

AP - 121

2019 AGWMR

2019



**Marathon
Petroleum Company LP**

September 15, 2019

Mr. Randy Bayliss
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

**RE: 2019 Annual Groundwater Monitoring Report
Marathon Petroleum Company LP – Wingate Plant – Gallup, New Mexico
New Mexico Oil Conservation Division Abatement Plan No. 121**

Dear Mr. Bayliss:

Marathon Petroleum Company LP (dba Western Refining Southwest, Inc.) is submitting this *Annual Groundwater Monitoring Report – September 2019* in accordance with Abatement Plan No. 121. The report summarizes the groundwater monitoring activities on July 1, 2019.

If there are any questions regarding the enclosed groundwater monitoring report, please contact Brian Moore at (505) 726-9745.

Certification

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

Sincerely,
Marathon Petroleum Company LP, Gallup Refinery

Robert S. Hanks

Robert S. Hanks
Refinery General Manager

Enclosure

cc B. Moore Marathon Gallup Refinery

**92 Giant Crossing Road
Gallup, NM 87301**

Annual Groundwater Monitoring Report



Marathon Petroleum Company LP

Marathon Petroleum Company LP
Wingate Plant
Gallup, New Mexico
Abatement Plan Number – AP-121

SEPTEMBER 2019

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Section 1

Introduction

This *Annual Groundwater Monitoring Report – September 2019* is submitted in accordance with the technical specifications of Abatement Plan No. 121 (AP-121) dated October 1, 2015. On May 14, 2015 ConocoPhillips submitted correspondence to the New Mexico Oil Conservation Division (NMOCD) requesting the Rescission of Abatement Plan AP-117. The request was based on Western Refining Southwest, Inc. ("Western") purchasing the ConocoPhillips Wingate Fractionator Gas Plant, which is located two miles east of Gallup, New Mexico (Figure 1). On June 12, 2015, Western requested a separate Abatement Plan number for the remediation activities at the Wingate Plant. The new Abatement Plan number (AP-121) was assigned to Western by NMOCD on August 31, 2015. Western was instructed to submit any appropriate revisions to all remediation and/or monitoring plans by October 1, 2015. On October 1, 2015 Western submitted a copy of the Abatement Plan No. AP-121. Copies of the above referenced correspondence are submitted with this report as Appendix A – Correspondence.

On August 1, 2017 Tesoro Corporation acquired Western and Western became a wholly owned subsidiary of Tesoro Corporation. Tesoro Corporation subsequently changed its name to Andeavor. In October 2018 Marathon Petroleum Company LP (Marathon) acquired ownership of the Wingate Plant through the acquisition of Andeavor, which became a direct wholly owned subsidiary of Marathon Petroleum Corporation.

This report summarizes the groundwater monitoring activities conducted at the Marathon Wingate Plant in Gallup, New Mexico on July 1, 2019. In accordance with Section 7 of the AP-121 Abatement Plan, this report provides the following information:

- A description of the monitoring and remediation activities that occurred during the year, including conclusions and recommendations;
- Summary table listing laboratory analytical results of all water quality sampling for each monitoring point (any WQCC constituent found to exceed the groundwater standard is highlighted and noted);
- Plots of concentration versus time for contaminants of concern from each monitoring point;
- Copies of the most recent years laboratory analytical data sheets;

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- An annual water table potentiometric elevation map using the water table elevation of the groundwater in all facility monitoring wells;
 - A corrected water table elevation for all wells containing phase-separated hydrocarbons (PSH);
 - A map showing monitoring well locations, pertinent site features, and the direction and magnitude of hydraulic gradient; and
 - Plots of the water table elevation versus time for each groundwater monitoring point.

Section 2 of this report summarizes the fluid level gauging event, Section 3 summarizes the groundwater sampling event, Section 4 discusses the analytical results, and Section 5 presents a summary of the July 2019 event with conclusions and recommendations.

Section 2

Fluid Level Gauging

Figure 2 depicts the location of the monitor wells at the Marathon – Wingate Plant. The groundwater well system at the plant during the July 2019 fluid level measuring event consisted of eight monitor wells. There are six wells located onsite (WMW-1R, WMW-2, WMW-4, WMW-5, WMW-6, and WMW-7) and two wells located offsite (WMW-3 and WMW-8).

On July 1, 2019, fluid levels were gauged in the eight wells. An oil/water interface probe was used to measure groundwater depths and check for the presence of PSH in each of the monitor wells. Before and after each use, the oil/water interface probe was cleaned with an Alconox /distilled water solution, then triple rinsed with distilled water.

Groundwater elevations in reference to mean sea level were calculated from the July 2019 fluid level data and are presented in Table 1. The groundwater elevations were used to develop the groundwater gradient map presented as Figure 3. As shown by Figure 3, the groundwater flow direction is generally west-northwest. PSH was not detected in the eight wells that were gauged during the July 2019 event.

Graphs 1 and 2 present groundwater elevations versus time for each monitor well.

Section 3

Groundwater Sampling

In accordance with Abatement Plan AP-121, groundwater samples were collected from the eight monitor wells on July 1, 2019. Samples were collected utilizing low-flow sampling with a peristaltic pump and disposable tubing set within the well screen. Disposable nitrile gloves were worn by sampling personnel and changed at each well location. The tubing used at each well location was discarded after sample collection and was not reused.

Water was slowly pumped from the well through a flow thru cell that hosted a YSI multi-parameter sonde. The readings were recorded at three minute intervals. The groundwater was slowly pumped until the parameters temperature, pH and conductivity had stabilized. Additional parameters monitored and recorded included oxidation reduction potential and dissolved oxygen.

Following purging and stabilization of the groundwater parameters, the flow of the groundwater was diverted from the flow-thru cell and directed into the laboratory prepared sample containers. The sample containers were filled in the following order based on volatilization sensitivity.

- Volatile organic compounds – Three 40-ml glass vials with Teflon septa were used.
- Semi-volatile organic compounds – One, 1-liter amber glass container with Teflon-lined lids was used to collect the sample.
- Total Metals – One, 250-ml plastic container. The sample was field preserved with HNO_3 .
- Dissolved Metals – One 125-ml plastic container. The sample was field filtered using a .45 micron filter and field preserved with HNO_3 .
- Inorganic Parameters – The containers for the inorganic parameters were filled at the end and varied in size and preservation method.

Once filled and sealed, the sample containers were labelled with the well number, date, time, and facility name. Glass containers were wrapped in bubble wrap. All containers were placed in sealable plastic bags. The containers were placed on ice in coolers provided by the laboratory. Trip blanks were also included with each cooler. Water was periodically drained from the coolers and additional ice was added until the coolers were hand delivered to the laboratory.

Chain-of-custody forms were filled out at the site and samples were not relinquished to the laboratory without the sampler's and receiving laboratory personnel's signatures. The sampler retained a copy of the custody forms. At a minimum, the forms provided the following information:

- Sample ID No;
- Type and number of sample containers;
- Media sampled;
- Date and time the sample was collected;
- Analytical parameters;
- Sampler's name;
- Date and time samples are release to laboratory; and
- Date and time samples are received at laboratory.

All fluids generated during the field activities, including decontamination fluids and purge water, were collected and placed in an open top 55-gallon drum. The drum was sealed, labelled and placed on the drum containment pad.

Section 4

Analytical Results

The groundwater samples collected on July 1, 2019 were hand delivered to Hall Environmental Laboratory, which is located in Albuquerque, New Mexico. The samples were analyzed for the following constituents:

- Volatile Organic Compounds – Method 8260B;
- Semi-Volatile Organic Compounds – Method 8270C;
- Dissolved Metals – Method 200.7/200.8;
 - o Arsenic
 - o Barium
 - o Cadmium
 - o Calcium
 - o Chromium
 - o Lead
 - o Selenium
 - o Silver
 - o Sodium
- Mercury – Method 245.1;
- Alkalinity, Total as CaCO_3 – Method SM2320B;
- Total Dissolved Solids – Method SM2540C;
- pH – Method SM4500-H+B / 9040C;
- Chloride, Nitrite, Nitrate and Sulfate – EPA Method 300.0; and
- Total Uranium – EPA Method 200.8.

The July 2019 groundwater analytical results are presented in Table 2. Table 3 presents the historical groundwater analytical data. Graph 3 depicts sulfate concentrations versus time for the monitor wells. Graph 4 depicts Total Dissolved Solids concentrations versus time for the monitor wells. Graph 5 depicts benzene concentrations versus time for monitor well WMW-2. Graph 6 depicts total xylenes concentrations versus time for monitor well WMW-2. The laboratory analytical reports are presented

in Appendix B. Figure 4 is a map that depicts the analytical results for some of the commonly noted constituents of concern that have historically occurred over the regulatory standards.

Analytical results were compared to the NMWQCC groundwater quality standards contained in Title 20, Chapter 6, Part 2, Section 3103 of the New Mexico Administrative Code (20.6.2.3103 NMAC). Applicable groundwater quality standards are found in Subsection A, *Human Health Standards*, and Subsection B, *Other Standards for Domestic Water Supply*.

Quality assurance samples were collected during the collection of groundwater samples. The following samples were collected.

- Duplicate Sample – A duplicate groundwater sample was collected from monitor well WMW-8. The duplicate sample, DUP01, was analyzed for the full analytical suite. The analytical results were consistent with the results for the primary sample.
- Trip Blank – A trip blank was provided by the laboratory for each cooler and was maintained in the cooler at all times. Trip blanks were not opened. The trip blanks for each cooler consisted of two distilled water-filled 40-ml glass vials with Teflon-lined septum caps and hydrochloric acid preservative (VOA vials). A total of two trips blanks were analyzed for volatile organic compounds. The analytical results indicated no detectable concentrations of the constituents.
- Equipment Blank – One equipment blank was collected and analyzed for the full analytical suite. The equipment blank was collected using new tubing inserted into a gallon of distilled water. The water was pumped from the container and directed to the sample containers. The analytical results for the equipment blank, EB01, indicated no detectable concentrations of the constituents.

As summarized in Table 2, the groundwater analytical results indicated the following listed constituents exceeded the NMWQCC Standards in the respective wells:

- Benzene – WMW-2;
- Phenol – WMW-2;
- Arsenic - WMW-1R;
- Uranium – WMW-3, WMW-5, and WMW-7;
- Chloride – WMW-1R, WMW-2, WMW-3, and WMW-5;
- Sulfate – WMW-1R, WMW-3, WMW-5, and WMW-7; and
- Total Dissolved Solids – WMW-1R, WMW-2, WMW-3, WMW-4, WMW-5 and WMW-7.

In addition to the volatile organic compounds listed in Table 2, acetone was detected in the groundwater sample from WMW-1R at a concentration of 0.010 mg/L. A NMWQCC Standard has not been established for acetone. The following organic compounds were detected in the groundwater sample from WMW-2 at the listed concentration. None of these compounds have an established NMWQCC Standard.

- 1,2,4-Trimethylbenzene – 0.024 mg/L;
- 1,3,5-Trimethylbenzene – 0.0078 mg/L;
- 1-Methylnaphthalene – 0.0062 mg/L;
- Isopropylbenzene – 0.0036 mg/L;
- 4-Methyl-2-pentanone – 0.019 mg/L; and
- n-Propylbenzene – 0.0029 mg/L.

Section 5 Summary

The July 2019 analytical results were compared to the NMWQCC groundwater quality standards contained in Title 20, Chapter 6, Part 2, Section 3103 of the New Mexico Administrative Code (20.6.2.3103 NMAC). The concentrations of benzene, phenol, arsenic, uranium, chloride, sulfate, and total dissolved solids were found above NMWQCC groundwater quality standards in groundwater samples collected in July 2019.

The concentration of benzene in monitor well WMW-2 (24 mg/L) continues to exceed the groundwater quality standard (0.01 mg/L). Benzene was not detected in a down-gradient sample collected from WMW-4. The area of impacted groundwater appears to be centralized around WMW-2. Historical analytical data indicates that benzene has never been detected in groundwater samples collected from WMW-4.

Uranium was detected in three of the eight wells above the regulatory standard and is very likely representative of background concentrations. Chloride, sulfate, and total dissolved solids appear to be elevated near the central portion of the facility.

At this time, Marathon recommends to continue annual groundwater monitoring with no modifications to the monitoring system or the analytical parameters.

Tables

Table 1 Fluid Level Data July 2019

Table 2 Groundwater Analytical Data July 2019

Table 3 Historical Groundwater Analytical Data

TABLE 1
FLUID LEVEL DATA JULY 2019
MARATHON PETROLEUM COMPANY LP
WINGATE PLANT - GALLUP, NEW MEXICO

No.	Well ID	Top of Casing Elevation (feet msl)	Specific Gravity	Depth to Hydrocarbon (feet btoc)	Depth to Groundwater (feet btoc)	Total Well Depth (feet btoc)	Hydrocarbon Thickness (feet)	Corrected Groundwater Depth (feet btoc)	Groundwater Elevation (feet msl)
1	WMW-1R	6603.77	na	nd	9.25	19.13	0.00	9.25	6594.52
2	WMW-2	6594.88	na	nd	6.30	20.05	0.00	6.30	6588.58
3	WMW-3	6594.92	na	nd	6.38	20.28	0.00	6.38	6588.54
4	WMW-4	6595.49	na	nd	6.80	21.00	0.00	6.80	6588.69
5	WMW-5	6597.11	na	nd	6.10	20.13	0.00	6.10	6591.01
6	WMW-6	6603.86	na	nd	10.85	36.95	0.00	10.85	6593.01
7	WMW-7	6594.70	na	nd	7.32	18.82	0.00	7.32	6587.38
8	WMW-8	6594.05	na	nd	6.61	38.95	0.00	6.61	6587.44

Notes:

msl = mean sea level

na = not applicable

nd = not detected

nm = not measured

TABLE 2
GROUNDWATER ANALYTICAL DATA JULY 2019
MARATHON PETROLEUM COMPANY LP
WINGATE PLANT - GALLUP, NEW MEXICO

Well	Date	Benzene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Naphthalene (mg/L)	2-Methyl-naphthalene (mg/L)	Phenol (mg/L)	Di-n-octyl phthalate (mg/L)
WMW-1R	07/01/19	<0.001	<0.001	<0.0015	<0.002	<0.004	<0.010	<0.010
WMW-2	07/01/19	24 E	0.088	0.470	0.018	0.008	0.021	<0.010
WMW-3	07/01/19	<0.001	<0.001	<0.0015	<0.002	<0.004	<0.010	<0.010
WMW-4	07/01/19	<0.001	<0.001	<0.0015	<0.002	<0.004	<0.010	<0.010
WMW-5	07/01/19	<0.001	<0.001	<0.0015	<0.002	<0.004	<0.010	<0.010
WMW-6	07/01/19	<0.001	<0.001	<0.0015	<0.002	<0.004	<0.010	<0.010
WMW-7	07/01/19	<0.001	<0.001	<0.0015	<0.002	<0.004	<0.010	<0.010
WMW-8	07/01/19	<0.001	<0.001	<0.0015	<0.002	<0.004	<0.010	<0.010
Dup01 (WMW-8)	07/01/19	<0.001	<0.001	<0.0015	<0.002	<0.004	<0.010	<0.010
NMWQCC Groundwater Quality Standards		0.005	0.7	0.62	0.03	NE	0.005	NE

