (TCE)	ND	0.20	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Trichlorofluoromethane	ND	0.16	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
1,2,3-Trichloropropane	ND	0.16	2.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Vinyl chloride	ND	0.32	1.0		µg/L	1	8/3/2023 7:47:00 PM	R98695
Xylenes, Total	ND	0.37	1.5		µg/L	1	8/3/2023 7:47:00 PM	R98695
Surr: 1,2-Dichloroethane-d4	117	0	70-130		%Rec	1	8/3/2023 7:47:00 PM	R98695
Surr: 4-Bromofluorobenzene	111	0	70-130		%Rec	1	8/3/2023 7:47:00 PM	R98695
Surr: Dibromofluoromethane	117	0	70-130		%Rec	1	8/3/2023 7:47:00 PM	R98695
Surr: Toluene-d8	106	0	70-130		%Rec	1	8/3/2023 7:47:00 PM	R98695
SM4500-H+B / 9040C: PH							Analyst: **RBC**	
pH	8.25			H	pH units	1	8/7/2023 7:50:24 PM	R98783
SM2320B: ALKALINITY							Analyst: **RBC**	
Bicarbonate (As CaCO3)	722.2	20.00	20.00		mg/L Ca	1	8/7/2023 7:50:24 PM	R98783
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	8/7/2023 7:50:24 PM	R98783
Total Alkalinity (as CaCO3)	722.2	20.00	20.00		mg/L Ca	1	8/7/2023 7:50:24 PM	R98783
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	2460	25.0	50.0	*	mg/L	1	8/9/2023 9:53:00 AM	76711

Refer to the QC Summary report and sample login checklist for flagged QC data 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 **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** FB-8-2-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 11:00:00 AM
Lab ID: 2308192-009 **Matrix:** AQUEOUS **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	ND	0.23	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Toluene	ND	0.20	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Ethylbenzene	ND	0.21	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
1,2,4-Trimethylbenzene	0.13	0.12	1.0	J	µg/L	1	8/3/2023 8:12:00 PM	R98695
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
1,2-Dichloroethane (EDC)	ND	0.30	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Naphthalene	ND	0.24	2.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
2-Methylnaphthalene	ND	0.69	4.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Acetone	ND	2.5	10		µg/L	1	8/3/2023 8:12:00 PM	R98695
Bromobenzene	ND	0.28	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Bromodichloromethane	ND	0.20	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Bromoform	ND	0.31	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Bromomethane	ND	0.85	3.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
2-Butanone	2.7	2.0	10	J	µg/L	1	8/3/2023 8:12:00 PM	R98695
Carbon disulfide	ND	0.59	10		µg/L	1	8/3/2023 8:12:00 PM	R98695
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Chlorobenzene	ND	0.46	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Chloroethane	ND	0.38	2.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Chloroform	ND	0.13	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Chloromethane	0.83	0.41	3.0	J	µg/L	1	8/3/2023 8:12:00 PM	R98695
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
cis-1,3-Dichloropropene	ND	0.12	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Dibromochloromethane	ND	0.28	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Dibromomethane	ND	0.31	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
1,4-Dichlorobenzene	ND	0.10	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
1,1-Dichloroethane	ND	0.30	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
1,1-Dichloroethene	ND	0.20	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
1,2-Dichloropropane	ND	0.20	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	8/3/2023 8:12:00 PM	R98695

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 **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** FB-8-2-23
Project: Wingate 2023 Annual GW Sampling **Collection Date:** 8/2/2023 11:00:00 AM
Lab ID: 2308192-009 **Matrix:** AQUEOUS **Received Date:** 8/3/2023 7:20:00 AM

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	8/3/2023 8:12:00 PM	R98695
Hexachlorobutadiene	ND	0.42	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
2-Hexanone	ND	1.8	10		µg/L	1	8/3/2023 8:12:00 PM	R98695
Isopropylbenzene	ND	0.18	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
4-Methyl-2-pentanone	ND	0.67	10		µg/L	1	8/3/2023 8:12:00 PM	R98695
Methylene Chloride	ND	0.50	3.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
n-Butylbenzene	ND	0.13	3.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
n-Propylbenzene	ND	0.11	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
sec-Butylbenzene	ND	0.14	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Styrene	ND	0.14	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Tetrachloroethene (PCE)	ND	0.18	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
trans-1,2-DCE	ND	0.19	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
1,2,3-Trichlorobenzene	ND	0.25	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
1,1,1-Trichloroethane	ND	0.081	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
1,1,2-Trichloroethane	ND	0.20	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Trichloroethene (TCE)	ND	0.20	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Trichlorofluoromethane	ND	0.16	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
1,2,3-Trichloropropane	ND	0.16	2.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Vinyl chloride	ND	0.32	1.0		µg/L	1	8/3/2023 8:12:00 PM	R98695
Xylenes, Total	ND	0.37	1.5		µg/L	1	8/3/2023 8:12:00 PM	R98695
Surr: 1,2-Dichloroethane-d4	111	0	70-130		%Rec	1	8/3/2023 8:12:00 PM	R98695
Surr: 4-Bromofluorobenzene	112	0	70-130		%Rec	1	8/3/2023 8:12:00 PM	R98695
Surr: Dibromofluoromethane	112	0	70-130		%Rec	1	8/3/2023 8:12:00 PM	R98695
Surr: Toluene-d8	108	0	70-130		%Rec	1	8/3/2023 8:12:00 PM	R98695

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 **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** Trip Blank
Project: Wingate 2023 Annual GW Sampling **Collection Date:**
Lab ID: 2308192-010 **Matrix:** TRIP BLANK **Received Date:** 8/3/2023 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **CCM**	
Benzene	ND	0.23	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Toluene	ND	0.20	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Ethylbenzene	ND	0.21	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
1,2,4-Trimethylbenzene	ND	0.12	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
1,2-Dichloroethane (EDC)	ND	0.30	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Naphthalene	ND	0.24	2.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
2-Methylnaphthalene	ND	0.69	4.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Acetone	ND	2.5	10		µg/L	1	8/3/2023 8:36:00 PM	R98695
Bromobenzene	ND	0.28	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Bromodichloromethane	ND	0.20	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Bromoform	ND	0.31	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Bromomethane	ND	0.85	3.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
2-Butanone	ND	2.0	10		µg/L	1	8/3/2023 8:36:00 PM	R98695
Carbon disulfide	ND	0.59	10		µg/L	1	8/3/2023 8:36:00 PM	R98695
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Chlorobenzene	ND	0.46	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Chloroethane	ND	0.38	2.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Chloroform	ND	0.13	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Chloromethane	ND	0.41	3.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
cis-1,3-Dichloropropene	ND	0.12	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Dibromochloromethane	ND	0.28	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Dibromomethane	ND	0.31	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
1,4-Dichlorobenzene	ND	0.10	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
1,1-Dichloroethane	ND	0.30	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
1,1-Dichloroethene	ND	0.20	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
1,2-Dichloropropane	ND	0.20	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	8/3/2023 8:36:00 PM	R98695

Refer to the QC Summary report and sample login checklist for flagged QC data 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 **2308192**
Date Reported: **8/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon **Client Sample ID:** Trip Blank
Project: Wingate 2023 Annual GW Sampling **Collection Date:**
Lab ID: 2308192-010 **Matrix:** TRIP BLANK **Received Date:** 8/3/2023 7:20:00 AM

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	8/3/2023 8:36:00 PM	R98695
Hexachlorobutadiene	ND	0.42	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
2-Hexanone	ND	1.8	10		µg/L	1	8/3/2023 8:36:00 PM	R98695
Isopropylbenzene	ND	0.18	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
4-Methyl-2-pentanone	ND	0.67	10		µg/L	1	8/3/2023 8:36:00 PM	R98695
Methylene Chloride	ND	0.50	3.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
n-Butylbenzene	ND	0.13	3.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
n-Propylbenzene	ND	0.11	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
sec-Butylbenzene	ND	0.14	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Styrene	ND	0.14	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Tetrachloroethene (PCE)	ND	0.18	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
trans-1,2-DCE	ND	0.19	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
1,2,3-Trichlorobenzene	ND	0.25	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
1,1,1-Trichloroethane	ND	0.081	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
1,1,2-Trichloroethane	ND	0.20	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Trichloroethene (TCE)	ND	0.20	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Trichlorofluoromethane	ND	0.16	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
1,2,3-Trichloropropane	ND	0.16	2.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Vinyl chloride	ND	0.32	1.0		µg/L	1	8/3/2023 8:36:00 PM	R98695
Xylenes, Total	ND	0.37	1.5		µg/L	1	8/3/2023 8:36:00 PM	R98695
Surr: 1,2-Dichloroethane-d4	113	0	70-130		%Rec	1	8/3/2023 8:36:00 PM	R98695
Surr: 4-Bromofluorobenzene	112	0	70-130		%Rec	1	8/3/2023 8:36:00 PM	R98695
Surr: Dibromofluoromethane	115	0	70-130		%Rec	1	8/3/2023 8:36:00 PM	R98695
Surr: Toluene-d8	108	0	70-130		%Rec	1	8/3/2023 8:36:00 PM	R98695

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

Qualifiers:

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D	Sample Diluted Due to Matrix
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ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the 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#: **2308192**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **MB-76676**	SampType: **MBLK**	TestCode: **EPA 200.8: Metals**							
Client ID: **PBW**	Batch ID: **76676**	RunNo: **98770**							
Prep Date: **8/4/2023**	Analysis Date: **8/7/2023**	SeqNo: **3598162**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.00050								

Sample ID: **MSLCSLL-76676**	SampType: **LCSLL**	TestCode: **EPA 200.8: Metals**							
Client ID: **BatchQC**	Batch ID: **76676**	RunNo: **98770**							
Prep Date: **8/4/2023**	Analysis Date: **8/7/2023**	SeqNo: **3598163**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.00050	0.00050	0.0005000	0	99.3	50	150			J

Sample ID: **MSLCS-76676**	SampType: **LCS**	TestCode: **EPA 200.8: Metals**							
Client ID: **LCSW**	Batch ID: **76676**	RunNo: **98770**							
Prep Date: **8/4/2023**	Analysis Date: **8/7/2023**	SeqNo: **3598164**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.012	0.00050	0.01250	0	97.9	85	115			

Qualifiers:

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S	% Recovery outside of standard limits. If undiluted results may be estimated.
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308192**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R98720**	RunNo: **98720**
Prep Date:	Analysis Date: **8/3/2023**	SeqNo: **3595817** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
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: **R98720**	RunNo: **98720**
Prep Date:	Analysis Date: **8/3/2023**	SeqNo: **3595818** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.0	90	110			
Nitrogen, Nitrite (As N)	0.97	0.10	1.000	0	96.8	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	98.1	90	110			
Sulfate	9.5	0.50	10.00	0	95.4	90	110			

Sample ID: **2308192-001CMS**	SampType: **ms**	TestCode: **EPA Method 300.0: Anions**
Client ID: **EB-8-2-23**	Batch ID: **R98720**	RunNo: **98720**
Prep Date:	Analysis Date: **8/3/2023**	SeqNo: **3595820** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	93.8	80	120			
Nitrogen, Nitrite (As N)	0.99	0.10	1.000	0	98.8	80	120			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	100	80	120			
Sulfate	9.7	0.50	10.00	0	96.9	80	120			

Sample ID: **2308192-001CMSD**	SampType: **msd**	TestCode: **EPA Method 300.0: Anions**
Client ID: **EB-8-2-23**	Batch ID: **R98720**	RunNo: **98720**
Prep Date:	Analysis Date: **8/3/2023**	SeqNo: **3595821** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	94.3	80	120	0.498	20	
Nitrogen, Nitrite (As N)	0.99	0.10	1.000	0	99.2	80	120	0.445	20	
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	100	80	120	0.383	20	
Sulfate	9.8	0.50	10.00	0	97.7	80	120	0.754	20	

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R98916**	RunNo: **98916**
Prep Date:	Analysis Date: **8/11/2023**	SeqNo: **3603866** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308192**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R98916**	RunNo: **98916**							
Prep Date:	Analysis Date: **8/11/2023**	SeqNo: **3603866**	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: **R98916**	RunNo: **98916**							
Prep Date:	Analysis Date: **8/11/2023**	SeqNo: **3603867**	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	97.9	90	110			

Qualifiers:

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S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308192**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 6020A: Dissolved Metals**
Client ID: **PBW**	Batch ID: **D98751**	RunNo: **98751**
Prep Date:	Analysis Date: **8/4/2023**	SeqNo: **3596913** 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								
Selenium	ND	0.0010								

Sample ID: **LCSLL**	SampType: **LCSLL**	TestCode: **EPA Method 6020A: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **D98751**	RunNo: **98751**
Prep Date:	Analysis Date: **8/4/2023**	SeqNo: **3596914** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	113	70	130			
Lead	0.0015	0.0010	0.001000	0	146	70	130			S
Selenium	0.0011	0.0010	0.001000	0	112	70	130			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 6020A: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **D98751**	RunNo: **98751**
Prep Date:	Analysis Date: **8/4/2023**	SeqNo: **3596916** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.052	0.0010	0.05000	0	104	80	120			
Lead	0.051	0.0010	0.05000	0	102	80	120			
Selenium	0.048	0.0010	0.05000	0	95.3	80	120			

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
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PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308192**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R98695**	RunNo: **98695**
Prep Date:	Analysis Date: **8/3/2023**	SeqNo: **3595030** 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	20	1.0	20.00	0	101	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	98.4	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	97.8	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		114	70	130			
Surr: 4-Bromofluorobenzene	12		10.00		117	70	130			
Surr: Dibromofluoromethane	11		10.00		114	70	130			
Surr: Toluene-d8	11		10.00		109	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R98695**	RunNo: **98695**
Prep Date:	Analysis Date: **8/3/2023**	SeqNo: **3595044** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	1.9	4.0								J
2-Methylnaphthalene	2.0	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

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S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2308192**
16-Aug-23

Client: Marathon
Project: Wingate 2023 Annual GW Sampling

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R98695**	RunNo: **98695**
Prep Date:	Analysis Date: **8/3/2023**	SeqNo: **3595044** 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:

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308192**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R98695**	RunNo: **98695**
Prep Date:	Analysis Date: **8/3/2023**	SeqNo: **3595044** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	12		10.00		118	70	130			
Surr: 4-Bromofluorobenzene	12		10.00		117	70	130			
Surr: Dibromofluoromethane	12		10.00		117	70	130			
Surr: Toluene-d8	11		10.00		109	70	130			

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308192**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **mb-76673**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **76673**	RunNo: **98808**
Prep Date: **8/4/2023**	Analysis Date: **8/8/2023**	SeqNo: **3599662** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	5.0								
Acenaphthylene	ND	5.0								
Aniline	ND	10								
Anthracene	ND	5.0								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	5.0								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	5.0								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	5.0								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	5.0								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	5.0								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	5.0								
4-Chloroaniline	ND	5.0								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	5.0								
4-Chlorophenyl phenyl ether	ND	5.0								
Chrysene	ND	5.0								
Di-n-butyl phthalate	ND	20								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	5.0								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	10								
2,4-Dinitrophenol	ND	10								

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2308192**
16-Aug-23

Client: Marathon
Project: Wingate 2023 Annual GW Sampling

Sample ID: **mb-76673**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **76673**	RunNo: **98808**
Prep Date: **8/4/2023**	Analysis Date: **8/8/2023**	SeqNo: **3599662** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	5.0								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	5.0								
Hexachlorobenzene	ND	20								
Hexachlorobutadiene	ND	20								
Hexachlorocyclopentadiene	ND	20								
Hexachloroethane	ND	20								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	5.0								
1-Methylnaphthalene	ND	5.0								
2-Methylnaphthalene	ND	5.0								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	5.0								
N-Nitrosodimethylamine	ND	5.0								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	5.0								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	5.0								
Nitrobenzene	ND	5.0								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	5.0								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	40								
1,2,4-Trichlorobenzene	ND	5.0								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	130		200.0		65.3	15	84.1			
Surr: Phenol-d5	100		200.0		50.1	16.5	50.7			
Surr: 2,4,6-Tribromophenol	130		200.0		63.6	15	133			
Surr: Nitrobenzene-d5	72		100.0		72.4	30.9	86.8			
Surr: 2-Fluorobiphenyl	52		100.0		51.6	24.3	77.2			
Surr: 4-Terphenyl-d14	91		100.0		91.1	52.3	118			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308192**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **lcs-76673**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **76673**	RunNo: **98808**
Prep Date: **8/4/2023**	Analysis Date: **8/8/2023**	SeqNo: **3599663** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	60	5.0	100.0	0	60.4	24.5	94.9			
4-Chloro-3-methylphenol	150	5.0	200.0	0	75.1	31.8	101			
2-Chlorophenol	140	5.0	200.0	0	68.4	23.2	109			
1,4-Dichlorobenzene	40	5.0	100.0	0	40.0	15	83.7			
2,4-Dinitrotoluene	60	5.0	100.0	0	60.3	26.7	83.2			
N-Nitrosodi-n-propylamine	76	5.0	100.0	0	76.5	26	99.8			
4-Nitrophenol	86	10	200.0	0	43.1	15	74			
Pentachlorophenol	90	20	200.0	0	45.2	15	101			
Phenol	80	10	200.0	0	39.9	15.5	62.1			
Pyrene	87	10	100.0	0	87.3	50	111			
1,2,4-Trichlorobenzene	39	5.0	100.0	0	38.7	15	85.4			
Surr: 2-Fluorophenol	110		200.0		55.3	15	84.1			
Surr: Phenol-d5	86		200.0		42.9	16.5	50.7			
Surr: 2,4,6-Tribromophenol	120		200.0		61.6	15	133			
Surr: Nitrobenzene-d5	66		100.0		66.5	30.9	86.8			
Surr: 2-Fluorobiphenyl	52		100.0		51.7	24.3	77.2			
Surr: 4-Terphenyl-d14	92		100.0		91.7	52.3	118			

Sample ID: **lcsd-76673**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **76673**	RunNo: **98808**
Prep Date: **8/4/2023**	Analysis Date: **8/8/2023**	SeqNo: **3599664** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	71	5.0	100.0	0	70.8	24.5	94.9	15.7	44.2	
4-Chloro-3-methylphenol	180	5.0	200.0	0	90.1	31.8	101	18.1	45.4	
2-Chlorophenol	160	5.0	200.0	0	79.9	23.2	109	15.6	68.7	
1,4-Dichlorobenzene	47	5.0	100.0	0	46.6	15	83.7	15.4	45.5	
2,4-Dinitrotoluene	74	5.0	100.0	0	74.3	26.7	83.2	20.9	33.9	
N-Nitrosodi-n-propylamine	91	5.0	100.0	0	91.4	26	99.8	17.8	52.2	
4-Nitrophenol	110	10	200.0	0	53.0	15	74	20.5	86.9	
Pentachlorophenol	110	20	200.0	0	54.4	15	101	18.5	44.3	
Phenol	94	10	200.0	0	46.9	15.5	62.1	16.1	44.2	
Pyrene	97	10	100.0	0	97.0	50	111	10.5	27.1	
1,2,4-Trichlorobenzene	46	5.0	100.0	0	46.0	15	85.4	17.1	55.3	
Surr: 2-Fluorophenol	130		200.0		66.5	15	84.1	0	0	
Surr: Phenol-d5	100		200.0		51.9	16.5	50.7	0	0	S
Surr: 2,4,6-Tribromophenol	150		200.0		77.2	15	133	0	0	
Surr: Nitrobenzene-d5	75		100.0		75.4	30.9	86.8	0	0	
Surr: 2-Fluorobiphenyl	60		100.0		60.0	24.3	77.2	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308192**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID:	**lcsd-76673**	SampType:	**LCSD**	TestCode:	**EPA Method 8270C: Semivolatiles**					
Client ID:	**LCSS02**	Batch ID:	**76673**	RunNo:	**98808**					
Prep Date:	**8/4/2023**	Analysis Date:	**8/8/2023**	SeqNo:	**3599664**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	100		100.0		101	52.3	118	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308192**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **MB-76699**	SampType: **MBLK**	TestCode: **EPA Method 7470A: Mercury**
Client ID: **PBW**	Batch ID: **76699**	RunNo: **98801**
Prep Date: **8/7/2023**	Analysis Date: **8/8/2023**	SeqNo: **3599480** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: **LCSLL-76699**	SampType: **LCSLL**	TestCode: **EPA Method 7470A: Mercury**
Client ID: **BatchQC**	Batch ID: **76699**	RunNo: **98801**
Prep Date: **8/7/2023**	Analysis Date: **8/8/2023**	SeqNo: **3599481** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00015	0.00020	0.0001500	0	99.7	50	150			J