TABLE 2
GROUNDWATER ANALYTICAL DATA JULY 2019
MARATHON PETROLEUM COMPANY LP
WINGATE PLANT - GALLUP, NEW MEXICO

Well	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 (mg/L)
WMW-1R	07/01/19	0.019 *	0.094	<0.0020	300	<0.0060	<0.00050	<0.00020
WMW-2	07/01/19	<0.010	0.52	<0.0020	35	<0.0060	<0.00050	<0.00020
WMW-3	07/01/19	<0.0050	0.014	<0.0020	160	<0.0060	<0.00050	<0.00020
WMW-4	07/01/19	0.0024	0.050	<0.0020	20	<0.0060	<0.00050	<0.00020
WMW-5	07/01/19	<0.0050	0.0096	<0.0020	170	<0.0060	<0.00050	<0.00020
WMW-6	07/01/19	<0.0010	0.031	<0.0020	35	<0.0060	<0.00050	<0.00020
WMW-7	07/01/19	<0.0010	0.016	<0.0020	23	<0.0060	<0.00050	<0.00020
WMW-8	07/01/19	<0.0010	0.15	<0.0020	36	<0.0060	<0.00050	<0.00020
Dup01 (WMW-8)	07/01/19	<0.0010	0.15	<0.0020	36	<0.0060	<0.00050	<0.00020
NMWQCC Groundwater Quality Standards		0.01	2.0	0.01	NE	0.05	0.015	0.002

TABLE 2
GROUNDWATER ANALYTICAL DATA JULY 2019
MARATHON PETROLEUM COMPANY LP
WINGATE PLANT - GALLUP, NEW MEXICO

Well	Date	Selenium (dissolved) (mg/L)	Silver (dissolved) (mg/L)	Sodium (dissolved) (mg/L)	Total Uranium (mg/L)	Alkalinity (mg/L)	Chloride (mg/L)	Nitrate (as N) (mg/L)
WMW-1R	07/01/19	<0.0050	<0.0050	680	0.025	467.8	370 *	<0.50
WMW-2	07/01/19	0.0013	<0.0050	1400	<0.0050	2017	770 *	<0.50
WMW-3	07/01/19	<0.0050	<0.0050	2100	0.069 *	1067	1000 *	<0.50
WMW-4	07/01/19	<0.0010	<0.0050	570	0.0012	755.5	180	<0.50
WMW-5	07/01/19	<0.0050	<0.0050	1500	0.038 *	831.7	390 *	<0.50
WMW-6	07/01/19	<0.0010	<0.0050	310	0.0076	453.3	66	<0.50
WMW-7	07/01/19	<0.0010	<0.0050	900	0.032	709.5	200	<0.50
WMW-8	07/01/19	<0.0010	<0.0050	260	0.011	504.2	30	<0.50
Dup01 (WMW-8)	07/01/19	<0.0010	<0.0050	270	0.012	506.4	30	<0.50
NMWQCC Groundwater Quality Standards		0.05	0.05	NE	0.03	NE	250	10

TABLE 2
GROUNDWATER ANALYTICAL DATA JULY 2019
MARATHON PETROLEUM COMPANY LP
WINGATE PLANT - GALLUP, NEW MEXICO

Well	Date	pH	Sulfate (mg/L)	Total Dissolved Solids (TDS) (mg/L)
WMW-1R	07/01/19	7.80 H	1200 *	2890 *
WMW-2	07/01/19	8.03 H	<2.5	3660 *D
WMW-3	07/01/19	7.76 H	2600 *	6680 *
WMW-4	07/01/19	8.01 H	320 *	1560 *
WMW-5	07/01/19	7.54 H	2200*	4730 *
WMW-6	07/01/19	8.13 H	260	962 *
WMW-7	07/01/19	8.30 H	990 *	2600 *
WMW-8	07/01/19	7.92 H	190	794 *
Dup01 (WMW-8)	07/01/19	7.96 H	190	709 *
NMWQCC Groundwater Quality Standards		6.00-9.00	600	1000

Notes:

NMWQCC = New Mexico Water Quality Control Commission

Constituents in **BOLD** exceed NMWQCC groundwater quality standards

mg/L = milligrams per liter (parts per million)

< 1.0 = Below laboratory practical quantitation limit

-- = not analyzed NE - Not established.

* - Value exceeds Maximum Contaminant Level

E - Value above quantitation range

J - Analyte detected below quantitation limits

D - Sample Diluted Due to Matrix

H - Holding times for preparation or analysis exceeded

TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL DATA
MARATHON PETROLEUM COMPANY LP
WINGATE PLANT - GALLUP, NEW MEXICO

Well	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	TPH-GRO (mg/L)	Naphthalene (mg/L)	Bis (2-Ethylhexyl) phthalate	Arsenic (dissolved) (mg/L)	Barium (dissolved) (mg/L)	Cadmium (dissolved) (mg/L)	Calcium (dissolved) (mg/L)	Chromium (dissolved) (mg/L)	Iron (dissolved) (mg/L)	Iron (mg/L)	Lead (dissolved) (mg/L)	Lead (mg/L)	Magnesium (dissolved) (mg/L)	Manganese (dissolved) (mg/L)	Manganese (mg/L)	Mercury (mg/L)	Selenium (dissolved) (mg/L)	Silver (dissolved) (mg/L)	Sodium (dissolved) (mg/L)	Total Uranium (mg/L)	Alkalinity (mg/L)	Chloride (mg/L)	Nitrate (as N) (mg/L)	pH	Sulfate (mg/L)	Total Dissolved Solids (TDS)	
WMW-1	05/14/03	<0.0001	<0.001	<0.001	<0.002	--	<0.0098	--	<0.01	<0.2	<0.002	258	<0.005	--	--	<0.003	--	69.7	--	--	--	--	--	1140	--	1050	648	<0.5	--	1870	5090	
	09/24/04	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.0047	0.0256	<0.00076	236	0.0025	--	--	<0.0100	--	63.8	--	--	<0.000028	0.0059	0.002	1370	--	1030	627	<0.40	7.8	1880	5150	
	06/20/05	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.0093	0.0177	<0.00097	224	<0.0048	--	--	<0.0084	--	61.1	--	--	<0.000062	<0.0094	<0.0020	1370	--	1060	614	<0.40	7.0	1760	5140	
	06/21/06	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.01	0.0706	<0.00091	279	0.003	--	--	<0.0069	--	76.8	--	--	<0.000056	<0.0094	<0.0016	1310	--	1030	609	<0.25	7.1	1940	5150	
	06/18/07	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.01	0.0317	<0.00090	287	<0.0023	--	--	<0.0069	--	77.2	--	--	<0.000056	<0.0094	<0.0018	1310	--	1050	579	<0.25	7.2	1880	5130	
	06/30/08	<0.005	<0.005	<0.005	<0.005	--	<0.005	--	<0.005	0.0478	<0.005	228	<0.005	--	1.92	<0.005	--	63.7	--	3.97	<0.0002	<0.005	<0.005	1210	--	998	566	<0.5	6.78	2010	4640	
	06/22/09	<0.005	<0.005	<0.005	<0.005	--	<0.005	--	<0.025	<0.025	<0.025	222	<0.025	0.192	--	<0.025	--	60.9	--	3.94	<0.0002	<0.025	<0.025	1330	--	845	501	<0.5	7.05	2150	4560	
	06/22/10	<0.001	<0.001	<0.001	<0.001	--	<0.0057	--	<0.005	0.0148	<0.005	194	<0.005	<0.02	--	<0.005	--	53.0	3.51	--	<0.002	<0.01	<0.005	1140	--	215	530	0.993	7.05	1940	4330	
07/01/11	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.005	--	<0.005	<0.2	<0.004	--	<0.01	<0.1	--	<0.003	--	55.4	3.33	--	--	<0.005	<0.01	1180	--	984	558	<0.50	7.52	2140	4560		
06/20/12	--	--	--	--	--	--	<0.010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
WMW-1R	06/24/13	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.010	--	<0.010	0.0292	<0.005	254	<0.005	--	--	<0.005	--	--	--	--	<0.0002	<0.015	<0.007	852	0.0479	671	418	<0.10	7.4	1640	3530	
	06/12/14	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.010	<0.010	<0.010	0.0392	<0.005	294	<0.005	--	--	<0.005	--	--	--	--	<0.0002	<0.015	<0.007	1150	0.0356	809	--	<0.10	7.2	--	3350	
	09/05/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	361	--	--	1500	--
	07/20/15	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	0.027	0.046	<0.0020	180	<0.0060	--	--	<0.0050	--	--	--	--	<0.00020	<0.050	<0.0050	280	0.0080	222	170	<0.50	7.86	630	1610	
	07/12/16	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	0.028	0.075	<0.0020	300	<0.0060	--	--	<0.00050	--	--	--	--	<0.00020	0.018	<0.0050	620	0.032	479.7	380	<0.50	7.48	1300	3140	
	07/11/17	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	0.031*	0.086	<0.0020	350	<0.0060	--	--	<0.00050	--	--	--	--	<0.00020	0.026 J	<0.0050	830	0.041 *	655.7	430 *	<0.50	7.72 H	1500 *	3470 *D	
	07/02/18	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	0.019 *	0.054	<0.0020	380	<0.0060	--	--	<0.0025	--	--	--	--	<0.00020	<0.0050	0.010	980	0.046 *	757.4	550 *	0.29 J	7.82 H	1700 *	4100 *D	
	07/01/19	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	0.019 *	0.094	<0.0020	300	<0.0060	--	--	<0.00050	--	--	--	--	<0.00020	<0.0050	<0.0050	680	0.025	467.8	370 *	<0.50	7.80 H	1200 *	2890 *	
WMW-2	05/14/03	29	<0.5	<0.5	<1	--	0.024	--	0.016	0.42	0.0081	47.3	0.0095	--	--	0.0180	--	27.4	--	--	--	--	--	1140	--	1710	628	0.6	--	8.2	3150	
	09/24/04	28	0.45	0.11	0.65	--	0.021	--	<0.0047	0.421	0.0036	57.2	<0.0025	--	--	0.0100	--	33.8	--	--	<0.000028	<0.0059	<0.0020	1510	--	2110	936	<0.40	7.6	<1.5	4220	
	06/21/05	29	0.35	0.11	0.57	--	0.017	--	<0.0093	0.442	0.0047	53.6	<0.0048	--	--	<0.0084	--	32.3	--	--	<0.000062	<0.0094	<0.0020	1450	--	2090	962	<0.40	7.5	<1.5	3800	
	06/21/05	25	0.062	0.084	0.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	06/21/06	5.3	0.015	0.024	0.15	--	0.003	--	<0.01	0.0841	<0.00091	4.04	<0.0023	--	--	<0.0069	--	190	--	--	<0.000056	<0.0094	<0.0016	1050	--	2000	730	<0.25	9.9	74	3400	
	06/21/06	5.3	0.015	0.024	0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	06/20/07	7.2	0.09	0.04	0.28	--	0.009	--	0.0138	0.102	0.0065	19.3	0.0064	--	--	<0.0069	--	104	--	--	<0.000056	<0.0094	<0.0016	712	--	1200	468	<0.25	9.9	76.9	1900	
	06/20/07	5.2	0.087	0.039	0.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	07/02/08	7.7	0.19	0.034	0.201	--	0.006	--	0.00993	0.411	0.131	128	0.029	--	48.8	0.0288	--	110	--	0.476	<0.0002	<0.005	<0.005	852	--	1220	565	<0.5	9.31	25.9	282	
	07/02/08	7.9	0.22	0.056	0.346	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	06/24/09	9.8	0.3	0.05	0.313	--	0.0056	--	<0.005	0.11	<0.005	16.2	0.00809	0.482	--	<0.005	--	99.9	<0.25	--	<0.0002	<0.01	<0.005	1000	--	1530	502	<0.5	9.59	15.8	2770	
	06/24/09	9.7	0.29	0.049	0.313	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	06/23/10	10	0.26	0.055	0.339	--	0.0058	--	<0.005	0.0720	<0.005	3.20	<0.005	<0.02	--	<0.005	--	64.9	<0.005	--	<											

TABLE 3 HISTORICAL GROUNDWATER ANALYTICAL DATA MARATHON PETROLEUM COMPANY LP WINGATE PLANT - GALLUP, NEW MEXICO																																
Well	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	TPH-GRO (mg/L)	Naphthalene (mg/L)	Bis (2-Ethylhexyl) phthalate	Arsenic (dissolved) (mg/L)	Barium (dissolved) (mg/L)	Cadmium (dissolved) (mg/L)	Calcium (dissolved) (mg/L)	Chromium (dissolved) (mg/L)	Iron (dissolved) (mg/L)	Iron (mg/L)	Lead (dissolved) (mg/L)	Lead (mg/L)	Magnesium (dissolved) (mg/L)	Manganese (dissolved) (mg/L)	Manganese (mg/L)	Mercury (mg/L)	Selenium (dissolved) (mg/L)	Silver (dissolved) (mg/L)	Sodium (dissolved) (mg/L)	Total Uranium (mg/L)	Alkalinity (mg/L)	Chloride (mg/L)	Nitrate (as N) (mg/L)	pH	Sulfate (mg/L)	Total Dissolved Solids (TDS) (mg/L)	
WMW-3	05/14/03	<0.0001	<0.001	<0.001	<0.002	--	<0.0095	--	0.014	0.62	<0.002	186	0.19	--	--	0.042	--	88.5	--	--	--	--	--	--	1860	--	1090	1150	1.5	--	1680	5570
	09/25/04	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.01	--	0.0351	1.14	0.0012	470	0.905	--	--	0.250	--	216	--	--	<0.00028	<0.0059	<0.0020	1810	--	1700	985	<0.40	7.5	1410	6030	
	06/20/05	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.0093	0.210	<0.00097	112	0.0421	--	--	0.0112	--	48.0	--	--	<0.000062	<0.0094	<0.0020	1700	--	1230	1030	<0.40	7.5	1380	5590	
	06/21/06	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.01	0.468	<0.00091	155	0.0996	--	--	0.0339	--	73.8	--	--	0.00012	<0.0094	<0.0016	1850	--	1210	1150	<0.25	7.5	1580	5640	
	06/20/07	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.01	--	0.0107	0.320	<0.00090	199	0.0701	--	--	0.0292	--	70.4	--	--	0.000076	<0.0094	<0.0016	2040	--	1520	1540	1.5	7.5	1950	5900	
	07/01/08	<0.005	<0.005	<0.005	<0.005	--	<0.0054	--	0.0187	2.05	<0.005	336	0.31	--	230	--	0.158	157	--	4.45	<0.002	<0.005	<0.005	1500	--	964	548	<5	7.54	963	7800	
	06/24/09	<0.005	<0.005	<0.005	<0.005	--	<0.005	--	0.0166	0.265	<0.005	400	0.0154	--	4.3	--	0.0568	57.4	--	3.35	<0.0002	<0.01	<0.005	1710	--	1410	677	0.716	7.65	1370	3190	
	06/22/10	<0.001	<0.001	<0.001	<0.001	--	<0.011	--	<0.005	0.0351	<0.005	70.1	<0.005	0.927	--	--	<0.005	33.6	0.00920	--	<0.002	<0.01	<0.005	1490	--	238	912	3.06	7.66	1620	5000	
	06/30/11	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.0050	--	<0.005	<0.2	<0.004	--	<0.01	<0.1	--	--	<0.003	--	33.9	<0.015	--	--	<0.005	<0.01	1360	--	1000	900	2.2	7.46	1530	4830
	06/20/12	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.010	--	<0.010	0.0201	<0.005	76.4	<0.005	--	--	--	<0.005	--	--	--	<0.0002	<0.015	<0.007	1650	0.0572	1400	895	1.8	7.7	1550	4320	
	06/26/13	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.010	--	<0.010	0.0027	<0.005	87.3	<0.005	--	--	--	<0.005	--	--	--	<0.0002	<0.015	<0.007	1610	0.0429	1070	927	0.92	7.5	1430	3670	
	06/11/14	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.010	<0.010	<0.010	0.0203	<0.005	91.6	<0.005	--	--	--	<0.005	--	--	--	<0.0002	<0.015	<0.007	1630	0.0692	1190	--	0.27	7.6	--	4120	
	09/05/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	756	--	--	1380	--
	07/21/15	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	<0.020	0.023	<0.0020	110	<0.0060	--	--	--	<0.0050	--	--	--	<0.00020	<0.050	<0.0050	1700	0.067	1081	1800	<1.0	7.77	1700	5180	
	07/11/16	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	0.0095	0.017	<0.0020	110	<0.0060	--	--	--	<0.00050	--	--	--	<0.00020	0.034	<0.0050	1600	0.073	1076	950	<1.0	7.82	2000	5520	
	07/11/17	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	0.012 *J	0.017	<0.0020	130	<0.0060	--	--	--	<0.0050	--	--	--	<0.00020	0.042 J	<0.0050	2000	0.078 *	1078	960 *	<0.50	7.85 H	2000 *	6110 *	
07/02/18	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	<0.0050	0.013	<0.0020	140	<0.0060	--	--	--	<0.0025	--	--	--	<0.00020	<0.0050	0.0040 J	1700	0.068 *	1070	1000 *	0.31 J	7.94 H	2300 *	6360 *		
07/01/19	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	<0.0050	0.014	<0.0020	160	<0.0060	--	--	--	<0.00050	--	--	--	<0.00020	<0.0050	<0.0050	2100	0.069 *	1067	1000 *	<0.50	7.76 H	2600 *	6680 *		
WMW-4	05/14/03	<0.0001	<0.001	<0.001	<0.002	--	<0.0097	--	<0.01	0.28	<0.002	37.3	0.006	--	--	16.8	--	16.8	--	--	--	--	--	--	550	--	783	133	<0.5	--	240	3070
	07/30/03	<0.0005	<0.0007	<0.0008	<0.0008	0.053	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09/23/04	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	0.0077	0.0435	<0.00076	12.5	<0.0025	--	--	<0.0100	--	13.1	--	--	<0.000028	<0.0059	0.0020	553	--	788	149	<0.40	7.8	247	1550	
	06/20/05	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.0093	0.0449	<0.00097	11.7	<0.0048	--	--	<0.0084	--	12.5	--	--	<0.000062	<0.0094	<0.0020	529	--	764	152	<0.40	7.8	243	1470	
	06/21/06	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.01	0.0414	<0.00091	12	<0.0023	--	--	<0.0069	--	12.8	--	--	<0.000056	<0.0094	<0.0016	532	--	722	163	<0.25	7.8	266	1480	
	06/20/07	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.01	0.0782	<0.00090	15	0.0039	--	--	<0.0069	--	13.8	--	--	<0.000056	<0.0094	<0.0016	582	--	765	184	<0.25	8.0	265	1380	
	06/30/08	<0.005	<0.005	<0.005	<0.005	--	<0.005	--	<0.005	0.0463	<0.005	12.1	<0.005	0.963	--	--	<0.005	--	0.248	--	0.248	<0.0002	<0.005	<0.005	526	--	672	186	<0.5	7.54	240	1460
	06/22/09	<0.005	<0.005	<0.005	<0.005	--	<0.005	--	<0.025	0.0627	<0.025	16.5	<0.025	4.13	--	--	<0.025	--	12.2	--	0.325	<0.0002	<0.025	<0.025	566	--	673	143	<0.5	7.73	228	1470
	06/22/10	<0.001	<0.001	<0.001	<0.001	--	<0.0055	--	<0.005	0.0492	<0.005	13.60	<0.005	<0.02	--	--	<0.005	--	14.4	0.279	--	<0.002	<0.01	<0.005	548	--	199	171	0.541	7.69	265	1830
	06/30/11	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.0050	--	<0.005	<0.2	<0.004	--	<0.01	<0.1	--	--	<0.003	--	12.4	0.261	--	--	<0.005	<0.01	442	--	760	157	<0.50	7.72	256	1580
	06/20/12	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.010	--	<0.010	0.0538	<0.005	12.6	<0.005	--	--	--	<0.005	--	--	--	<0.0002	<0.015	<0.007	566	0.0012	798	191	<0.10	7.8	318	1540	
	06/24/13	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.010	--	<0.010	0.0541	<0.005	13.8	<0.005	--	--	--	<0.005	--	--	--	<0.0002	<0.015	<0.007	560	0.00255	805	181	<0.10	7.8	307	1690	
	06/11/14	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.																									

TABLE 3 HISTORICAL GROUNDWATER ANALYTICAL DATA MARATHON PETROLEUM COMPANY LP WINGATE PLANT - GALLUP, NEW MEXICO																																
Well	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	TPH-GRO (mg/L)	Naphthalene (mg/L)	Bis (2-Ethylhexyl) phthalate	Arsenic (dissolved) (mg/L)	Barium (dissolved) (mg/L)	Cadmium (dissolved) (mg/L)	Calcium (dissolved) (mg/L)	Chromium (dissolved) (mg/L)	Iron (dissolved) (mg/L)	Iron (mg/L)	Lead (dissolved) (mg/L)	Lead (mg/L)	Magnesium (dissolved) (mg/L)	Manganese (dissolved) (mg/L)	Manganese	Mercury (mg/L)	Selenium (dissolved) (mg/L)	Silver (dissolved) (mg/L)	Sodium (dissolved) (mg/L)	Total Uranium (mg/L)	Alkalinity (mg/L)	Chloride (mg/L)	Nitrate (as N) (mg/L)	pH	Sulfate (mg/L)	Total Dissolved Solids (TDS) (mg/L)	
WMW-5	05/14/03	<0.0001	<0.001	<0.001	<0.002	--	<0.0095	--	<0.01	<0.2	<0.002	332	<0.005	--	--	<0.003	--	98	--	--	--	--	--	--	1310	--	895	598	<0.5	--	2380	5530
	07/30/03	<0.0005	<0.0007	<0.0008	<0.0008	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09/23/04	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.0047	0.0117	<0.00076	186	<0.0025	--	--	<0.0100	--	48.8	--	--	0.000044	<0.0059	<0.0020	915	--	788	307	<0.40	7.1	1330	3410	
	06/20/05	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.0093	0.0137	<0.00097	187	<0.0048	--	--	<0.0084	--	50.5	--	--	<0.000062	<0.0094	<0.0020	834	--	693	334	<0.40	7.0	1400	3300	
	06/21/06	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.01	0.0076	<0.00091	144	<0.0023	--	--	<0.0069	--	38.7	--	--	<0.000056	<0.0094	<0.0016	730	--	680	224	<0.25	7.1	1210	2380	
	06/18/07	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.01	0.0213	<0.00090	253	<0.0023	--	--	<0.0069	--	69	--	--	<0.000056	<0.0094	<0.0016	1170	--	796	383	<0.25	7.2	1730	4380	
	06/30/08	<0.0005	<0.0005	<0.0005	<0.0005	--	<0.005	--	<0.005	0.0163	<0.005	137	<0.005	0.562	--	<0.005	--	41.4	--	1.12	<0.0002	<0.005	<0.005	811	--	548	232	<0.5	7.15	1270	3020	
	06/22/09	<0.005	<0.005	<0.005	<0.005	--	<0.005	--	<0.025	<0.025	<0.025	172	<0.025	0.346	--	<0.025	--	49.4	--	0.693	<0.0002	<0.025	<0.025	912	--	682	259	<0.5	7.37	1370	3260	
	06/22/10	<0.001	<0.001	<0.001	<0.001	--	<0.0056	--	<0.005	0.0098	<0.005	170	<0.005	<0.02	--	<0.005	--	51.3	1.13	--	<0.002	<0.01	<0.005	862	--	165	275	0.608	7.21	1430	3380	
	06/30/11	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.0050	--	<0.005	<0.2	<0.004	--	<0.01	<0.1	--	<0.003	--	38.7	0.336	--	--	<0.005	<0.01	752	--	664	238	<0.50	7.22	1270	3130	
	06/20/12	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.010	--	<0.010	<0.010	<0.005	104	<0.005	--	--	<0.005	--	--	--	--	<0.0002	<0.015	<0.007	754	0.0116	646	226	<0.10	7.4	1200	2630	
	06/24/13	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.010	--	<0.010	<0.010	<0.005	102	<0.005	--	--	<0.005	--	--	--	--	<0.0002	<0.015	<0.007	770	0.0106	654	197	<0.10	7.6	1100	2610	
	06/11/14	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.010	0.0489	<0.010	0.0124	<0.005	121	<0.005	--	--	<0.005	--	--	--	--	<0.0002	<0.015	<0.007	958	0.0175	697	--	<0.10	7.2	--	2560	
	09/04/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	276	--	--	1290	--
	07/20/15	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	<0.020	<0.020	<0.0020	160	<0.0060	--	--	0.0050	--	--	--	--	<0.00020	<0.050	<0.0050	1200	0.036	845	400	<0.10	7.88	1900	4350	
	07/20/15	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	<0.020	<0.020	<0.0020	160	<0.0060	--	--	<0.0050	--	--	--	--	<0.00020	<0.050	<0.0050	1200	0.037	844	320	0.10	7.89	1800	4350	
	07/12/16	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	0.0050	0.012	<0.0020	160	<0.0060	--	--	<0.00050	--	--	--	--	<0.00020	0.016	<0.0050	1300	0.042	854.6	360	<1.0	7.49	2200	4790	
	07/11/17	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	0.0065 J	0.013	<0.0020	180	<0.0060	--	--	<0.0025	--	--	--	--	<0.00020	<0.050	<0.0050	1600	0.053 *	884.4	380 *	<0.50	7.47 H	2300 *	5290 *	
	07/02/18	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	<0.0050	0.011	<0.0020	200	<0.0060	--	--	<0.0025	--	--	--	--	<0.00020	<0.0050	0.0056	1500	0.046 *	910.7	440 *	0.075 J	7.70 H	2600 *	5680 *	
	07/01/19	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	<0.0050	0.0096	<0.0020	170	<0.0060	--	--	<0.00050	--	--	--	--	<0.00020	<0.0050	<0.0050	1500	0.038 *	831.7	390 *	<0.50	7.54 H	2200*	4730 *	
WMW-6	09/24/04	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.0047	0.0517	<0.00076	34.4	<0.0025	--	--	<0.0100	--	13.2	--	--	<0.000028	<0.0059	<0.0020	315	--	425	57.5	<0.40	7.8	285	1020	
	06/21/05	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.0093	0.0490	<0.00097	35.9	<0.0048	--	--	<0.0084	--	13.4	--	--	<0.000062	<0.0094	<0.0020	294	--	428	58.8	<0.40	7.7	290	952	
	06/21/06	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.01	0.049	<0.00091	38.1	<0.0023	--	--	<0.0069	--	14.1	--	--	<0.000056	0.0094	<0.0016	300	--	488	58.9	<0.25	7.7	293	966	
	06/18/07	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.01	0.0637	<0.00090	44.3	<0.0023	--	--	<0.0069	--	15.5	--	--	<0.000056	0.0094	<0.0016	320	--	449	66.7	<0.25	7.7	280	1070	
	07/01/08	<0.005	<0.005	<0.005	<0.005	--	<0.005	--	0.0119	2.34	<0.005	194	0.0863	--	77	--	0.0545	56.3	--	2.76	<0.0002	<0.005	<0.005	317	--	451	76.5	<1	7.82	328	1500	
	06/23/09	<0.005	<0.005	<0.005	<0.005	--	<0.005	--	<0.005	0.0679	<0.005	41.1	<0.005	--	0.516	<0.005	--	14.4	0.162	--	<0.0002	<0.005	<0.005	339	--	389	57.2	<0.5	7.87	276	1020	
	06/23/10	<0.001	<0.001	<0.001	<0.001	--	<0.0055	--	<0.005	0.0421	<0.005	41.9	<0.005	0.0445	--	<0.005	--	15.5	0.0193	--	<0.002	<0.01	<0.005	304	--	128	62.4	<0.5	7.42	280	1220	
	06/29/11	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.0050	--	<0.005	<0.2	<0.004	--	<0.01	0.232	--	<0.003	--	16.2	0.053	--	--	<0.005	<0.01	308	--	446	70.9	<0.50	7.48	374	1060	
	06/18/12	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.010	--	<0.010	0.0352	<0.005	33.8	<0.005	--	--	<0.005	--	--	--	--	<0.0002	<0.015	<0.007	--	0.0109	458	62.8	<0.10	7.6	314	946	
	06/26/13	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.010	--	<0.010	0.0362	<0.005	35.4	<0.005	--	--	<0.005	--	--	--	--	<0.0002	<0.015	<0.007	300	0.00976	439	54.1	<0.10	7.6	262	930	
	06/11/14	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.010	<0.010	<0.010	0.0365	<0.005	34.3	<0.005	--	--	<0.005	--	--	--	--	<0.0002	<0.015	<0.007	288	0.00852	437	--	<0.10	7.8	--	909	
	09/04/14	--	--	--	--	--	--																									