Sample ID: **LCS-76699**	SampType: **LCS**	TestCode: **EPA Method 7470A: Mercury**
Client ID: **LCSW**	Batch ID: **76699**	RunNo: **98801**
Prep Date: **8/7/2023**	Analysis Date: **8/8/2023**	SeqNo: **3599482** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	97.6	85	115			

Sample ID: **LCSD-76699**	SampType: **LCSD**	TestCode: **EPA Method 7470A: Mercury**
Client ID: **LCSS02**	Batch ID: **76699**	RunNo: **98801**
Prep Date: **8/7/2023**	Analysis Date: **8/8/2023**	SeqNo: **3599483** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0048	0.00020	0.005000	0	97.0	85	115	0.681	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308192**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A98732**	RunNo: **98732**
Prep Date:	Analysis Date: **8/4/2023**	SeqNo: **3596446** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Silver	ND	0.0050								
Sodium	ND	1.0								

Sample ID: **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A98732**	RunNo: **98732**
Prep Date:	Analysis Date: **8/4/2023**	SeqNo: **3596448** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.57	0.020	0.5000	0	113	80	120			
Cadmium	0.58	0.0020	0.5000	0	115	80	120			
Calcium	55	1.0	50.00	0	111	80	120			
Chromium	0.57	0.0060	0.5000	0	114	80	120			
Silver	0.12	0.0050	0.1000	0	115	80	120			
Sodium	56	1.0	50.00	0	111	80	120			

Sample ID: **2308192-005EMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **WMW-4**	Batch ID: **A98732**	RunNo: **98732**
Prep Date:	Analysis Date: **8/4/2023**	SeqNo: **3596462** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.54	0.020	0.5000	0.04751	97.9	75	125			
Cadmium	0.51	0.0020	0.5000	0	102	75	125			
Calcium	72	1.0	50.00	23.15	98.4	75	125			
Chromium	0.49	0.0060	0.5000	0	98.8	75	125			
Silver	0.10	0.0050	0.1000	0	101	75	125			

Sample ID: **2308192-005EMSD**	SampType: **MSD**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **WMW-4**	Batch ID: **A98732**	RunNo: **98732**
Prep Date:	Analysis Date: **8/4/2023**	SeqNo: **3596463** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.55	0.020	0.5000	0.04751	100	75	125	1.92	20	
Cadmium	0.52	0.0020	0.5000	0	104	75	125	1.86	20	
Calcium	73	1.0	50.00	23.15	100	75	125	1.35	20	
Chromium	0.51	0.0060	0.5000	0	102	75	125	2.74	20	
Silver	0.10	0.0050	0.1000	0	102	75	125	1.32	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308192**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID:	**2308192-008CDUP**	SampType:	**DUP**	TestCode:	**SM4500-H+B / 9040C: pH**					
Client ID:	**DUP-8-2-23**	Batch ID:	**R98783**	RunNo:	**98783**					
Prep Date:		Analysis Date:	**8/7/2023**	SeqNo:	**3598403**	Units:	**pH units**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	8.26									H

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the 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#: **2308192**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **mb-1 alk**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R98783**	RunNo: **98783**							
Prep Date:	Analysis Date: **8/7/2023**	SeqNo: **3598331**	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: **R98783**	RunNo: **98783**							
Prep Date:	Analysis Date: **8/7/2023**	SeqNo: **3598332**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.40	20.00	80.00	0	99.2	90	110			

Sample ID: **2308192-008CDUP**	SampType: **DUP**	TestCode: **SM2320B: Alkalinity**							
Client ID: **DUP-8-2-23**	Batch ID: **R98783**	RunNo: **98783**							
Prep Date:	Analysis Date: **8/7/2023**	SeqNo: **3598350**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	722.3	20.00						0.0111	20	

Sample ID: **mb-2 alk**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R98783**	RunNo: **98783**							
Prep Date:	Analysis Date: **8/7/2023**	SeqNo: **3598355**	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-2 alk**	SampType: **LCS**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSW**	Batch ID: **R98783**	RunNo: **98783**							
Prep Date:	Analysis Date: **8/7/2023**	SeqNo: **3598356**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	81.16	20.00	80.00	0	101	90	110			

Sample ID: **mb-1 alk**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R98841**	RunNo: **98841**							
Prep Date:	Analysis Date: **8/8/2023**	SeqNo: **3600801**	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								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the 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#: **2308192**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **lcs-1 alk**	SampType: **LCS**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSW**	Batch ID: **R98841**	RunNo: **98841**							
Prep Date:	Analysis Date: **8/8/2023**	SeqNo: **3600802**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	80.16	20.00	80.00	0	100	90	110			

Sample ID: **lcsD-1 alk**	SampType: **LCSD**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSS02**	Batch ID: **R98841**	RunNo: **98841**							
Prep Date:	Analysis Date: **8/8/2023**	SeqNo: **3600803**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.92	20.00	80.00	0	99.9	90	110	0.300	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308192**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **MB-76681**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**								
Client ID: **PBW**	Batch ID: **76681**	RunNo: **98793**								
Prep Date: **8/4/2023**	Analysis Date: **8/8/2023**	SeqNo: **3598859**	Units: **mg/L**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50.0								

Sample ID: **LCS-76681**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**								
Client ID: **LCSW**	Batch ID: **76681**	RunNo: **98793**								
Prep Date: **8/4/2023**	Analysis Date: **8/8/2023**	SeqNo: **3598860**	Units: **mg/L**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1020	50.0	1000	0	102	80	120			

Sample ID: **2308192-002CDUP**	SampType: **DUP**	TestCode: **SM2540C MOD: Total Dissolved Solids**								
Client ID: **WMW-7**	Batch ID: **76681**	RunNo: **98793**								
Prep Date: **8/4/2023**	Analysis Date: **8/8/2023**	SeqNo: **3598878**	Units: **mg/L**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	2460	50.0						0.325	10	*

Sample ID: **MB-76711**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**								
Client ID: **PBW**	Batch ID: **76711**	RunNo: **98818**								
Prep Date: **8/7/2023**	Analysis Date: **8/9/2023**	SeqNo: **3600323**	Units: **mg/L**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50.0								

Sample ID: **LCS-76711**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**								
Client ID: **LCSW**	Batch ID: **76711**	RunNo: **98818**								
Prep Date: **8/7/2023**	Analysis Date: **8/9/2023**	SeqNo: **3600324**	Units: **mg/L**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1000	50.0	1000	0	100	80	120			

Sample ID: **MB-76718**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**								
Client ID: **PBW**	Batch ID: **76718**	RunNo: **98839**								
Prep Date: **8/7/2023**	Analysis Date: **8/9/2023**	SeqNo: **3600748**	Units: **mg/L**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50.0								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308192**

16-Aug-23

Client: Marathon

Project: Wingate 2023 Annual GW Sampling

Sample ID: **LCS-76718**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **76718**	RunNo: **98839**
Prep Date: **8/7/2023**	Analysis Date: **8/9/2023**	SeqNo: **3600749** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1030	50.0	1000	0	103	80	120			

Sample ID: **2308192-006CDUP**	SampType: **DUP**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **WMW-5**	Batch ID: **76718**	RunNo: **98839**
Prep Date: **8/7/2023**	Analysis Date: **8/9/2023**	SeqNo: **3600751** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	4520	50.0						0.533	10	*

Qualifiers:

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

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: 2308192 | RcptNo: 1

Received By: Cheyenne Cason 8/3/2023 7:20:00 AM
Completed By: Cheyenne Cason 8/3/2023 7:43:30 AM
Reviewed By: JT 8-3-23

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 ☐	JM 8/3/23
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: 16
(<2 or >12 unless noted)
Adjusted? yes
Checked by: JM 8/3/23

Special Handling (if applicable)

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

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

16. Additional remarks: ~0.5ml of HNO3 (7115) was added to samples 008D, 006D, 005D, 003D, 004D for ph<2. ~0.4ml of HNO3 (7115) was added to samples 004 for ph<2. JM 8/3/23.

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.7	Good	Not Present	Morty		
2	2.2	Good	Not Present	Morty		
3	1.7	Good	Not Present	Morty		

Chain of Custody Record

Client: Marathon Petroleum Company

Mailing Address: 92 Giant Crossing Rd.
Jamestown, NM 87347

Phone #: 970-227-4443

email or Fax#: cfields@trihydro.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

X EDD (Type)

☐ Standard X Rush

Project Name:
Wingate 2023 Annual GW Sampling

Project #:
00697-080-004

Project Manager:
Caitlin Fields/Beth Butler

Sampler:

On Ice: ☑ Yes ☐ No Mary

# of Coolers: 4

Cooler Temp(including CF): see Remark

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. 2308192	8260-VOC	8270-SVOC	6010-Dissolved Metals	7470 - Mercury	SM2320B - Alkalinity, Total as CaCO3	SM2540C - TDS	9040 - pH	300.0 Chloride, Nitrogen, Nitrite, Sulfate	200.8 Total Uranium
8/2	8:25	water	EB-8-2-23	8		001	X	X	X	X	X	X	X	X	X
8/2	8:30	water	WMW-7	8		002	X	X	X	X	X	X	X	X	X
8/2	9:30	water	WMW-10	8		003	X	X	X	X	X	X	X	X	X
8/2	9:45	water	WMW-9	8		004	X	X	X	X	X	X	X	X	X
8/2	10:10	water	WMW-4	8		005	X	X	X	X	X	X	X	X	X
8/2	10:30	water	WMW-5	8		006	X	X	X	X	X	X	X	X	X
8/2	11:00	water	WMW-12	8		007	X	X	X	X	X	X	X	X	X
8/2	—	water	DUP-8-2-23	8		008	X	X	X	X	X	X	X	X	X
8/2	11:00	water	FB-8-2-23	2		009	X	X							
		water	Trip Blank			010									
		water													
		water													

Date: 8/2 Time: 12:00 Relinquished by: Hilario Tejo

Received by: Via: Date Time
CMC Courier 8/2/23 0720

Date: Time: Relinquished by:

Received by: Via: Date Time

Remarks: Please rush samples
4.9 - 0.2 = 4.7
2.4 - 0.2 = 2.2
1.9 - 0.2 = 1.7

009 8260 only
JN 8/3/23

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.