TABLE 3 HISTORICAL GROUNDWATER ANALYTICAL DATA MARATHON PETROLEUM COMPANY LP WINGATE PLANT - GALLUP, NEW MEXICO																																
Well	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	TPH-GRO (mg/L)	Naphthalene (mg/L)	Bis (2-Ethylhexyl) phthalate	Arsenic (dissolved) (mg/L)	Barium (dissolved) (mg/L)	Cadmium (dissolved) (mg/L)	Calcium (dissolved) (mg/L)	Chromium (dissolved) (mg/L)	Iron (dissolved) (mg/L)	Iron (mg/L)	Lead (dissolved) (mg/L)	Lead (mg/L)	Magnesium (dissolved) (mg/L)	Manganese (dissolved) (mg/L)	Manganese (mg/L)	Mercury (mg/L)	Selenium (dissolved) (mg/L)	Silver (dissolved) (mg/L)	Sodium (dissolved) (mg/L)	Total Uranium (mg/L)	Alkalinity (mg/L)	Chloride (mg/L)	Nitrate (as N) (mg/L)	pH	Sulfate (mg/L)	Total Dissolved Solids (TDS) (mg/L)	
WMW-7	09/24/04	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.0047	0.179	<0.00076	35.5	0.0074	--	--	<0.0100	--	15.8	--	--	<0.000028	<0.0059	<0.0020	362	--	526	63.7	<0.40	7.7	309	1200	
	06/21/05	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.0093	0.0394	<0.00097	48.0	<0.0048	--	--	<0.0084	--	25.4	--	--	<0.000062	<0.0094	<0.0020	803	--	630	170	<0.40	7.7	1120	2590	
	06/21/06	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.01	0.0315	<0.00091	42.2	<0.0023	--	--	<0.0069	--	22.2	--	--	<0.000056	<0.0094	<0.0016	776	--	589	234	<0.25	7.6	1080	2360	
	06/18/07	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.01	0.0339	<0.00090	42.9	<0.0023	--	--	<0.0069	--	21.8	--	--	<0.000056	<0.0094	<0.0016	773	--	643	152	<0.25	7.7	896	2310	
	06/30/08	<0.005	<0.005	<0.005	<0.005	--	<0.005	--	<0.005	0.198	<0.005	50.5	0.0137	--	15.3	0.00946	--	24.9	--	0.511	<0.0002	<0.005	<0.005	478	--	514	92.4	<0.5	7.34	224	1580	
	06/22/09	<0.005	<0.005	<0.005	<0.005	--	<0.005	--	<0.025	0.0371	<0.025	41.1	<0.025	0.284	--	<0.025	--	16.9	0.2	--	<0.0002	<0.025	<0.025	509	--	520	80.4	<0.5	7.56	439	1410	
	06/23/10	<0.001	<0.001	<0.001	<0.001	--	<0.0057	--	<0.005	0.0312	<0.005	35.6	<0.005	0.0210	--	<0.005	--	15.0	0.122	--	<0.002	<0.01	<0.005	417	--	183	71.5	0.500	7.38	353	1520	
	06/30/11	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.0050	--	<0.005	<0.2	<0.004	--	<0.01	<0.1	--	<0.003	--	13.5	0.146	--	--	<0.005	<0.01	296	--	536	67.3	<0.50	7.46	337	1250	
	06/18/12	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.010	--	<0.010	0.0325	<0.005	36.3	<0.005	--	--	<0.005	--	--	--	--	<0.0002	<0.015	<0.007	--	0.0152	559	80.4	<0.10	7.6	385	1190	
	06/26/13	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.010	--	<0.010	0.0316	<0.005	35.6	<0.005	--	--	<0.005	--	--	--	--	<0.002	<0.015	<0.007	564	0.0253	633	116	<0.10	7.6	639	1710	
	06/11/14	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.010	0.0142	<0.010	0.0249	<0.005	33.9	<0.005	--	--	<0.005	--	--	--	--	<0.0002	<0.015	<0.007	789	0.0404	695	--	<0.10	7.8	--	2170	
	09/04/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	172	--	--	928	--
	07/20/15	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	<0.020	0.028	<0.0020	47	<0.0060	--	--	<0.0050	--	--	--	--	--	<0.00020	<0.050	<0.0050	800	0.039	760	190	<0.50	8.23	1000	2740
	07/11/16	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	0.0038	0.032	<0.0020	37	<0.0060	--	--	0.0012	--	--	--	--	--	<0.00020	0.0099	<0.0050	830	0.041	758.2	210	<1.0	8.21	970	2630
	07/11/17	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	0.0034 J	0.016	<0.0020	29	<0.0060	--	--	<0.00050	--	--	--	--	--	<0.00020	0.010 J	<0.0050	840	0.038	736.1	200	<0.50	8.32 H	860 *	2560 *
07/02/18	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	<0.0050	0.018	<0.0020	29	<0.0060	--	--	<0.0025	--	--	--	--	--	<0.00020	<0.0050	<0.0050	820	0.033	742.7	210	0.057 J	8.21 H	950 *	2620 *	
07/01/19	<0.001	<0.001	<0.001	<0.0015	--	<0.002	<0.010	<0.0010	0.016	<0.0020	23	<0.0060	--	--	<0.00050	--	--	--	--	--	<0.00020	<0.0010	<0.0050	900	0.032	709.5	200	<0.50	8.30 H	990 *	2600 *	
WMW-8	09/24/04	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.0047	0.213	<0.00076	36.1	<0.0025	--	--	<0.0100	--	17.6	--	--	<0.000028	<0.0059	<0.0020	218	--	440	27.0	<0.40	7.8	130	753	
	06/21/05	<0.0005	<0.0007	<0.00008	<0.0008	--	<0.001	--	<0.0093	0.126	<0.00097	29.3	<0.0048	--	--	<0.0084	--	14.7	--	--	<0.000062	<0.0094	<0.0020	279	--	497	42.9	<0.40	7.7	169	882	
	06/21/06	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.01	0.151	<0.00091	28.9	<0.0023	--	--	<0.0069	--	14.8	--	--	<0.000056	<0.0094	<0.0016	286	--	506	--	<0.25	--	--	--	
	06/19/07	<0.0005	<0.0007	<0.0008	<0.0008	--	<0.001	--	<0.01	0.171	<0.00090	295	<0.0023	--	--	<0.0069	--	186	--	--	<0.000056	<0.0094	<0.0016	186	--	487	28.5	<0.25	7.6	143	795	
	07/01/08	<0.005	<0.005	<0.005	<0.005	--	<0.005	--	<0.005	0.185	<0.005	38.5	<0.005	0.083	--	<0.005	--	18.2	--	0.311	<0.002	<0.005	<0.005	214	--	425	21.6	<0.5	7.6	148	816	
	06/23/09	<0.005	<0.005	<0.005	<0.005	--	<0.005	--	<0.005	0.215	<0.005	39.6	<0.005	0.0771	--	<0.005	--	18	--	0.278	<0.0002	<0.005	<0.005	220	--	369	21.8	<0.5	7.69	149	718	
	06/23/10	<0.001	<0.001	<0.001	<0.001	--	<0.0058	--	<0.005	0.202	<0.005	43.2	<0.005	0.0344	--	<0.005	--	19.4	0.379	--	<0.002	<0.01	<0.005	202	--	135	23.1	<0.5	7.28	134	854	
	07/01/11	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.0050	--	<0.005	0.2	<0.004	--	<0.01	<0.1	--	<0.003	--	19.5	0.344	--	--	<0.005	<0.01	217	--	432	23.5	<0.50	7.66	185	735	
	06/18/12	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.010	--	<0.010	0.178	<0.005	36.0	<0.005	--	--	<0.005	--	--	--	--	<0.0002	<0.015	<0.007	--	0.0106	452	21.7	<0.10	7.8	143	665	
	06/26/13	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.010	--	<0.010	0.168	<0.005	37.5	<0.005	--	--	<0.005	--	--	--	--	<0.0002	<0.015	<0.007	230	0.0131	478	22.8	<0.10	7.6	150	717	
	06/11/14	<0.0010	<0.0010	<0.0010	<0.0030	--	<0.010	<0.010	<0.010	0.167	<0.005	37.6	<0.005	--	--	<0.005	--	--	--	--	<0.0002	<0.015	<0.007	224	0.0117	478	--	<0.10	7.7	--	735	
	09/04/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--															

Graphs

Graph 1 Groundwater Elevations versus Time – WMW-1, WMW-1R, WMW-2, WMW-3 and WMW-4

Graph 2 Groundwater Elevations versus Time – WMW-5, WMW-6, WMW-7 and WMW-8

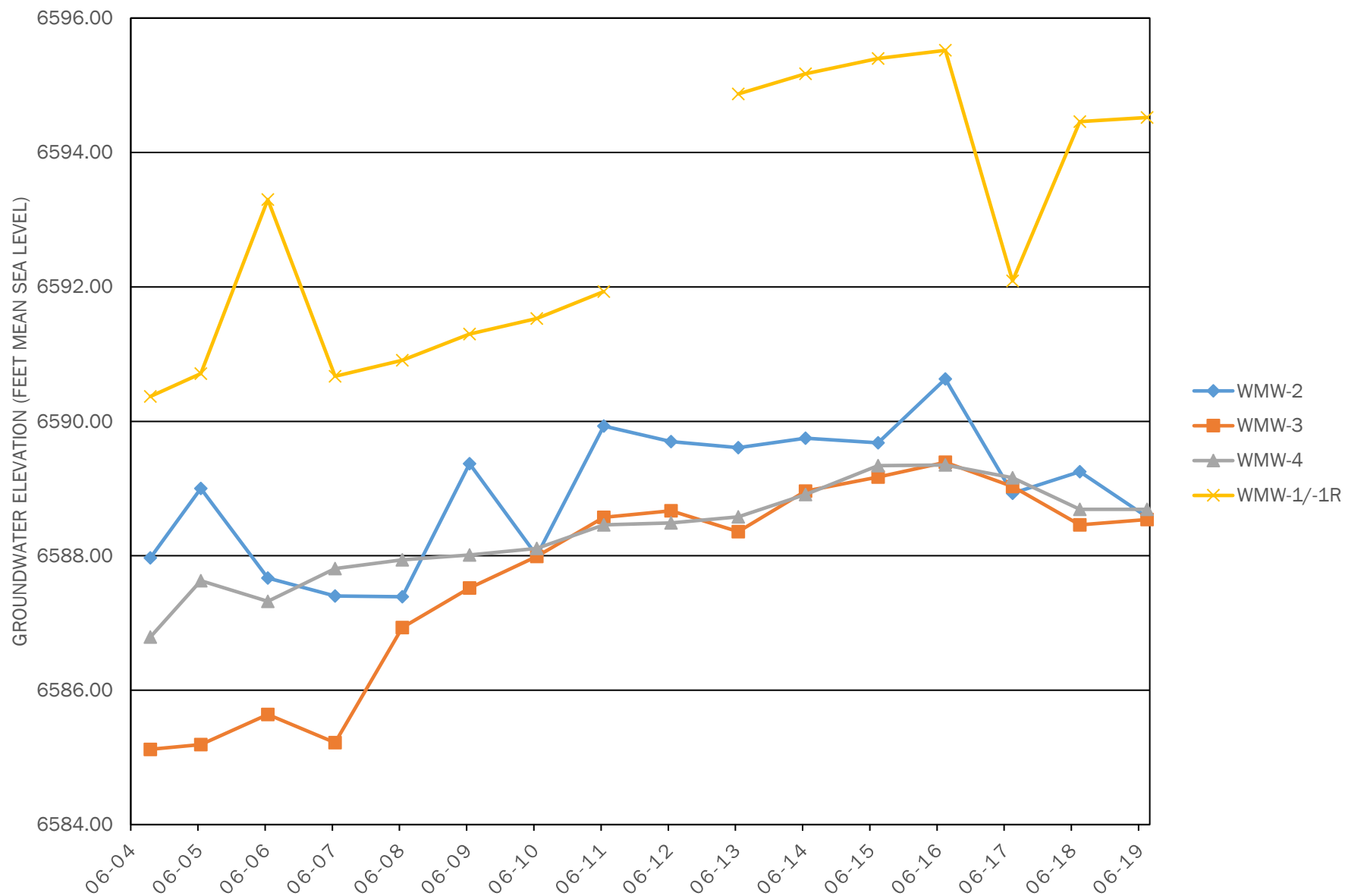
Graph 3 Sulfate Concentrations versus Time

Graph 4 Total Dissolved Solids Concentrations versus Time

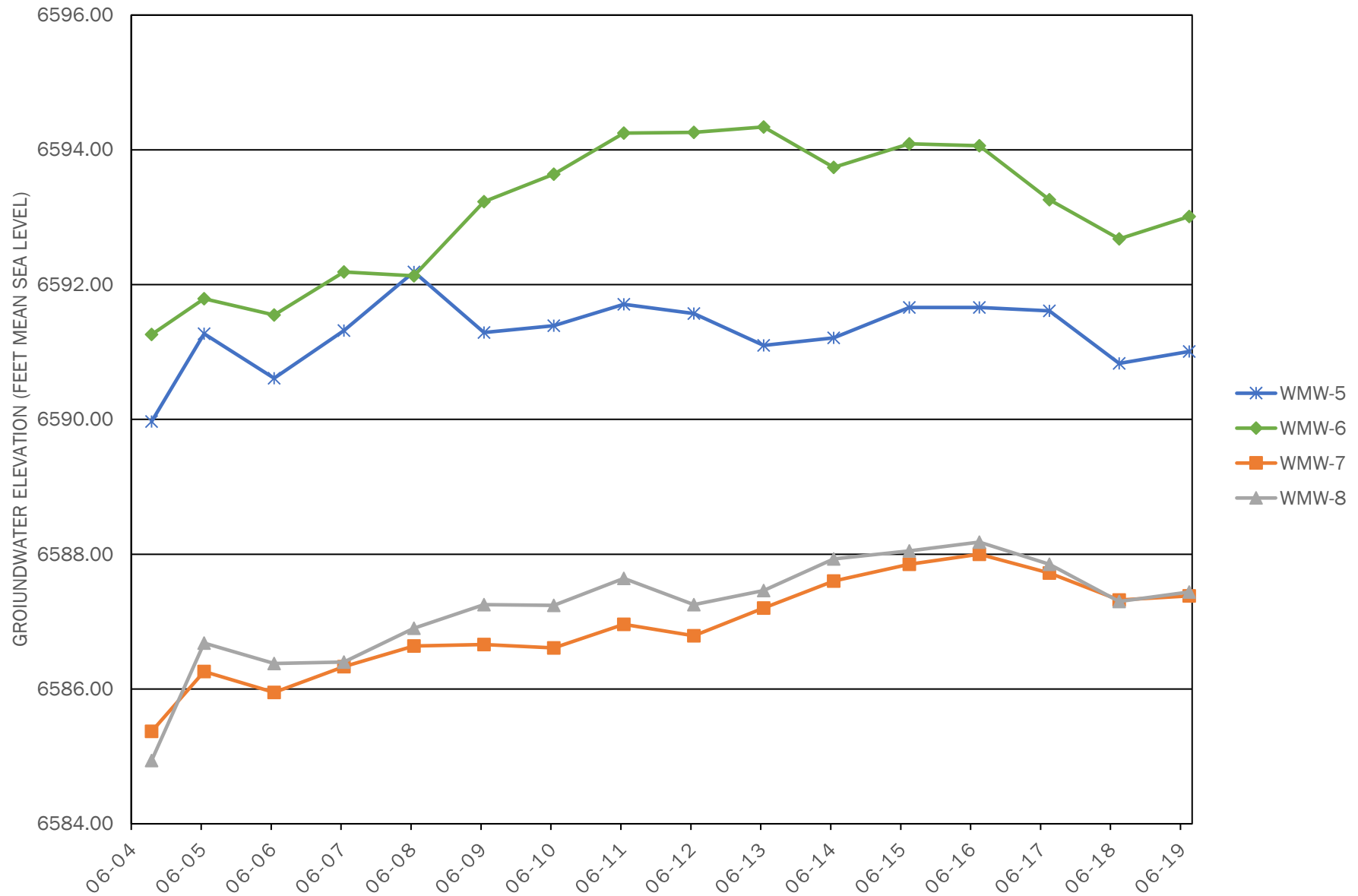
Graph 5 WMW-2 Benzene Concentrations versus Time

Graph 6 WMW-2 Total Xylenes Concentrations versus Time

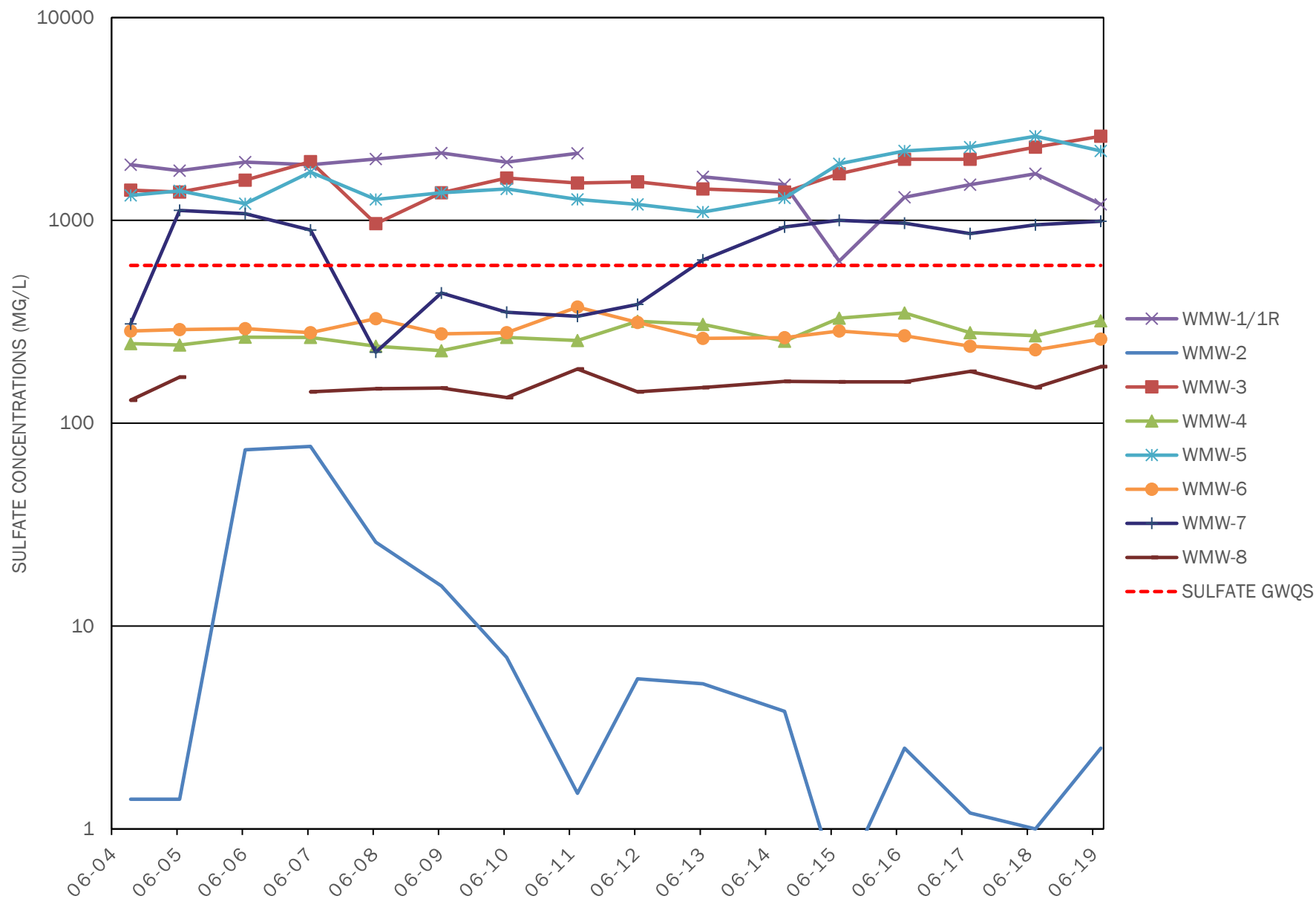
GRAPH 1 - GROUNDWATER ELEVATIONS VS TIME - WMW-1, WMW-1R, WMW-2, WMW-3 & WMW-4
MARATHON PETROLEUM COMPANY LP - WINGATE PLANT - GALLUP, NEW MEXICO



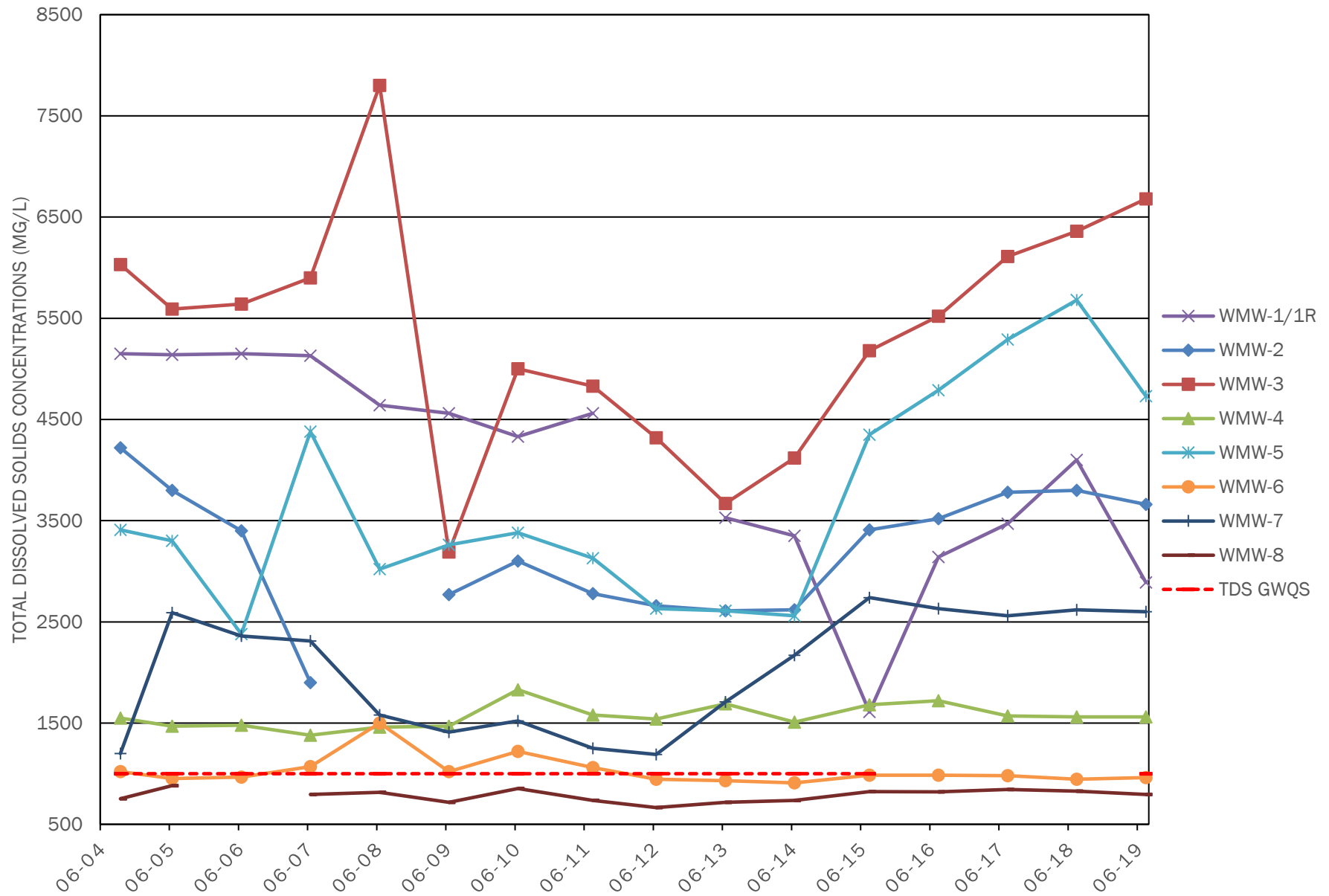
GRAPH 2 - GROUNDWATER ELEVATIONS VS TIME - WMW-5, WMW-6, WMW-7 & WMW-8
MARATHON PETROLEUM COMPANY LP - WINGATE PLANT - GALLUP, NEW MEXICO



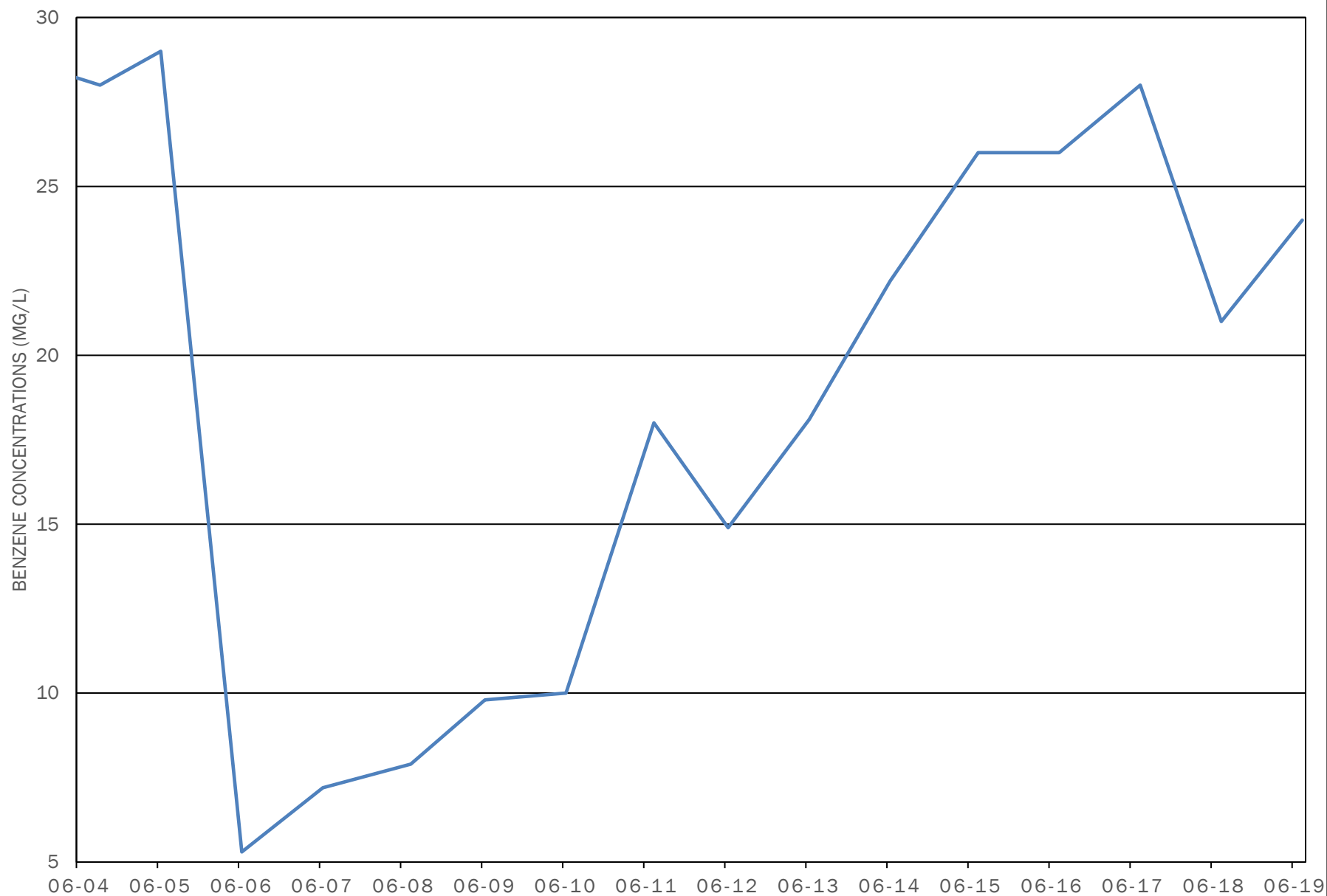
GRAPH 3 - SULFATE CONCENTRATIONS VS TIME
MARATHON PETROLEUM COMPANY LP - WINGATE PLANT - GALLUP, NEW MEXICO



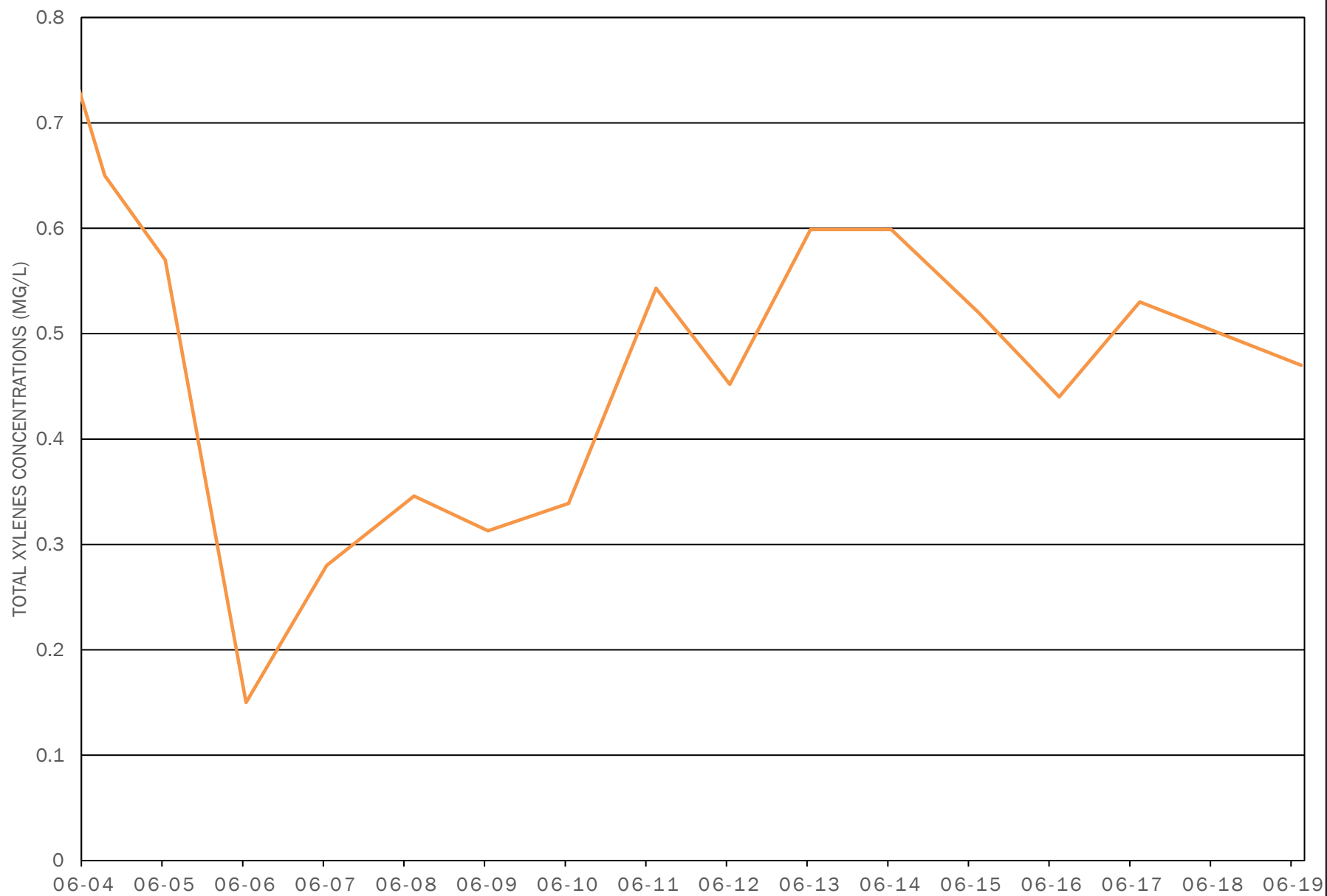
GRAPH 4 - TOTAL DISSOLVED SOLIDS CONCENTRATIONS VS TIME
MARATHON PETROLEUM COMPANY LP - WINGATE PLANT - GALLUP, NEW MEXICO