Appendix C. Tier II Data Validation Reports

Tier II Data Validation Report Summary

Client: Marathon Oil	Laboratory: Hall Environmental Analysis Laboratory
Project Name: Wingate 2023 Annual Sampling	Sample Matrix: Groundwater
Project Number: 00697-080-0040 Task: 0002	Sample Start Date: 07/27/2023
Date Validated: 08/24/2023	Sample End Date: 07/27/2023
Parameters Included: ▪ Volatile Organic Compounds (VOC) by Environmental Protection Agency (EPA) Test Methods for Evaluating Solid Waste (SW-846) Method 8260B ▪ Semivolatile Organic Compounds (SVOC) by SW-846 Method 8270C ▪ Total Metals by SW-846 Method 6010B and Method 6020A ▪ Total Uranium by EPA Method 200.8 ▪ Total Mercury by SW-846 Method 7470 ▪ Anions by EPA Method 300.0 ▪ Total Dissolved Solids (TDS) by Standard Methods for the Examination of Water and Wastewater (SM) Method 2540C ▪ Alkalinity by SM Method 2320B ▪ pH by SM Method 4500H+ B	
Laboratory Project ID: 2307D89	
Data Validator: Daran O'Hollearn, Lead Project Scientist	
Reviewer: Charles Ballek, Senior Chemist	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services Group on the analytical data report packages generated by Hall Environmental Analysis Laboratory of Albuquerque, New Mexico, evaluating samples from the Marathon Oil site, located in Gallup, New Mexico.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated relative percent difference (RPD) values from:

- Field duplicate pairs
- Matrix spike (MS) and matrix spike duplicate (MSD) pairs
- Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) pairs

Laboratory accuracy was established by reviewing the demonstrated percent recoveries (%R) of the following items to verify that data are not biased.

- MS/MSD samples
- LCS/LCSD samples
- Organic system monitoring compounds (surrogates)

Tier II Data Validation Report Summary

Field accuracy was established by collecting and analyzing the following samples to monitor for possible ambient or cross contamination during sampling and transportation.

- Trip blanks
- Field blanks
- Equipment blanks

Method compliance was established by reviewing sample integrity, holding times, detection limits, surrogate recoveries, laboratory blanks, initial and continuing calibrations (where applicable), and the LCS/LCSD percent recoveries against method-specific requirements.

Completeness was evaluated by determining the overall ratio of the number of samples and analyses planned versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody (CoC), laboratory analytical methods, and other laboratory and field documents associated with this analytical data set.

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
EB-7-27-23	2307D89-001
WMW-2	2307D89-002
WMW-6	2307D89-003
WMW-3	2307D89-004
WMW-8	2307D89-005
WMW-11	2307D89-006
DUP-7-27-23	2307D89-007
FB-7-27-23	2307D89-008
Trip Blank	2307D89-009

Tier II Data Validation Report Summary

The laboratory data were reviewed to evaluate compliance with the methods and the quality of the reported data. Assessment of CoC completeness is included in Item 3 of the Data Validation Checklist. A check mark (✓) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (⊗) indicates validation criteria for which the data have been qualified by the data validator. An empty circle (○) indicates that the specified criterion does not apply to the reviewed data. Details are noted in the tables below.

Validation Criteria

- ✓ Data Completeness
- ✓ CoC Documentation (Item 3)
- ⊗ Holding Times and Preservation (Items 6 and 7)
- ○ Initial and Continuing Calibrations (Items 9 and 10)
- ✓ Laboratory Blanks (Items 11 and 12)
- ✓ MS/MSD (Items 13 and 14)
- ⊗ LCS/LCSD (Items 15 and 16)
- ✓ System Monitoring Compounds (i.e., Surrogates) (Item 17)
- ⊗ Trip, Field, and Equipment Blanks (Items 18 and 19)
- ✓ Field Duplicates (Items 20 and 21)
- ○ Laboratory Duplicates (Item 22)

Guidance References

Chemical data validation was conducted in accordance with the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines for the analyses listed below, or by the appropriate method if not covered in the National Functional Guidelines.

- Data for organic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Organic Superfund Methods Data Review, document number EPA-540-R-20-005, November 2020.
- Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Inorganic Superfund Methods Data Review, document number EPA-540-R-20-006, November 2020.
- Review of field duplicates was conducted according to the USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020.
- Trihydro Data Validation Variance Documentation, March 2023.

Tier II Data Validation Report Summary

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Item 2 of the Validation Criteria Checklist.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data that are not qualified meet the site data quality objectives. If values are assigned qualifiers other than an R (rejected, data not usable), the data may be used for site evaluation; however, consideration should be given to the reasons for qualification when interpreting sample concentrations. Data points that are assigned an R qualifier should not be used for site evaluation purposes.

If applicable, text was identified in **bold font** in the Validation Criteria Checklist to indicate that further action and/or qualification of the data were required. Data may have been qualified with J data flags by the laboratory if the result was greater than or equal to the method detection limit (MDL) but less than the reporting limit (RL). These laboratory-applied J flags were preserved, if present, and included in the Data Qualification Summary table at the end of this report. If applicable, data validation qualifiers were added for the items noted with crossed circles in the Validation Criteria section above. Please see the Data Qualification Summary table at the end of this report for a complete list of samples and analytes qualified.

If data would be qualified with more than one flag, one qualifier was assigned based on the severity; however, all reasons for qualification were retained. Data that would be qualified with both J+ and J- flags were evaluated based on validation criteria and assigned the appropriate flag. The hierarchy of qualifiers from the most to least severe is as follows:

- R > JB/U > NJ > J+/J- > J/UJ

Data qualifiers used during this validation are included in the following table.

Qualifier	Definition
J	Estimated concentration
J+	The result is an estimated concentration, but may be biased high
UJ	Estimated reporting limit
U	Evaluated to be undetected at the reporting limit

Data Completeness

The analyses were performed as requested on the CoC records. The associated samples were received by the laboratory and analyzed properly unless otherwise noted in the Criteria Checklist below. The complete data package consisted of 936 data points. The data completeness calculation does not include any submitted blank sample results. Data points were not rejected. The data completeness measure for this data package is calculated to be 100% and is acceptable.

VALIDATION CRITERIA CHECKLIST	
1. Was the report free of non-conformances identified by the laboratory?	Yes
Comments: The laboratory did not report non-conformances related to the analytical data for this sample set.	
2. Were the data free of data qualification flags and/or notes used by the laboratory? If no, define.	No
Comments: The laboratory used the following data qualification flags with this data set. D – Sample diluted due to matrix H – Holding times for preparation or analysis exceeded J – Analyte detected below quantitation limits. R – % RPD outside of range. S – % Recovery outside of standard limits. If undiluted results may be estimated. * – Value exceeds maximum contaminant level.	
3. Were sample CoC forms and custody procedures complete?	No
Comments: The CoC records from field to laboratory were complete, and custody was maintained as evidenced by field and laboratory personnel signatures, dates, and times of receipt. The laboratory noted that the shipping containers were sealed, and custody seals were present and intact on the shipping containers. Sample Trip Blank was not included on the CoC for this sample set. The laboratory added the sample at log-in and assigned and completed the appropriate analyses for this sample type. Further validation action was not required.	
4. Were detection limits in accordance with the quality assurance project plan (QAPP), permit, or method, or indicated as acceptable?	Yes
Comments: The reporting limits for the analyses were reviewed and appeared to be acceptable. Dilutions were applied for the analyses of individual samples to maintain instrument responses within defined calibration limits.	
5. Were the reported analytical methods and constituents in compliance with the QAPP, permit, or CoC?	No
Comments: The reported analytical methods were in compliance with the CoC, and the laboratory reported the requested constituents in accordance with the CoC, with the following exceptions. The CoC requested dissolved metals using Method 6010; however, the laboratory analyzed the samples for dissolved arsenic, dissolved lead, and dissolved selenium using Method 6020. Also, pH was requested using Method 9040, but the laboratory analyzed the samples for pH using Method 4500H+ B. These substituted analytical methods met similar or better sensitivity, accuracy, and precision goals and therefore, were acceptable replacements.	
6. Were samples received in good condition within method-specified requirements?	No
Comments: Samples were received on ice, in good condition, and with the cooler temperatures both within and outside the recommended temperature range of 4°C ± 2°C at 1.9°C and 4.9°C as noted on Sample Log-in Check List and on the CoC. The cooler temperature below 2.0°C was judged as acceptable since the laboratory did not report the sample containers as broken or frozen. The laboratory added nitric acid to the containers for multiple samples designated for metals analyses to reach the required pH of less than 2. Validation action was not required.	

VALIDATION CRITERIA CHECKLIST

7. Were samples extracted/digested and analyzed within method-specified or technical holding times? — No

Comments: The samples were extracted/digested and analyzed within method-specific holding times, with the following exception.

Method 4500H+ B: **The samples were analyzed for pH outside the method-specific holding time of 15 minutes. The pH results were qualified as J to indicate estimated values.**

8. Were reported units appropriate for the sample matrix/matrices and analytical method(s)? Specify if wet or dry units were used for soil. — Yes

Comments: The results were reported in concentration units of micrograms per liter (µg/L), milligrams per liter (mg/L), milligrams per liter as calcium carbonate (mg/L $CaCO_3$), and pH Standard Units (SU), which were acceptable for the sample matrix and the analyses requested.

9. Did the laboratory provide any specific initial and/or continuing calibration results? — No

Comments: Initial and continuing calibration data were not included as part of this data set.