GRAPH 5 - WMW-2 BENZENE CONCENTRATIONS VS TIME
MARATHON PETROLEUM COMPANY LP - WINGATE PLANT - GALLUP, NEW MEXICO



GRAPH 6 - WMW-2 TOTAL XYLENES CONCENTRATIONS VS TIME
MARATHON PETROLEUM COMPANY LP - WINGATE PLANT - GALLUP, NEW MEXICO



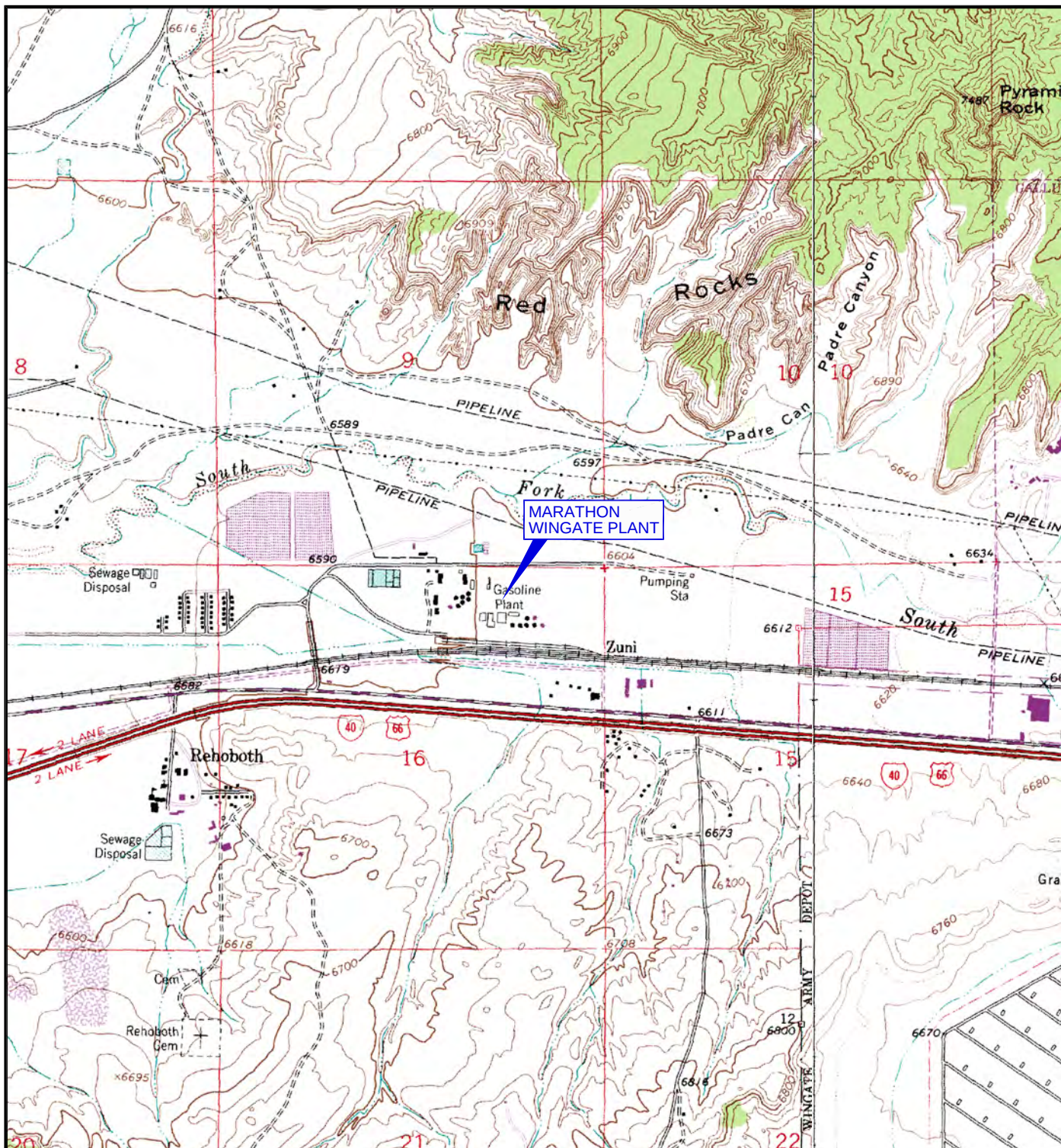
Figures

Figure 1 Site Location Map

Figure 2 Well Location Map

Figure 3 Groundwater Potentiometric Surface Map July 2019

Figure 4 COC Concentrations in Groundwater July 2019



Map Source: USGS 7.5 Min. Quad Sheets CHURCH ROCK, NM., 1963, Photorevised 1979;
GALLUP EAST, NM., 1963, Photorevised 1979.



MARATHON PETROLEUM COMPANY LP
WINGATE PLANT

PROJ. NO.: Marathon | DATE: 07/20/19 | FILE: Mathon-dA164

FIGURE 1
SITE LOCATION MAP



0 2000
SCALE IN FEET



QUADRANGLE LOCATION

DiSorbo
Environmental Consulting Firm

8501 N. MoPac Expy.
Suite 300
Austin, Texas 78759



Aerial Map Source: Google Map, 02/19/2014.



SCALE IN FEET

LEGEND

WMW-2 ● MONITOR WELL LOCATION AND IDENTIFICATION NUMBER

WMW-1R ⊕ RE-DRILLED MONITOR WELL LOCATION AND IDENTIFICATION NUMBER


NEW MEXICO
QUADRANGLE LOCATION



MARATHON PETROLEUM COMPANY LP
WINGATE PLANT

PROJ. NO.: Marathon | DATE: 07/20/19 | FILE: Mathon-dB221

FIGURE 2
WELL LOCATION MAP



Disorbo
Environmental Consulting Firm

8501 N. MoPac Expy.
Suite 300
Austin, Texas 78759



Aerial Map Source: Google Map, 02/19/2014.


0 300
SCALE IN FEET

LEGEND

WMW-2 ● MONITOR WELL LOCATION AND IDENTIFICATION NUMBER

WMW-1R ⊕ RE-DRILLED MONITOR WELL LOCATION AND IDENTIFICATION NUMBER

6588.58 GROUNDWATER ELEVATION (FEET MSL)

6589 — CONTOUR OF GROUNDWATER ELEVATION (FEET MSL)

← GROUNDWATER FLOW DIRECTION


NEW MEXICO
QUADRANGLE LOCATION



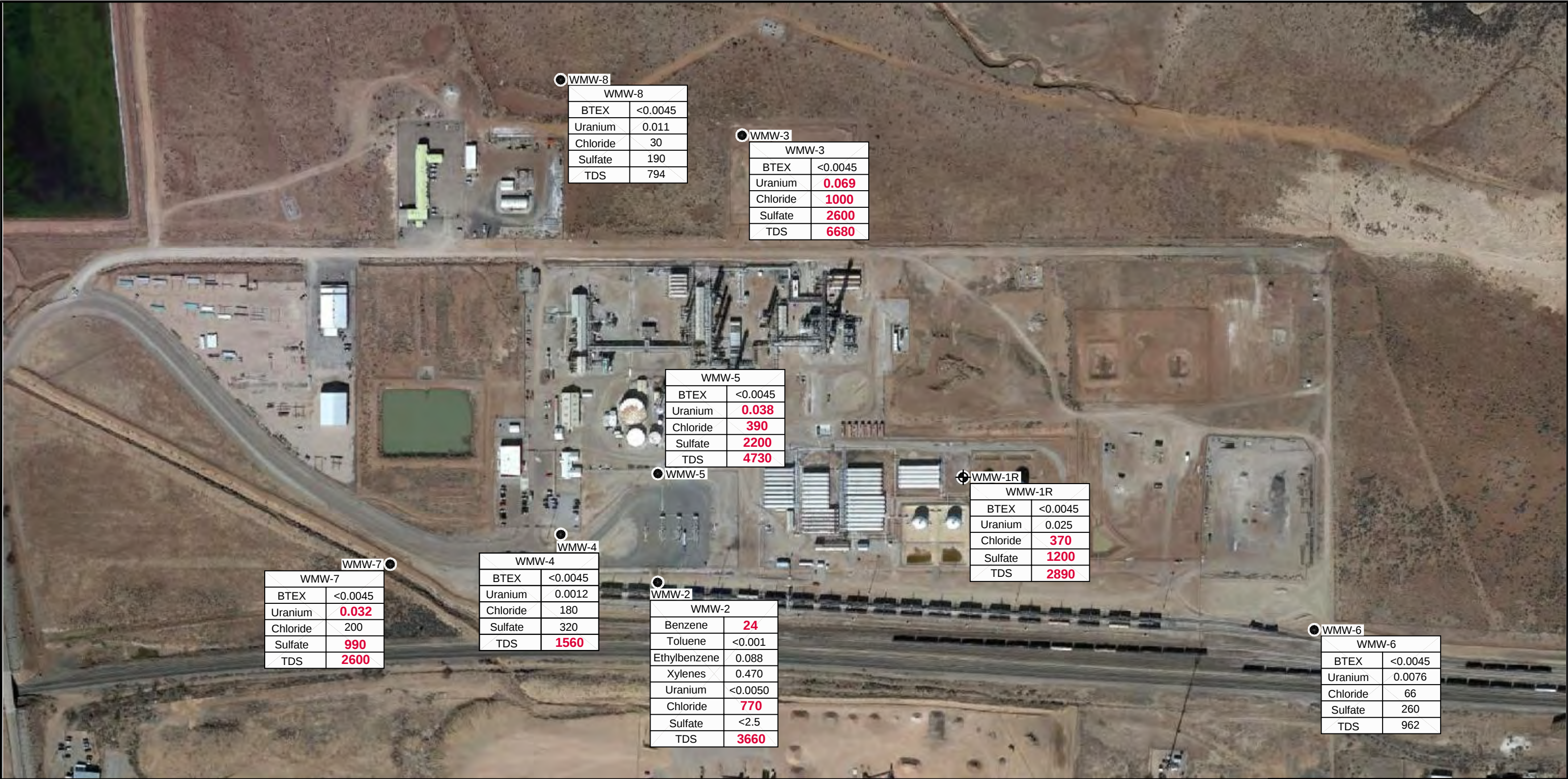
MARATHON PETROLEUM COMPANY LP
WINGATE PLANT

PROJ. NO.: Marathon | DATE: 07/20/19 | FILE: Mathon—dB222

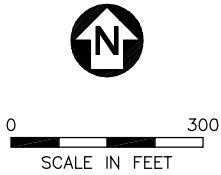
FIGURE 3
GROUNDWATER POTENTIOMETRIC
SURFACE MAP
JULY 2019



8501 N. MoPac Expy.
Suite 300
Austin, Texas 78759



Aerial Map Source: Google Map, 02/19/2014.



- LEGEND**
- WMW-2 ● MONITOR WELL LOCATION AND IDENTIFICATION NUMBER
- WMW-1R ⊕ RE-DRILLED MONITOR WELL LOCATION AND IDENTIFICATION NUMBER

SAMPLE ID	
CONSTITUENT	CONCENTRATION (mg/L)

Note: Values in **BOLD** indicate an exceedance of NMWQCC groundwater standard.



QUADRANGLE LOCATION



MARATHON PETROLEUM COMPANY LP
WINGATE PLANT

PROJ. NO.: Marathon | DATE: 07/23/19 | FILE: Mathon—dB223

FIGURE 4
COC CONCENTRATIONS
IN GROUNDWATER
JULY 2019



8501 N. MoPac Expy.
Suite 300
Austin, Texas 78759

Appendix A

Correspondence



San Juan Business Unit
3401 E. 30th Street
Farmington, NM 87402-4289
(505) 326-9700

May 14, 2015

Mr. Glenn von Gonten
Environmental Bureau
Oil Conservation Division
Energy, Minerals and natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

Re: **Wingate Fractionator Disposition to Western Refining and Rescission of Abatement Plan No. 117 (AP-117)**

Dear Mr. Glenn von Gonten,

ConocoPhillips Company (COPC) would like to inform the New Mexico Oil Conservation Division (NMOCD) that in October 2014 Western Refining Southwest, Inc. (Western Refining) purchased the ConocoPhillips Wingate Fractionator Gas Plant (Plant) which is located in McKinley County, New Mexico.

During COPC's ownership, the Plant consisted of fractionator equipment, product storage tanks and vessels, truck and rail loading facilities, two evaporation ponds, a candlestick flare, and associated piping.

The Plant was previously covered under NMOCD Groundwater Discharge permit (GW-054). In 2012, NMOCD determined that the Plant does not require a Groundwater Discharge permit and allowed the permit to expire on August 17, 2012 (see attached April 2, 2012 NMOCD letter to COPC). Due to groundwater contamination and ongoing groundwater remedial activities at the Plant, NMOCD's April 2, 2012 letter instructed COPC to continue to abate pollution of groundwater at the Plant, and assigned the Plant abatement plan case number AP-117.

Under the Purchase and Sales Agreement (PSA), Western Refining assumed responsibility for the remediation and/or monitoring activities at the Plant (including the aforementioned groundwater remedial activities under AP-117), with the exception of certain assets excluded from the October 2014 sale. Specifically, the two aforementioned evaporation ponds previously associated with the Plant were excluded in the sale to Western Refining. These two ponds are located on a separate parcel of land in relation to the rest of the Plant, and they are no longer connected to the Plant nor part its current operations. The now stand-alone evaporation ponds are completely located on Navajo Nation Tribal Trust lands and COPC is working with the Navajo Nation on the appropriate, sampling, reporting and closure requirements for the evaporation ponds.

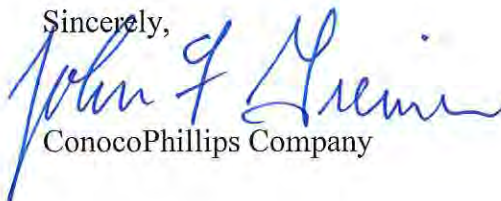
Since COPC no longer owns or operates the Plant and is diligently working with the Navajo Nation on the appropriate closure of the Plant's former evaporation ponds, ConocoPhillips Company requests that NMOCD rescind or otherwise close AP-117. Western Refining will apply for a separate NMOCD Abatement Plan number under Western's name concerning the remedial activities and responsibilities for assets transferred to Western Refining. Finally, please note that COPC will no longer submit annual groundwater monitoring reports or evaporation pond monitoring reports to NMOCD as previously reported under AP-117.

If you have any questions or need additional information from ConocoPhillips, please contact Mr. Rick Greiner at 281-293-3264. Please also feel free to contact Mr. Allen S. Hains, Western Refining; as needed. I have provided his contact information below.