10. If initial and/or continuing calibration results were provided, were the results within acceptable limits? — N/A

Comments: Initial and continuing calibration data were not included as part of this data set.

11. Was the total number of laboratory blank samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? — Yes

Comments: The number of laboratory blank samples prepared was equal to at least 5% of the total number of samples.

12. Were target analytes reported as not detected in the laboratory blanks? — No

Comments: Target analytes were reported as not detected in the laboratory blanks, with the following exceptions.

Method	Analyte	Batch	Concentration
8260B	1-Methylnaphthalene	R98639	1.8 µg/L
8260B	2-Methylnaphthalene	R98639	1.9 µg/L

Non-detections of the identified analytes in the associated samples and detections that were above the reporting limit and greater than ten times the blank concentration did not require qualification.

VALIDATION CRITERIA CHECKLIST

13. Was the total number of MS samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of matrix spike samples prepared was equal to at least 5% of the total number of samples, although MS samples were not prepared/reported for all analyses and/or batches. The matrix spike sample source for each analytical batch in this sample set has been indicated below.

Method	Analytes	Batch	MS Sample Source
200.8	Total Uranium	A98622	Not Associated
200.8	Total Uranium	76558	WMW-3
300.0	Anions	R98598	Not Prepared
300.0	Chloride, Sulfate	R98760	Not Prepared
2320B	Alkalinity	R98591	Not Prepared
2320B	Alkalinity	R98841	Not Prepared
2540C	TDS	76576	Not Prepared
4500H+ B	pH	R98591	Not Prepared
6010B	Dissolved Metals	A98597	DUP-7-27-23
Method	Analytes	Batch	MS Sample Source
6020A	Dissolved Metals	D98751	EB-7-27-23
7470	Total Mercury	76568	WMW-6
8260B	VOCs	R98639	WMW-6
8270C	SVOCs	76542	Not Prepared

Not Associated – The MS sample source was not associated with this project.
Not Prepared – Matrix spikes were not prepared/reported for this batch.

14. For MS/MSDs prepared from project samples, were percent recoveries and RPDs within data validation or laboratory quality control (QC) limits? Yes

Comments: The percent recoveries and RPDs for MS/MSDs prepared from project samples were within data validation and laboratory limits.

The percent recoveries and RPD values for MS/MSDs prepared from non-project samples were evaluated and considered, but data were not qualified based on those results since matrix similarity to project samples could not be guaranteed.

15. Was the total number of LCSs analyzed equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of LCS samples analyzed was equal to at least 5% of the total number of samples.

VALIDATION CRITERIA CHECKLIST

16. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within data validation or laboratory QC limits? No

Comments: The LCS and LCSD percent recoveries and LCS/LCSD RPDs were within data validation and laboratory QC limits, with the following exceptions.

Method	Analyte	Batch	LCS Recovery	LCSD Recovery	LCS/LCSD QC Limits	LCS/LCSD RPD	RPD QC Limits
6020A	**Dissolved Lead**	**D98751**	**146%**	**-----**	**70-130%**	**-----**	**-----**
8270C	**4-Nitrophenol**	**76542**	**14.5%**	**-----**	**15-74%**	**-----**	**-----**
8270C	**Pentachlorophenol**	**76542**	**Acceptable**	**Acceptable**	**15-101%**	**71.3%**	**44.3%**

The detection of dissolved lead in the associated sample WMW-11 was assigned a J+ qualifier due to evidence of potential high bias. Non-detections of dissolved lead in the associated samples did not require qualification.

4-Nitrophenol was not detected in the associated samples and the results were qualified as UJ due to evidence of potential low bias.

Pentachlorophenol was not detected in the associated samples and the results were qualified as UJ due to poor precision.

17. Were surrogate recoveries within laboratory QC limits? No

Comments: Surrogate recoveries were within QC limits, with the following exception.

Since Method 8270C surrogate associations were not available from the laboratory, qualification was assigned to all of the target analytes in a given fraction (acid or base/neutral) when two or more surrogates from the same fraction (acid or base/neutral) were outside the acceptance range. This condition did not exist for the sample WMW-6, and qualification of sample data was not required.

18. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit? Yes

Comments: The number of trip, field, and equipment blanks collected was equal to at least 10% of the number of samples. One trip blank sample, Trip Blank, one field blank sample, FB-7-27-23, and one equipment blank sample, EB-7-27-23, were collected as part of this sample set.

VALIDATION CRITERIA CHECKLIST

19. Were target analytes reported as not detected in the trip blank, field blank, and/or equipment blank samples? No

Comments: Target analytes were not detected in the trip blank, field blank, and equipment blank samples with the following exceptions.

Blank Sample ID	Method	Analyte	Concentration
EB-7-27-23	8260B	2-Butanone	2.5 µg/L
EB-7-27-23	8260B	Chloromethane	1.8 µg/L
EB-7-27-23	300.0	Sulfate	0.40 mg/L
FB-7-27-23	8260B	Acetone	4.1 µg/L
FB-7-27-23	**8260B**	**Chloromethane**	**3.0 µg/L**

Chloromethane was detected in the associated sample EB-7-27-23 at a concentration that was less than the applicable reporting limit, and the result was assigned a U qualifier. Non-detections of 2-butanone, acetone, sulfate, and chloromethane in the associated samples and detections of sulfate that were above the reporting limit and greater than ten times the blank concentration did not require qualification.

20. Was the number of field duplicates collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit? Yes

Comments: The number of field duplicates collected was equal to at least 10% of the number of samples.

Sample DUP-7-27-23 was collected as a field duplicate of sample WMW-2.

21. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)? Yes

Comments: As indicated in the Field Duplicate Summary Table at the end of this report, field duplicate RPD values were within data validation QC limits of 0-30% for water samples.

22. For laboratory duplicates prepared from project samples, were RPDs within data validation or laboratory QC limits? N/A

Comments: Laboratory duplicate samples were not prepared for this sample set.

VALIDATION CRITERIA CHECKLIST

23. Were the following data relationships realistic?

- Target analytes were reported by more than one method (e.g., 8260/8270, EPH/8270)? Yes

Comments: The following table contains the analytical results (which had a detection by either method) for individual analytes that were analyzed by two or more methods for the submitted samples.

Sample	Analyte	Method 8260B (µg/L)	Method 8270C (µg/L)
WMW-2	Naphthalene	58	12
DUP-7-27-23	Naphthalene	57	14
WMW-2	1-Methylnaphthalene	ND (200)	4.8
DUP-7-27-23	1-Methylnaphthalene	ND (200)	5.7
WMW-2	2-Methylnaphthalene	70	6.9
DUP-7-27-23	2-Methylnaphthalene	ND (200)	8.4

Non-detected results are indicated above with the applicable reporting limit as ND (RL)

The EPA has not provided guidance or requirements for the evaluation, validation, and qualification of the comparability of analyte results obtained by more than one method. Therefore, qualification of results was not performed based on these data.

- Both total and dissolved metals analyses were performed, and the total metals results were greater than or equal to the dissolved metals results?

Comments: Total and dissolved fractions were not performed for the same metals in this data set. N/A

FIELD DUPLICATE SUMMARY

Client Sample ID: WMW-2 Field Duplicate Sample ID: DUP-7-27-23				
Analyte	**Method**	**Laboratory Result**	**Duplicate Result**	**Relative Percent Difference (RPD)**
Total Uranium	200.8	0.000083 mg/L	0.00014 mg/L	51.1% +/-RL
Chloride	300.0	820 mg/L	810 mg/L	1.2%
Bicarbonate	2320B	2,094 mg/L	2,126 mg/L	1.5%
Total Alkalinity	2320B	2,094 mg/L	2,126 mg/L	1.5%
TDS	2540C	3,680 mg/L	3,830 mg/L	4.0%
pH	4500H+ B	7.64 SU	7.81 SU	2.2%
Dissolved Barium	6010B	0.61 mg/L	0.62 mg/L	1.6%
Dissolved Calcium	6010B	36 mg/L	37 mg/L	2.7%
Dissolved Sodium	6010B	1,500 mg/L	1,500 mg/L	0.0%
Benzene	8260B	28,000 µg/L	27,000 µg/L	3.6%
Ethylbenzene	8260B	92 µg/L	91 µg/L	1.1%
1,2,4-Trimethylbenzene	8260B	29 µg/L	28 µg/L	3.5% +/-RL
2-Methylnaphthalene	8260B	70 µg/L	ND (200 µg/L)	DL
Naphthalene	8260B	58 µg/L	57 µg/L	1.7% +/-RL
n-Propylbenzene	8260B	6.8 µg/L	7.1 µg/L	4.3% +/-RL
Total Xylenes	8260B	130 µg/L	120 µg/L	8.0% +/-RL
1-Methylnaphthalene	8270C	4.8 µg/L	5.7 µg/L	17.1% +/-RL
2-Methylnaphthalene	8270C	6.9 µg/L	8.4 µg/L	19.6% +/-RL
Naphthalene	8270C	12 µg/L	14 µg/L	15.4% +/-RL
Phenol	8270C	18 µg/L	23 µg/L	24.4% +/-RL

Field duplicate RPD control limits are not to exceed 30% for water as established by USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020.

DL – Indicates that the analyte was detected in one of the duplicate samples and was undetected in the other sample, and therefore an RPD could not be calculated. Data were not qualified since the detection was within five times the reporting limit. Non-detected results are indicated above with the applicable reporting limit as ND (RL).

+/-RL – Indicates that the detections in both of the samples were within five times the reporting limit. The difference between the results was within data validation limits. Qualification of data was not required.

DATA QUALIFICATION SUMMARY

Abbreviation	Reason
ERPD-LCS	The LCS/LCSD RPD exceeded the upper acceptable limit indicating poor precision.
FBD	Field blank detection
HR-LCS	The LCS and/or LCSD percent recovery was greater than the upper acceptable limit indicating a possible high bias.
HT-AN	Sample was analyzed outside of the method holding time.
LR-LCS	The LCS and/or LCSD percent recovery was less than the lower acceptable limit indicating a possible low bias.
MDLRL	Flagged by the laboratory: The result was greater than the MDL but less than the RL.

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
1,2,4-Trimethylbenzene	8260B	WMW-2	2307D89-002	29	50	µg/L	J	MDLRL
1,2,4-Trimethylbenzene	8260B	WMW-2	2307D89-007	28	50	µg/L	J	MDLRL
1-Methylnaphthalene	8270C	WMW-2	2307D89-002	4.8	5.0	µg/L	J	MDLRL
2-Butanone	8260B	Equipment Blank	2307D89-001	2.5	10	µg/L	J	MDLRL
2-Methylnaphthalene	8260B	WMW-2	2307D89-002	70	200	µg/L	J	MDLRL
4-Nitrophenol	8270C	Equipment Blank	2307D89-001	ND	10	µg/L	UJ	LR-LCS
4-Nitrophenol	8270C	WMW-11	2307D89-006	ND	10	µg/L	UJ	LR-LCS
4-Nitrophenol	8270C	WMW-2	2307D89-002	ND	10	µg/L	UJ	LR-LCS
4-Nitrophenol	8270C	WMW-2	2307D89-007	ND	10	µg/L	UJ	LR-LCS
4-Nitrophenol	8270C	WMW-3	2307D89-004	ND	10	µg/L	UJ	LR-LCS
4-Nitrophenol	8270C	WMW-6	2307D89-003	ND	10	µg/L	UJ	LR-LCS
4-Nitrophenol	8270C	WMW-8	2307D89-005	ND	10	µg/L	UJ	LR-LCS
Acetone	8260B	Field Blank 1	2307D89-008	4.1	10	µg/L	J	MDLRL
Arsenic, Dissolved	6020	WMW-11	2307D89-006	0.0028	0.0050	mg/L	J	MDLRL
Barium, Dissolved	6010B	WMW-3	2307D89-004	0.016	0.020	mg/L	J	MDLRL

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Benzene	8260B	WMW-11	2307D89-006	0.35	1.0	µg/L	J	MDLRL
Benzene	8260B	WMW-8	2307D89-005	0.28	1.0	µg/L	J	MDLRL
Chloromethane	8260B	Equipment Blank	2307D89-001	1.8	3.0	µg/L	U	FBD , MDLRL
Chloromethane	8260B	Field Blank 1	2307D89-008	3.0	3.0	µg/L	J	MDLRL
Lead, Dissolved	6020	WMW-11	2307D89-006	0.0043	0.0050	mg/L	J+	HR-LCS, MDLRL
Naphthalene	8260B	WMW-2	2307D89-002	58	100	µg/L	J	MDLRL
Naphthalene	8260B	WMW-2	2307D89-007	57	100	µg/L	J	MDLRL
Nitrogen, Nitrate	300	WMW-3	2307D89-004	0.11	0.50	mg/L	J	MDLRL
n-Propylbenzene	8260B	WMW-2	2307D89-002	6.8	50	µg/L	J	MDLRL
n-Propylbenzene	8260B	WMW-2	2307D89-007	7.1	50	µg/L	J	MDLRL
Pentachlorophenol	8270C	Equipment Blank	2307D89-001	ND	20	µg/L	UJ	ERPD-LCS
Pentachlorophenol	8270C	WMW-11	2307D89-006	ND	20	µg/L	UJ	ERPD-LCS
Pentachlorophenol	8270C	WMW-2	2307D89-002	ND	20	µg/L	UJ	ERPD-LCS
Pentachlorophenol	8270C	WMW-2	2307D89-007	ND	20	µg/L	UJ	ERPD-LCS
Pentachlorophenol	8270C	WMW-3	2307D89-004	ND	20	µg/L	UJ	ERPD-LCS
Pentachlorophenol	8270C	WMW-6	2307D89-003	ND	20	µg/L	UJ	ERPD-LCS
Pentachlorophenol	8270C	WMW-8	2307D89-005	ND	20	µg/L	UJ	ERPD-LCS
pH	4500-H B	Equipment Blank	2307D89-001	5.16	0.010	SU	J	HT-AN
pH	4500-H B	WMW-11	2307D89-006	7.65	0.010	SU	J	HT-AN
pH	4500-H B	WMW-2	2307D89-002	7.64	0.010	SU	J	HT-AN
pH	4500-H B	WMW-2	2307D89-007	7.81	0.010	SU	J	HT-AN
pH	4500-H B	WMW-3	2307D89-004	7.45	0.010	SU	J	HT-AN
pH	4500-H B	WMW-6	2307D89-003	7.85	0.010	SU	J	HT-AN
pH	4500-H B	WMW-8	2307D89-005	7.94	0.010	SU	J	HT-AN
Silver, Dissolved	6010B	WMW-11	2307D89-006	0.0029	0.0050	mg/L	J	MDLRL

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Silver, Dissolved	6010B	WMW-3	2307D89-004	0.0025	0.0050	mg/L	J	MDLRL
Sulfate	300	Equipment Blank	2307D89-001	0.40	0.50	mg/L	J	MDLRL
Uranium, Total	200.8	WMW-2	2307D89-002	0.000083	0.00050	mg/L	J	MDLRL
Uranium, Total	200.8	WMW-2	2307D89-007	0.00014	0.00050	mg/L	J	MDLRL

Tier II Data Validation Report Summary

Client: Marathon Oil	Laboratory: Hall Environmental Analysis Laboratory
Project Name: Wingate 2023 Annual Sampling	Sample Matrix: Groundwater
Project Number: 00697-080-0040 Task: 0002	Sample Start Date: 08/02/2023
Date Validated: 08/24/2023	Sample End Date: 08/02/2023
Parameters Included: ▪ Volatile Organic Compounds (VOC) by Environmental Protection Agency (EPA) Test Methods for Evaluating Solid Waste (SW-846) Method 8260B ▪ Semivolatile Organic Compounds (SVOC) by SW-846 Method 8270C ▪ Total Metals by SW-846 Method 6010B and Method 6020A ▪ Total Uranium by EPA Method 200.8 ▪ Total Mercury by SW-846 Method 7470 ▪ Anions by EPA Method 300.0 ▪ Total Dissolved Solids (TDS) by Standard Methods for the Examination of Water and Wastewater (SM) Method 2540C ▪ Alkalinity by SM Method 2320B ▪ pH by SM Method 4500H+ B	
Laboratory Project ID: 2308192	
Data Validator: Daran O'Hollearn, Lead Project Scientist	
Reviewer: Charles Ballek, Senior Chemist	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services Group on the analytical data report packages generated by Hall Environmental Analysis Laboratory of Albuquerque, New Mexico, evaluating samples from the Marathon Oil site, located in Gallup, New Mexico.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated relative percent difference (RPD) values from:

- Field duplicate pairs
- Laboratory duplicate pairs
- Matrix spike (MS) and matrix spike duplicate (MSD) pairs
- Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) pairs

Laboratory accuracy was established by reviewing the demonstrated percent recoveries (%R) of the following items to verify that data are not biased.

- MS/MSD samples
- LCS/LCSD samples
- Organic system monitoring compounds (surrogates)

Tier II Data Validation Report Summary

Field accuracy was established by collecting and analyzing the following samples to monitor for possible ambient or cross contamination during sampling and transportation.

- Trip blanks
- Field blanks
- Equipment blanks

Method compliance was established by reviewing sample integrity, holding times, detection limits, surrogate recoveries, laboratory blanks, initial and continuing calibrations (where applicable), and the LCS/LCSD percent recoveries against method-specific requirements.

Completeness was evaluated by determining the overall ratio of the number of samples and analyses planned versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody (CoC), laboratory analytical methods, and other laboratory and field documents associated with this analytical data set.

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
EB-8-2-23	2308192-001
WMW-7	2308192-002
WMW-10	2308192-003
WMW-9	2308192-004
WMW-4	2308192-005
WMW-5	2308192-006
WMW-1R	2308192-007
DUP-8-2-23	2308192-008
FB-8-2-23	2308192-009
Trip Blank	2308192-010

Tier II Data Validation Report Summary

The laboratory data were reviewed to evaluate compliance with the methods and the quality of the reported data. Assessment of CoC completeness is included in Item 3 of the Data Validation Checklist. A check mark (✓) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (⊗) indicates validation criteria for which the data have been qualified by the data validator. An empty circle (○) indicates that the specified criterion does not apply to the reviewed data. Details are noted in the tables below.

Validation Criteria

- ✓ Data Completeness
- ✓ CoC Documentation (Item 3)
- ⊗ Holding Times and Preservation (Items 6 and 7)
- ○ Initial and Continuing Calibrations (Items 9 and 10)
- ⊗ Laboratory Blanks (Items 11 and 12)
- ✓ MS/MSD (Items 13 and 14)
- ✓ LCS/LCSD (Items 15 and 16)
- ✓ System Monitoring Compounds (i.e., Surrogates) (Item 17)
- ⊗ Trip, Field, and Equipment Blanks (Items 18 and 19)
- ⊗ Field Duplicates (Items 20 and 21)
- ✓ Laboratory Duplicates (Item 22)

Guidance References

Chemical data validation was conducted in accordance with the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines for the analyses listed below, or by the appropriate method if not covered in the National Functional Guidelines.

- Data for organic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Organic Superfund Methods Data Review, document number EPA-540-R-20-005, November 2020.
- Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Inorganic Superfund Methods Data Review, document number EPA-540-R-20-006, November 2020.
- Review of field duplicates was conducted according to the USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020.
- Trihydro Data Validation Variance Documentation, March 2023.

Tier II Data Validation Report Summary

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Item 2 of the Validation Criteria Checklist.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data that are not qualified meet the site data quality objectives. If values are assigned qualifiers other than an R (rejected, data not usable), the data may be used for site evaluation; however, consideration should be given to the reasons for qualification when interpreting sample concentrations. Data points that are assigned an R qualifier should not be used for site evaluation purposes.

If applicable, text was identified in **bold font** in the Validation Criteria Checklist to indicate that further action and/or qualification of the data were required. Data may have been qualified with J data flags by the laboratory if the result was greater than or equal to the method detection limit (MDL) but less than the reporting limit (RL). These laboratory-applied J flags were preserved, if present, and included in the Data Qualification Summary table at the end of this report. If applicable, data validation qualifiers were added for the items noted with crossed circles in the Validation Criteria section above. Please see the Data Qualification Summary table at the end of this report for a complete list of samples and analytes qualified.