Allen S. Hains
Manager
Remediation Projects

Western Refining
123 W. Mills Ave.
El Paso, Texas 79901
915 534-1483
915 490-1594 (cell)

Sincerely,



John F. Greiner
ConocoPhillips Company

Attachment:

- 1) NMOCD GW-054 letter

Cc: Allen S. Hains – Western Refining
Clara Cardoza, ConocoPhillips Company

RECEIVED

State of New Mexico
Energy, Minerals and Natural Resources Department

APR 13 2012

Susana Martinez
Governor

John H. Bemis
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey, Division Director
Oil Conservation Division



APRIL 2, 2012

Ms. Beverly Cox
ConocoPhillips Company
P.O. Box 291
Houston, Texas 77252-2197

Dear Ms. Cox:

The Oil Conservation Division (OCD) has reviewed your responses to our clarification request of January 30, 2012 which you submitted on March 16, 2012. Thank you for your timely response. Based on your responses in the "Oil & Gas Facilities Questionnaire for Determination of a WQCC Discharge Permit," your clarification of March 16, 2012, and a file review, OCD has determined that the ConocoPhillips Wingate Fractionator Gas Plant (**GW-054**) does not require a Water Quality Control Commission (WQCC) Discharge Permit. This means that the WQCC Discharge Permit for **GW - 054 (Wingate Fractionator Gas Plant)** will be allowed to expire on August 17, 2012, and that you are not required to proceed with the renewal of this soon to expire WQCC Discharge Permit. OCD will close this permit in its database.

Previously, ConocoPhillips has conducted abatement of ground water contamination at this facility under the authority of its WQCC Discharge Permits, pursuant to 20.6.2.4000 NMAC (PREVENTION AND ABATEMENT OF WATER POLLUTION). OCD has determined that ConocoPhillips does not intentionally discharge at this facility; therefore, no WQCC Discharge Permit is required. However, because of existing ground water contamination at this facility, OCD is requiring ConocoPhillips to continue to abate pollution of ground water pursuant to 19.15.30 NMAC (REMEDIATION). The new Abatement Plan case number for the former GW-054 site is **AP-113**. Please use this Abatement Plan case number in all future correspondence.

Because this WQCC Discharge Permit is no longer valid, you may be required to obtain a separate permit(s) for other processes at your facility, such as: pits, ponds, impoundments, below-grade tanks; waste treatment, storage and disposal operations; and landfarms and landfills. OCD will make an inspection of your facility to determine if any of these existing processes may require a separate permit under OCD's Oil, Gas, and Geothermal regulations. If OCD determines that a separate permit(s) is required, then a letter will be sent to you indicating what type of permit is required.

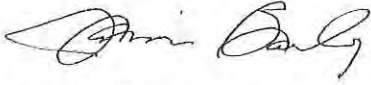
Please keep in mind, if your facility has any discharges that would require a WQCC Discharge Permit now or in the future, then you will be required to renew or obtain a WQCC Discharge Permit.

1046137
April 2, 2012

Page 2

If you have any questions regarding this matter, please contact Glenn von Gonten at 505-476-3488.

Thank you for your cooperation

A handwritten signature in black ink, appearing to read "Jami Bailey". The signature is fluid and cursive, with the first name "Jami" and last name "Bailey" clearly distinguishable.

Jami Bailey
Director

June 12, 2015

Mr. Glenn von Gonten
Environmental Bureau
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

**RE: REQUEST FOR ABATEMENT PLAN NUMBER
WESTERN REFINING SOUTHWEST, INC.
WINGATE PLANT
GALLUP, NEW MEXICO**

Dear Mr. von Gonten:

Western Refining Southwest, Inc. (Western) purchased the Wingate Plant from ConocoPhillips Company (ConocoPhillips) on October 1, 2014. As part of the Purchase and Sales Agreement (PSA), Western is responsible for remediation/monitoring activities for the transferred assets.

Western requests a separate Abatement Plan (AP) number for the remediation activities at the Wingate Plant. Western will adopt portions of the Abate Plan (AP-117) dated April 30, 2014 that pertain to the transferred assets. Under the new AP number, Western will report remediation/monitoring activities in the "Annual Groundwater Monitoring Report".

If you have any questions, please contact Ed Riege at (505) 722-0217.

Sincerely,



William Carl McClain

Refinery Manager

Western Refining Southwest, Inc.

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

David Catanach, Division Director
Oil Conservation Division



AUGUST 31, 2015

Mr. William Carl McClain
Refinery Manager
Western Refining Southwest, Inc.
92 Giant Crossing Road
Gallup, NM 87301-3833

RE: AP-121 - FORMER CONOCOPHILLIPS WINGATE FRACTIONATOR GAS PLANT

Mr. McClain:

On May 14, 2015, Ms. Clara Cardoza submitted a letter to the Oil Conservation Division (OCD) informing OCD that Western Refining Southwest, Inc. (Western Refining) had purchased the ConocoPhillips (CoP) Wingate Fractionator Gas Plant located in McKinley County, New Mexico. You informed OCD on that Western Refining had assumed responsibility for the remediation and/or monitoring activities at the Plant (including the groundwater remedial activities under AP-117), with the exception of two evaporation ponds that are located on Navajo Nation Tribal Trust land. CoP is pursuing closure with the Navajo Nation. OCD requested that CoP provide it with a copy of any closure and/or remediation plans.

On June 12, 2015, you submitted a letter that also stated that Western Refining is responsible for environmental issues at the former ConocoPhillips (CoP) Wingate Fractionator Gas Plant. Accordingly, OCD has closed CoP's AP-117 and hereby assigns AP-121 to Western. Please submit any appropriate revisions to all remediation and/or monitoring plans by October 1, 2015.

If you have any questions, please contact Glenn von Gonten at 505-476-3488.

Sincerely,

Jim Griswold
Environmental Bureau Chief

JG/gvg

Cc: Clara Cardoza, ConocoPhillips

Certified Mail #7014 1820 0001 7489 1829

October 1, 2015

Mr. Glenn von Gonten
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

**RE: Submittal of New Mexico Oil Conservation Division Abatement Plan No. AP-121
Western Refining Southwest, Inc. – Wingate Plant – Gallup, New Mexico**

Dear Mr. von Gonten:

On August 31, 2015, the New Mexico Oil Conservation Division submitted correspondence to Western Refining Southwest, Inc. (Western) notifying that ConocoPhillip's Abatement Plan No. AP-117 had been closed. The Wingate Plant was assigned new Abatement Plan No. AP-121. Western was instructed to submit any appropriate revisions to all remediation and/or monitoring plans by October 1, 2015.

Attached please find a copy of Abatement Plan No. AP-121. If there are any questions regarding the enclosed plan please contact Mr. Ed Riege at (505) 722-0217.

Sincerely,



Mr. William Carl McClain
Vice President and Refinery Manager
Western Refining Southwest, Inc. – Gallup Refinery

cc: Ed Riege, Western Refining – Gallup Refinery
Allen Hains, Western Refining - El Paso

Appendix B

Laboratory Analytical Reports



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

July 19, 2019

Brian Moore
Marathon
92 Giant Crossing Rd
Gallup, NM 87301
TEL:
FAX

RE: 2019 Annual GW Sampling

OrderNo.: 1907093

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 13 sample(s) on 7/2/2019 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: EB01

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 6:45:00 AM

Lab ID: 1907093-001

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS							Analyst: pmf
Arsenic	ND	0.0010		mg/L	1	7/3/2019 3:49:00 PM	A61144
Lead	ND	0.00050		mg/L	1	7/3/2019 3:49:00 PM	A61144
Selenium	ND	0.0010		mg/L	1	7/3/2019 3:49:00 PM	A61144
EPA 200.8: METALS							Analyst: pmf
Uranium	ND	0.00050		mg/L	1	7/9/2019 6:05:47 PM	A61268
EPA METHOD 300.0: ANIONS							Analyst: smb
Chloride	ND	0.50		mg/L	1	7/2/2019 4:05:51 PM	R61119
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	7/2/2019 4:05:51 PM	R61119
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	7/2/2019 4:05:51 PM	R61119
Sulfate	ND	0.50		mg/L	1	7/2/2019 4:05:51 PM	R61119
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	ND	20.00		mg/L Ca	1	7/9/2019 2:00:29 PM	R61255
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	7/9/2019 2:00:29 PM	R61255
Total Alkalinity (as CaCO3)	ND	20.00		mg/L Ca	1	7/9/2019 2:00:29 PM	R61255
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: CJS
Total Dissolved Solids	ND	20.0		mg/L	1	7/9/2019 6:00:00 PM	46049
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	5.89		H	pH units	1	7/9/2019 2:00:29 PM	R61255
EPA METHOD 200.7: DISSOLVED METALS							Analyst: ELS
Barium	ND	0.0020		mg/L	1	7/8/2019 4:06:05 PM	D61217
Cadmium	ND	0.0020		mg/L	1	7/8/2019 4:06:05 PM	D61217
Calcium	ND	1.0		mg/L	1	7/8/2019 4:06:05 PM	D61217
Chromium	ND	0.0060		mg/L	1	7/8/2019 4:06:05 PM	D61217
Silver	ND	0.0050		mg/L	1	7/8/2019 4:06:05 PM	D61217
Sodium	ND	1.0		mg/L	1	7/8/2019 4:06:05 PM	D61217
EPA METHOD 245.1: MERCURY							Analyst: rde
Mercury	ND	0.00020		mg/L	1	7/15/2019 5:48:28 PM	46180
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
Acenaphthene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Acenaphthylene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Aniline	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Anthracene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Azobenzene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Benz(a)anthracene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Benzo(a)pyrene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: EB01

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 6:45:00 AM

Lab ID: 1907093-001

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC	
Benzo(b)fluoranthene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Benzo(g,h,i)perylene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Benzo(k)fluoranthene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Benzoic acid	ND	20		µg/L	1	7/9/2019 9:39:33 PM	46000
Benzyl alcohol	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Bis(2-chloroethyl)ether	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
4-Bromophenyl phenyl ether	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Butyl benzyl phthalate	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Carbazole	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
4-Chloro-3-methylphenol	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
4-Chloroaniline	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
2-Chloronaphthalene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
2-Chlorophenol	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Chrysene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Di-n-butyl phthalate	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Di-n-octyl phthalate	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Dibenz(a,h)anthracene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Dibenzofuran	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
1,2-Dichlorobenzene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
1,3-Dichlorobenzene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
1,4-Dichlorobenzene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
3,3'-Dichlorobenzidine	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Diethyl phthalate	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Dimethyl phthalate	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
2,4-Dichlorophenol	ND	20		µg/L	1	7/9/2019 9:39:33 PM	46000
2,4-Dimethylphenol	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	7/9/2019 9:39:33 PM	46000
2,4-Dinitrophenol	ND	20		µg/L	1	7/9/2019 9:39:33 PM	46000
2,4-Dinitrotoluene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
2,6-Dinitrotoluene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Fluoranthene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Fluorene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Hexachlorobenzene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Hexachlorobutadiene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Hexachlorocyclopentadiene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: EB01

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 6:45:00 AM

Lab ID: 1907093-001

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
Hexachloroethane	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Isophorone	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
1-Methylnaphthalene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
2-Methylnaphthalene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
2-Methylphenol	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
3+4-Methylphenol	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
N-Nitrosodimethylamine	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
N-Nitrosodiphenylamine	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Naphthalene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
2-Nitroaniline	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
3-Nitroaniline	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
4-Nitroaniline	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Nitrobenzene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
2-Nitrophenol	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
4-Nitrophenol	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Pentachlorophenol	ND	20		µg/L	1	7/9/2019 9:39:33 PM	46000
Phenanthrene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Phenol	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Pyrene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Pyridine	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
1,2,4-Trichlorobenzene	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
2,4,5-Trichlorophenol	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
2,4,6-Trichlorophenol	ND	10		µg/L	1	7/9/2019 9:39:33 PM	46000
Surr: 2-Fluorophenol	46.3	15-101		%Rec	1	7/9/2019 9:39:33 PM	46000
Surr: Phenol-d5	33.4	15-84.6		%Rec	1	7/9/2019 9:39:33 PM	46000
Surr: 2,4,6-Tribromophenol	53.7	27.8-112		%Rec	1	7/9/2019 9:39:33 PM	46000
Surr: Nitrobenzene-d5	63.4	33-113		%Rec	1	7/9/2019 9:39:33 PM	46000
Surr: 2-Fluorobiphenyl	55.9	26.6-107		%Rec	1	7/9/2019 9:39:33 PM	46000
Surr: 4-Terphenyl-d14	60.4	18.7-148		%Rec	1	7/9/2019 9:39:33 PM	46000
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Toluene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Ethylbenzene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: EB01

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 6:45:00 AM

Lab ID: 1907093-001

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Naphthalene	ND	2.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
1-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
2-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Acetone	ND	10		µg/L	1	7/9/2019 4:34:00 PM	R61269
Bromobenzene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Bromodichloromethane	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Bromoform	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Bromomethane	ND	3.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
2-Butanone	ND	10		µg/L	1	7/9/2019 4:34:00 PM	R61269
Carbon disulfide	ND	10		µg/L	1	7/9/2019 4:34:00 PM	R61269
Carbon Tetrachloride	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Chlorobenzene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Chloroethane	ND	2.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Chloroform	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Chloromethane	ND	3.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
2-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
4-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
cis-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Dibromochloromethane	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Dibromomethane	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
1,1-Dichloroethane	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
1,1-Dichloroethene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
1,2-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
1,3-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
2,2-Dichloropropane	ND	2.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
1,1-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Hexachlorobutadiene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
2-Hexanone	ND	10		µg/L	1	7/9/2019 4:34:00 PM	R61269
Isopropylbenzene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
4-Isopropyltoluene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
4-Methyl-2-pentanone	ND	10		µg/L	1	7/9/2019 4:34:00 PM	R61269
Methylene Chloride	ND	3.0		µg/L	1	7/9/2019 4:34:00 PM	R61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: EB01

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 6:45:00 AM

Lab ID: 1907093-001

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: RAA	
n-Butylbenzene	ND	3.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
n-Propylbenzene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
sec-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Styrene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
tert-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
trans-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Trichlorofluoromethane	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Vinyl chloride	ND	1.0		µg/L	1	7/9/2019 4:34:00 PM	R61269
Xylenes, Total	ND	1.5		µg/L	1	7/9/2019 4:34:00 PM	R61269
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	7/9/2019 4:34:00 PM	R61269
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	7/9/2019 4:34:00 PM	R61269
Surr: Dibromofluoromethane	103	70-130		%Rec	1	7/9/2019 4:34:00 PM	R61269
Surr: Toluene-d8	93.2	70-130		%Rec	1	7/9/2019 4:34:00 PM	R61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-8