If data would be qualified with more than one flag, one qualifier was assigned based on the severity; however, all reasons for qualification were retained. Data that would be qualified with both J+ and J- flags were evaluated based on validation criteria and assigned the appropriate flag. The hierarchy of qualifiers from the most to least severe is as follows:

- R > JB/U > NJ > J+/J- > J/UJ

Data qualifiers used during this validation are included in the following table.

Qualifier	Definition
J	Estimated concentration
UJ	Estimated reporting limit
U	Evaluated to be undetected at the reporting limit

Data Completeness

The analyses were performed as requested on the CoC records. The associated samples were received by the laboratory and analyzed properly unless otherwise noted in the Criteria Checklist below. The complete data package consisted of 1,092 data points. The data completeness calculation does not include any submitted blank sample results. Data points were not rejected. The data completeness measure for this data package is calculated to be 100% and is acceptable.

VALIDATION CRITERIA CHECKLIST	
1. Was the report free of non-conformances identified by the laboratory?	Yes
Comments: The laboratory did not report non-conformances related to the analytical data for this sample set.	
2. Were the data free of data qualification flags and/or notes used by the laboratory? If no, define.	No
Comments: The laboratory used the following data qualification flags with this data set. D – Sample diluted due to sample matrix H – Holding times for preparation or analysis exceeded J – Analyte detected below quantitation limits. P – Sample pH not in range. S – % Recovery outside of standard limits. If undiluted results may be estimated. * – Value exceeds maximum contaminant level.	
3. Were sample CoC forms and custody procedures complete?	Yes
Comments: The CoC records from field to laboratory were complete, and custody was maintained as evidenced by field and laboratory personnel signatures, dates, and times of receipt. Custody seals were not present because the samples were transferred to a laboratory field courier service for transport from the field to the laboratory, and custody was maintained at all times.	
4. Were detection limits in accordance with the quality assurance project plan (QAPP), permit, or method, or indicated as acceptable?	Yes
Comments: The reporting limits for the analyses were reviewed and appeared to be acceptable. Dilutions were applied for the analyses of individual samples to maintain instrument responses within defined calibration limits.	
5. Were the reported analytical methods and constituents in compliance with the QAPP, permit, or CoC?	No
Comments: The reported analytical methods were in compliance with the CoC, and the laboratory reported the requested constituents in accordance with the CoC, with the following exceptions. The CoC requested dissolved metals using Method 6010; however, the laboratory analyzed the samples for dissolved arsenic, dissolved lead, and dissolved selenium using Method 6020. Also, pH was requested using Method 9040, but the laboratory analyzed the samples for pH using Method 4500H+ B. These substituted analytical methods met similar or better sensitivity, accuracy, and precision goals and therefore, were acceptable replacements.	
6. Were samples received in good condition within method-specified requirements?	No
Comments: Samples were received on ice, in good condition, and with the cooler temperatures both within and outside the recommended temperature range of 4°C ± 2°C at 1.7°C, 2.2°C, and 4.7°C as noted on Sample Log-in Check List and on the CoC. The cooler temperature below 2.0°C was judged as acceptable since the laboratory did not report the sample containers as broken or frozen. A preserved vial was submitted for the Method 8260B analysis for sample EB-8-2-23 but the pH at the time of analysis was greater than 2. Following EPA defined actions, the holding time for this sample was reduced from 14 days to 7 days from sampling to analysis. The laboratory added nitric acid to the containers for multiple samples designated for metals analyses to reach the required pH of less than 2. Validation action was not required.	

VALIDATION CRITERIA CHECKLIST

7. Were samples extracted/digested and analyzed within method-specified or technical holding times? — No

Comments: The samples were extracted/digested and analyzed within method-specific and reduced holding times, with the following exception.

Method 4500H+ B: **The samples were analyzed for pH outside the method-specific holding time of 15 minutes. The pH results were qualified as J to indicate estimated values.**

8. Were reported units appropriate for the sample matrix/matrices and analytical method(s)? Specify if wet or dry units were used for soil. — Yes

Comments: The results were reported in concentration units of micrograms per liter (µg/L), milligrams per liter (mg/L), milligrams per liter as calcium carbonate (mg/L $CaCO_3$), and pH Standard Units (SU), which were acceptable for the sample matrix and the analyses requested.

9. Did the laboratory provide any specific initial and/or continuing calibration results? — No

Comments: Initial and continuing calibration data were not included as part of this data set.

10. If initial and/or continuing calibration results were provided, were the results within acceptable limits? — N/A

Comments: Initial and continuing calibration data were not included as part of this data set.

11. Was the total number of laboratory blank samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? — Yes

Comments: The number of laboratory blank samples prepared was equal to at least 5% of the total number of samples.

12. Were target analytes reported as not detected in the laboratory blanks? — No

Comments: Target analytes were reported as not detected in the laboratory blanks, with the following exceptions.

Method	Analyte	Batch	Concentration
8260B	**1-Methylnaphthalene**	**R98695**	**1.9 µg/L**
8260B	2-Methylnaphthalene	R98695	2.0 µg/L

The analyte 1-methylnaphthalene was detected in sample WMW-10 at a concentration that was less than the applicable reporting limit and this result was assigned a U qualifier. Non-detections of the identified analytes in the associated samples and detections that were above the reporting limit and greater than ten times the blank concentration did not require qualification.

VALIDATION CRITERIA CHECKLIST

13. Was the total number of MS samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of matrix spike samples prepared was equal to at least 5% of the total number of samples, although MS samples were not prepared/reported for all analyses and/or batches. The matrix spike sample source for each analytical batch in this sample set has been indicated below.

Method	Analytes	Batch	MS Sample Source
200.8	Total Uranium	76676	Not Prepared
300.0	Sulfate	A98893	Not Prepared
300.0	Anions	R98720	EB-8-2-23
300.0	Chloride	R98916	Not Prepared
2320B	Alkalinity	R98783	Not Prepared
2320B	Alkalinity	R98841	Not Prepared
2540C	TDS	76681	Not Prepared
Method	Analytes	Batch	MS Sample Source
2540C	TDS	76711	Not Prepared
2540C	TDS	76718	Not Prepared
4500H+ B	pH	R98783	Not Prepared
6010B	Dissolved Metals	A98732	WMW-4
6020A	Dissolved Metals	D98751	Not Prepared
7470	Total Mercury	76699	Not Prepared
8260B	VOCs	R98695	Not Prepared
8270C	SVOCs	76673	Not Prepared

Not Prepared – Matrix spikes were not prepared/reported for this batch.

14. For MS/MSDs prepared from project samples, were percent recoveries and RPDs within data validation or laboratory quality control (QC) limits? Yes

Comments: The percent recoveries and RPDs for MS/MSDs prepared from project samples were within data validation and laboratory limits.

15. Was the total number of LCSs analyzed equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of LCS samples analyzed was equal to at least 5% of the total number of samples.

16. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within data validation or laboratory QC limits? No

Comments: The LCS and LCSD percent recoveries and LCS/LCSD RPDs were within data validation and laboratory QC limits, with the following exception.

The LCS recovery for dissolved lead in Method 6020A batch D98751 was outside the acceptance limits of 70-130% at 146% indicating a potential high bias. Dissolved lead was not detected in the associated samples and the results did not require qualification.

VALIDATION CRITERIA CHECKLIST

17. Were surrogate recoveries within laboratory QC limits? No

Comments: Surrogate recoveries were within QC limits, with the following exception.

Since Method 8270C surrogate associations were not available from the laboratory, qualification was assigned to all of the target analytes in a given fraction (acid or base/neutral) when two or more surrogates from the same fraction (acid or base/neutral) were outside the acceptance range. This condition did not exist for the sample WMW-10, and qualification of sample data was not required.

Qualification of sample data was not required based on surrogate non-conformances in QC samples as the environmental samples were evaluated based on their specific surrogate recoveries.

18. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit? Yes

Comments: The number of trip, field, and equipment blanks collected was equal to at least 10% of the number of samples. One trip blank sample, Trip Blank, one field blank sample, FB-8-2-23, and one equipment blank sample, EB-8-2-23, were collected as part of this sample set.

19. Were target analytes reported as not detected in the trip blank, field blank, and/or equipment blank samples? No

Comments: Target analytes were not detected in the trip blank, field blank, and equipment blank samples with the following exceptions.

Blank Sample ID	Method	Analyte	Concentration
EB-8-2-23	8260B	1,2,4-Trimethylbenzene	0.13 µg/L
EB-8-2-23	**8260B**	**Styrene**	**0.14 µg/L**
EB-8-2-23	2540C	TDS	25 mg/L
FB-8-2-23	**8260B**	**1,2,4-Trimethylbenzene**	**0.13 µg/L**
FB-8-2-23	8260B	2-Butanone	2.7 µg/L
FB-8-2-23	8260B	Chloromethane	0.83 µg/L

The detections of 1,2,4-trimethylbenzene and styrene in the associated samples that were less than or equal to the blank result and less than the applicable reporting limits were assigned U qualifiers. Non-detections of 1,2,4-trimethylbenzene, styrene, 2-butanone, and chloromethane in the associated samples and detections of TDS and chloromethane that were above the reporting limit and greater than ten times the blank concentrations did not require qualification.

20. Was the number of field duplicates collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit? Yes

Comments: The number of field duplicates collected was equal to at least 10% of the number of samples. Sample DUP-8-2-23 was collected as a field duplicate of sample WMW-7.

21. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)? No

Comments: As indicated in the Field Duplicate Summary Table at the end of this report, field duplicate RPD values were within data validation QC limits of 0-30% for water samples, with the following exception.

An RPD value could not be calculated for chloromethane for the field duplicate pair WMW-7 and DUP-8-2-23 since the analyte was detected in the duplicate sample and was undetected in the parent sample. As the detection in the duplicate sample was greater than five times the reporting limit, chloromethane was qualified as J and UJ for the duplicate and parent samples, respectively.

VALIDATION CRITERIA CHECKLIST

22. For laboratory duplicates prepared from project samples, were RPDs within data validation or laboratory QC limits? Yes

Comments: Laboratory duplicates were prepared for these analyses and the laboratory duplicate sample sources are summarized in the following table.

Method	Analytes	Batch	Laboratory Duplicate Sample Source
4500H+ B	pH	R98783	DUP-8-2-23
2320B	Alkalinity	R98783	DUP-8-2-23
2540C	TDS	76681	WMW-7
2540C	TDS	76718	WMW-5

The RPDs for laboratory duplicates prepared from project samples were within laboratory acceptance limits.

23. Were the following data relationships realistic?

- Target analytes were reported by more than one method (e.g., 8260/8270, EPH/8270)? Yes

Comments: The following table contains the analytical results (which had a detection by either method) for individual analytes that were analyzed by two or more methods for the submitted samples.

Sample	Analyte	Method 8260B (µg/L)	Method 8270C (µg/L)
WMW-10	Naphthalene	5.3	ND (5.0)
WMW-9	Naphthalene	46	4.3
WMW-4	Naphthalene	0.87	ND (5.0)
WMW-10	1-Methylnaphthalene	6.3	ND (5.0)

Non-detected results are indicated above with the applicable reporting limit as ND (RL)

The EPA has not provided guidance or requirements for the evaluation, validation, and qualification of the comparability of analyte results obtained by more than one method. Therefore, qualification of results was not performed based on these data.

- Both total and dissolved metals analyses were performed, and the total metals results were greater than or equal to the dissolved metals results? N/A

Comments: Total and dissolved fractions were not performed for the same metals in this data set.

FIELD DUPLICATE SUMMARY

Client Sample ID: WMW-7 Field Duplicate Sample ID: DUP-8-2-23				
Analyte	**Method**	**Laboratory Result**	**Duplicate Result**	**Relative Percent Difference (RPD)**
Total Uranium	200.8	0.028 mg/L	0.028 mg/L	0.0% +/-RL
Chloride	300.0	190 mg/L	190 mg/L	0.0%
Sulfate	300.0	880 mg/L	880 mg/L	0.0%
Bicarbonate	2320B	712.6 mg/L	722.2 mg/L	1.3%
Total Alkalinity	2320B	712.6 mg/L	722.2 mg/L	1.3%
TDS	2540C	2,460 mg/L	2,460 mg/L	0.0%
pH	4500H+ B	8.13 SU	8.25 SU	1.5%
Dissolved Barium	6010B	0.022 mg/L	0.022 mg/L	0.0%
Dissolved Calcium	6010B	28 mg/L	28 mg/L	0.0%
Dissolved Sodium	6010B	840 mg/L	820 mg/L	2.4%
Dissolved Silver	6010B	ND (0.0050 mg/L)	0.0012 mg/L	DL
Dissolved Selenium	6020A	ND (0.0050 mg/L)	0.0042 mg/L	DL
1,2,4-Trimethylbenzene	8260B	0.13 µg/L	ND (1.0 µg/L)	DL
Chloromethane	**8260B**	**ND (3.0 µg/L)**	**17 µg/L**	**DL**

Field duplicate RPD control limits are not to exceed 30% for water as established by USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020.

DL – Indicates that the analyte was detected in one of the duplicate samples and was undetected in the other sample, and therefore an RPD could not be calculated. Data were not qualified since the detection was within five times the reporting limit. Non-detected results are indicated above with the applicable reporting limit as ND (RL).

+/-RL – Indicates that the detections in both of the samples were within five times the reporting limit. The difference between the results was within data validation limits. Qualification of data was not required.

An RPD value could not be calculated for chloromethane for the field duplicate pair WMW-7 and DUP-8-2-23 since the analyte was detected in the duplicate sample and was undetected in the parent sample. As the detection in the duplicate sample was greater than five times the reporting limit, chloromethane was qualified as J and UJ for the duplicate and parent samples, respectively.

DATA QUALIFICATION SUMMARY

Abbreviation	Reason
EBD	Equipment blank detection
ERPD-FD	High field duplicate RPD.
FBD	Field blank detection
HT-AN	Sample was analyzed outside of the method holding time.
MBD	Method blank detection
MDLRL	Flagged by the laboratory: The result was greater than the MDL but less than the RL.

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
1,2,4-Trimethylbenzene	8260B	Equipment Blank	2308192-001	0.13	1.0	µg/L	U	FBD, MDLRL
1,2,4-Trimethylbenzene	8260B	Field Blank 1	2308192-009	0.13	1.0	µg/L	J	MDLRL
1,2,4-Trimethylbenzene	8260B	WMW-10	2308192-003	1.8	5.0	µg/L	U	FBD, MDLRL
1,2,4-Trimethylbenzene	8260B	WMW-1R	2308192-007	0.13	1.0	µg/L	U	FBD, MDLRL
1,2,4-Trimethylbenzene	8260B	WMW-4	2308192-005	0.14	1.0	µg/L	U	FBD, MDLRL
1,2,4-Trimethylbenzene	8260B	WMW-5	2308192-006	0.13	1.0	µg/L	U	FBD, MDLRL
1,2,4-Trimethylbenzene	8260B	WMW-7	2308192-002	0.13	1.0	µg/L	U	FBD, MDLRL
1,2,4-Trimethylbenzene	8260B	WMW-9	2308192-004	9.5	50	µg/L	U	FBD, MDLRL
1-Methylnaphthalene	8260B	WMW-10	2308192-003	6.3	20	µg/L	U	MBD, MDLRL
2-Butanone	8260B	Field Blank 1	2308192-009	2.7	10	µg/L	J	MDLRL
2-Hexanone	8260B	WMW-10	2308192-003	30	50	µg/L	J	MDLRL
Acetone	8260B	WMW-5	2308192-006	3.6	10	µg/L	J	MDLRL
Barium, Dissolved	6010B	WMW-5	2308192-006	0.0058	0.020	mg/L	J	MDLRL
Chloromethane	8260B	Field Blank 1	2308192-009a	0.83	3.0	µg/L	J	MDLRL
Chloromethane	8260B	WMW-7	2308192-002	ND	3.0	µg/L	UJ	ERPD-FD
Chloromethane	8260B	WMW-7	2308192-008	17	3.0	µg/L	J	ERPD-FD
Ethylbenzene	8260B	WMW-9	2308192-004	39	50	µg/L	J	MDLRL

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Isopropylbenzene	8260B	WMW-10	2308192-003	1.1	5.0	µg/L	J	MDLRL
Mercury, Total	7470	WMW-10	2308192-003	0.00010	0.00020	mg/L	J	MDLRL
Mercury, Total	7470	WMW-1R	2308192-007	0.000088	0.00020	mg/L	J	MDLRL
MTBE	8260B	WMW-4	2308192-005	0.54	1.0	µg/L	J	MDLRL
Naphthalene	8260B	WMW-10	2308192-003	5.3	10	µg/L	J	MDLRL
Naphthalene	8260B	WMW-4	2308192-005	0.87	2.0	µg/L	J	MDLRL
Naphthalene	8260B	WMW-9	2308192-004	46	100	µg/L	J	MDLRL
Naphthalene	8270C	WMW-9	2308192-004	4.3	5.0	µg/L	J	MDLRL
Nitrogen, Nitrate	300	WMW-1R	2308192-007	0.27	0.50	mg/L	J	MDLRL
Nitrogen, Nitrate	300	WMW-4	2308192-005	0.25	0.50	mg/L	J	MDLRL
n-Propylbenzene	8260B	WMW-10	2308192-003	0.74	5.0	µg/L	J	MDLRL
pH	4500-H B	Equipment Blank	2308192-001	5.67	0.010	SU	J	HT-AN
pH	4500-H B	WMW-10	2308192-003	7.88	0.010	SU	J	HT-AN
pH	4500-H B	WMW-1R	2308192-007	7.60	0.010	SU	J	HT-AN
pH	4500-H B	WMW-4	2308192-005	8.00	0.010	SU	J	HT-AN
pH	4500-H B	WMW-5	2308192-006	7.45	0.010	SU	J	HT-AN
pH	4500-H B	WMW-7	2308192-002	8.13	0.010	SU	J	HT-AN
pH	4500-H B	WMW-7	2308192-008	8.25	0.010	SU	J	HT-AN
pH	4500-H B	WMW-9	2308192-004	8.03	0.010	SU	J	HT-AN
Selenium, Dissolved	6020	WMW-5	2308192-006	0.0046	0.0050	mg/L	J	MDLRL
Selenium, Dissolved	6020	WMW-7	2308192-008	0.0042	0.0050	mg/L	J	MDLRL
Selenium, Dissolved	6020	WMW-9	2308192-004	0.0041	0.0050	mg/L	J	MDLRL
Silver, Dissolved	6010B	WMW-5	2308192-006	0.0050	0.0050	mg/L	J	MDLRL
Silver, Dissolved	6010B	WMW-7	2308192-008	0.0012	0.0050	mg/L	J	MDLRL
Solids, Total Dissolved	2540C	Equipment Blank	2308192-001	25	50	mg/L	J	MDLRL
Styrene	8260B	Equipment Blank	2308192-001	0.14	1.0	µg/L	J	MDLRL
Styrene	8260B	WMW-1R	2308192-007	0.14	1.0	µg/L	U	EBD, MDLRL
Styrene	8260B	WMW-4	2308192-005	0.16	1.0	µg/L	U	EBD, MDLRL

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Styrene	8260B	WMW-5	2308192-006	0.15	1.0	µg/L	U	EBD, MDLRL
Toluene	8260B	WMW-1R	2308192-007	0.20	1.0	µg/L	J	MDLRL
Toluene	8260B	WMW-4	2308192-005	0.27	1.0	µg/L	J	MDLRL
Toluene	8260B	WMW-5	2308192-006	0.46	1.0	µg/L	J	MDLRL
Xylenes, Total	8260B	WMW-9	2308192-004	52	75	µg/L	J	MDLRL

Sante Fe Main Office
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General Information
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Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 264055

CONDITIONS

Operator: Western Refining Southwest LLC 539 South Main Street Findlay, OH 45840	OGRID: 267595
	Action Number: 264055
	Action Type: [UF-DP] Discharge Permit (DISCHARGE PERMIT)

CONDITIONS

Created By	Condition	Condition Date
joel.stone	None	2/21/2025