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 7:30:00 AM

Lab ID: 1907093-002

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS							Analyst: pmf
Arsenic	ND	0.0010		mg/L	1	7/3/2019 4:02:34 PM	A61144
Lead	ND	0.00050		mg/L	1	7/3/2019 4:02:34 PM	A61144
Selenium	ND	0.0010		mg/L	1	7/3/2019 4:02:34 PM	A61144
EPA 200.8: METALS							Analyst: pmf
Uranium	0.011	0.00050		mg/L	1	7/9/2019 6:08:30 PM	A61268
EPA METHOD 300.0: ANIONS							Analyst: smb
Chloride	30	2.5		mg/L	5	7/2/2019 4:31:36 PM	R61119
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	7/2/2019 4:31:36 PM	R61119
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	7/2/2019 4:31:36 PM	R61119
Sulfate	190	2.5		mg/L	5	7/2/2019 4:31:36 PM	R61119
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	504.2	20.00		mg/L Ca	1	7/9/2019 2:06:17 PM	R61255
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	7/9/2019 2:06:17 PM	R61255
Total Alkalinity (as CaCO3)	504.2	20.00		mg/L Ca	1	7/9/2019 2:06:17 PM	R61255
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: CJS
Total Dissolved Solids	794	20.0	*	mg/L	1	7/9/2019 6:00:00 PM	46049
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	7.92		H	pH units	1	7/9/2019 2:06:17 PM	R61255
EPA METHOD 200.7: DISSOLVED METALS							Analyst: ELS
Barium	0.15	0.0020		mg/L	1	7/8/2019 4:12:38 PM	D61217
Cadmium	ND	0.0020		mg/L	1	7/8/2019 4:12:38 PM	D61217
Calcium	36	1.0		mg/L	1	7/8/2019 4:12:38 PM	D61217
Chromium	ND	0.0060		mg/L	1	7/8/2019 4:12:38 PM	D61217
Silver	ND	0.0050		mg/L	1	7/8/2019 4:12:38 PM	D61217
Sodium	260	5.0		mg/L	5	7/8/2019 4:14:49 PM	D61217
EPA METHOD 245.1: MERCURY							Analyst: rde
Mercury	ND	0.00020		mg/L	1	7/15/2019 5:50:42 PM	46180
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
Acenaphthene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Acenaphthylene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Aniline	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Anthracene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Azobenzene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Benz(a)anthracene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Benzo(a)pyrene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-8

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 7:30:00 AM

Lab ID: 1907093-002

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
Benzo(b)fluoranthene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Benzo(g,h,i)perylene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Benzo(k)fluoranthene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Benzoic acid	ND	20		µg/L	1	7/9/2019 10:09:50 PM	46000
Benzyl alcohol	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Bis(2-chloroethyl)ether	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
4-Bromophenyl phenyl ether	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Butyl benzyl phthalate	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Carbazole	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
4-Chloro-3-methylphenol	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
4-Chloroaniline	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
2-Chloronaphthalene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
2-Chlorophenol	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Chrysene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Di-n-butyl phthalate	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Di-n-octyl phthalate	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Dibenz(a,h)anthracene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Dibenzofuran	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
1,2-Dichlorobenzene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
1,3-Dichlorobenzene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
1,4-Dichlorobenzene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
3,3'-Dichlorobenzidine	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Diethyl phthalate	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Dimethyl phthalate	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
2,4-Dichlorophenol	ND	20		µg/L	1	7/9/2019 10:09:50 PM	46000
2,4-Dimethylphenol	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	7/9/2019 10:09:50 PM	46000
2,4-Dinitrophenol	ND	20		µg/L	1	7/9/2019 10:09:50 PM	46000
2,4-Dinitrotoluene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
2,6-Dinitrotoluene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Fluoranthene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Fluorene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Hexachlorobenzene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Hexachlorobutadiene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Hexachlorocyclopentadiene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-8

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 7:30:00 AM

Lab ID: 1907093-002

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
Hexachloroethane	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Isophorone	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
1-Methylnaphthalene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
2-Methylnaphthalene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
2-Methylphenol	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
3+4-Methylphenol	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
N-Nitrosodimethylamine	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
N-Nitrosodiphenylamine	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Naphthalene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
2-Nitroaniline	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
3-Nitroaniline	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
4-Nitroaniline	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Nitrobenzene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
2-Nitrophenol	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
4-Nitrophenol	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Pentachlorophenol	ND	20		µg/L	1	7/9/2019 10:09:50 PM	46000
Phenanthrene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Phenol	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Pyrene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Pyridine	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
1,2,4-Trichlorobenzene	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
2,4,5-Trichlorophenol	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
2,4,6-Trichlorophenol	ND	10		µg/L	1	7/9/2019 10:09:50 PM	46000
Surr: 2-Fluorophenol	43.3	15-101		%Rec	1	7/9/2019 10:09:50 PM	46000
Surr: Phenol-d5	34.1	15-84.6		%Rec	1	7/9/2019 10:09:50 PM	46000
Surr: 2,4,6-Tribromophenol	56.8	27.8-112		%Rec	1	7/9/2019 10:09:50 PM	46000
Surr: Nitrobenzene-d5	64.9	33-113		%Rec	1	7/9/2019 10:09:50 PM	46000
Surr: 2-Fluorobiphenyl	59.6	26.6-107		%Rec	1	7/9/2019 10:09:50 PM	46000
Surr: 4-Terphenyl-d14	62.2	18.7-148		%Rec	1	7/9/2019 10:09:50 PM	46000
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Toluene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Ethylbenzene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-8

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 7:30:00 AM

Lab ID: 1907093-002

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Naphthalene	ND	2.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
1-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
2-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Acetone	ND	10		µg/L	1	7/9/2019 6:35:00 PM	R61269
Bromobenzene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Bromodichloromethane	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Bromoform	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Bromomethane	ND	3.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
2-Butanone	ND	10		µg/L	1	7/9/2019 6:35:00 PM	R61269
Carbon disulfide	ND	10		µg/L	1	7/9/2019 6:35:00 PM	R61269
Carbon Tetrachloride	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Chlorobenzene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Chloroethane	ND	2.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Chloroform	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Chloromethane	ND	3.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
2-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
4-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
cis-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Dibromochloromethane	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Dibromomethane	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
1,1-Dichloroethane	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
1,1-Dichloroethene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
1,2-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
1,3-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
2,2-Dichloropropane	ND	2.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
1,1-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Hexachlorobutadiene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
2-Hexanone	ND	10		µg/L	1	7/9/2019 6:35:00 PM	R61269
Isopropylbenzene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
4-Isopropyltoluene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
4-Methyl-2-pentanone	ND	10		µg/L	1	7/9/2019 6:35:00 PM	R61269
Methylene Chloride	ND	3.0		µg/L	1	7/9/2019 6:35:00 PM	R61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-8

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 7:30:00 AM

Lab ID: 1907093-002

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
n-Butylbenzene	ND	3.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
n-Propylbenzene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
sec-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Styrene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
tert-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
trans-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Trichlorofluoromethane	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Vinyl chloride	ND	1.0		µg/L	1	7/9/2019 6:35:00 PM	R61269
Xylenes, Total	ND	1.5		µg/L	1	7/9/2019 6:35:00 PM	R61269
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	7/9/2019 6:35:00 PM	R61269
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	7/9/2019 6:35:00 PM	R61269
Surr: Dibromofluoromethane	102	70-130		%Rec	1	7/9/2019 6:35:00 PM	R61269
Surr: Toluene-d8	91.4	70-130		%Rec	1	7/9/2019 6:35:00 PM	R61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: DUP01

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019

Lab ID: 1907093-003

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS							Analyst: pmf
Arsenic	ND	0.0010		mg/L	1	7/3/2019 4:07:58 PM	A61144
Lead	ND	0.00050		mg/L	1	7/3/2019 4:07:58 PM	A61144
Selenium	ND	0.0010		mg/L	1	7/3/2019 4:07:58 PM	A61144
EPA 200.8: METALS							Analyst: pmf
Uranium	0.012	0.00050		mg/L	1	7/9/2019 6:11:12 PM	A61268
EPA METHOD 300.0: ANIONS							Analyst: smb
Chloride	30	2.5		mg/L	5	7/2/2019 5:23:06 PM	R61119
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	7/2/2019 5:23:06 PM	R61119
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	7/2/2019 5:23:06 PM	R61119
Sulfate	190	2.5		mg/L	5	7/2/2019 5:23:06 PM	R61119
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	506.4	20.00		mg/L Ca	1	7/9/2019 2:26:34 PM	R61255
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	7/9/2019 2:26:34 PM	R61255
Total Alkalinity (as CaCO3)	506.4	20.00		mg/L Ca	1	7/9/2019 2:26:34 PM	R61255
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: CJS
Total Dissolved Solids	709	20.0	*	mg/L	1	7/9/2019 6:00:00 PM	46049
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	7.96		H	pH units	1	7/9/2019 2:26:34 PM	R61255
EPA METHOD 200.7: DISSOLVED METALS							Analyst: ELS
Barium	0.15	0.0020		mg/L	1	7/8/2019 4:16:53 PM	D61217
Cadmium	ND	0.0020		mg/L	1	7/8/2019 4:16:53 PM	D61217
Calcium	36	1.0		mg/L	1	7/8/2019 4:16:53 PM	D61217
Chromium	ND	0.0060		mg/L	1	7/8/2019 4:16:53 PM	D61217
Silver	ND	0.0050		mg/L	1	7/8/2019 4:16:53 PM	D61217
Sodium	270	5.0		mg/L	5	7/8/2019 4:19:03 PM	D61217
EPA METHOD 245.1: MERCURY							Analyst: rde
Mercury	ND	0.00020		mg/L	1	7/15/2019 5:52:58 PM	46180
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Acenaphthylene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Aniline	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Anthracene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Azobenzene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Benz(a)anthracene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Benzo(a)pyrene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: DUP01

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019

Lab ID: 1907093-003

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Benzo(b)fluoranthene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Benzo(g,h,i)perylene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Benzo(k)fluoranthene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Benzoic acid	ND	20		µg/L	1	7/13/2019 2:07:12 PM	46000
Benzyl alcohol	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Bis(2-chloroethyl)ether	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
4-Bromophenyl phenyl ether	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Butyl benzyl phthalate	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Carbazole	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
4-Chloro-3-methylphenol	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
4-Chloroaniline	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
2-Chloronaphthalene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
2-Chlorophenol	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Chrysene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Di-n-butyl phthalate	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Di-n-octyl phthalate	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Dibenz(a,h)anthracene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Dibenzofuran	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
1,2-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
1,3-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
1,4-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
3,3'-Dichlorobenzidine	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Diethyl phthalate	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Dimethyl phthalate	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
2,4-Dichlorophenol	ND	20		µg/L	1	7/13/2019 2:07:12 PM	46000
2,4-Dimethylphenol	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	7/13/2019 2:07:12 PM	46000
2,4-Dinitrophenol	ND	20		µg/L	1	7/13/2019 2:07:12 PM	46000
2,4-Dinitrotoluene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
2,6-Dinitrotoluene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Fluoranthene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Fluorene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Hexachlorobenzene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Hexachlorobutadiene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Hexachlorocyclopentadiene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: DUP01

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019

Lab ID: 1907093-003

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Hexachloroethane	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Isophorone	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
1-Methylnaphthalene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
2-Methylnaphthalene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
2-Methylphenol	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
3+4-Methylphenol	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
N-Nitrosodimethylamine	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
N-Nitrosodiphenylamine	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Naphthalene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
2-Nitroaniline	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
3-Nitroaniline	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
4-Nitroaniline	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Nitrobenzene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
2-Nitrophenol	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
4-Nitrophenol	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Pentachlorophenol	ND	20		µg/L	1	7/13/2019 2:07:12 PM	46000
Phenanthrene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Phenol	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Pyrene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Pyridine	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
1,2,4-Trichlorobenzene	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
2,4,5-Trichlorophenol	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
2,4,6-Trichlorophenol	ND	10		µg/L	1	7/13/2019 2:07:12 PM	46000
Surr: 2-Fluorophenol	48.2	15-101		%Rec	1	7/13/2019 2:07:12 PM	46000
Surr: Phenol-d5	37.8	15-84.6		%Rec	1	7/13/2019 2:07:12 PM	46000
Surr: 2,4,6-Tribromophenol	75.7	27.8-112		%Rec	1	7/13/2019 2:07:12 PM	46000
Surr: Nitrobenzene-d5	74.0	33-113		%Rec	1	7/13/2019 2:07:12 PM	46000
Surr: 2-Fluorobiphenyl	73.4	26.6-107		%Rec	1	7/13/2019 2:07:12 PM	46000
Surr: 4-Terphenyl-d14	81.9	18.7-148		%Rec	1	7/13/2019 2:07:12 PM	46000
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Toluene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Ethylbenzene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: DUP01

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019

Lab ID: 1907093-003

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Naphthalene	ND	2.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
1-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
2-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Acetone	ND	10		µg/L	1	7/9/2019 6:59:00 PM	R61269
Bromobenzene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Bromodichloromethane	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Bromoform	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Bromomethane	ND	3.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
2-Butanone	ND	10		µg/L	1	7/9/2019 6:59:00 PM	R61269
Carbon disulfide	ND	10		µg/L	1	7/9/2019 6:59:00 PM	R61269
Carbon Tetrachloride	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Chlorobenzene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Chloroethane	ND	2.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Chloroform	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Chloromethane	ND	3.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
2-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
4-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
cis-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Dibromochloromethane	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Dibromomethane	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
1,1-Dichloroethane	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
1,1-Dichloroethene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
1,2-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
1,3-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
2,2-Dichloropropane	ND	2.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
1,1-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Hexachlorobutadiene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
2-Hexanone	ND	10		µg/L	1	7/9/2019 6:59:00 PM	R61269
Isopropylbenzene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
4-Isopropyltoluene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
4-Methyl-2-pentanone	ND	10		µg/L	1	7/9/2019 6:59:00 PM	R61269
Methylene Chloride	ND	3.0		µg/L	1	7/9/2019 6:59:00 PM	R61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: DUP01

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019

Lab ID: 1907093-003

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
n-Butylbenzene	ND	3.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
n-Propylbenzene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
sec-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Styrene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
tert-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
trans-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Trichlorofluoromethane	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Vinyl chloride	ND	1.0		µg/L	1	7/9/2019 6:59:00 PM	R61269
Xylenes, Total	ND	1.5		µg/L	1	7/9/2019 6:59:00 PM	R61269
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	7/9/2019 6:59:00 PM	R61269
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	7/9/2019 6:59:00 PM	R61269
Surr: Dibromofluoromethane	100	70-130		%Rec	1	7/9/2019 6:59:00 PM	R61269
Surr: Toluene-d8	93.8	70-130		%Rec	1	7/9/2019 6:59:00 PM	R61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: TRIP BLANK

Project: 2019 Annual GW Sampling

Collection Date:

Lab ID: 1907093-004

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Toluene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Ethylbenzene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Naphthalene	ND	2.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
1-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
2-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Acetone	ND	10		µg/L	1	7/9/2019 7:23:00 PM	R61269
Bromobenzene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Bromodichloromethane	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Bromoform	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Bromomethane	ND	3.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
2-Butanone	ND	10		µg/L	1	7/9/2019 7:23:00 PM	R61269
Carbon disulfide	ND	10		µg/L	1	7/9/2019 7:23:00 PM	R61269
Carbon Tetrachloride	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Chlorobenzene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Chloroethane	ND	2.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Chloroform	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Chloromethane	ND	3.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
2-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
4-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
cis-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Dibromochloromethane	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Dibromomethane	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
1,1-Dichloroethane	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
1,1-Dichloroethene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
1,2-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
1,3-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
2,2-Dichloropropane	ND	2.0		µg/L	1	7/9/2019 7:23:00 PM	R61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: TRIP BLANK

Project: 2019 Annual GW Sampling

Collection Date:

Lab ID: 1907093-004

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: RAA	
1,1-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Hexachlorobutadiene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
2-Hexanone	ND	10		µg/L	1	7/9/2019 7:23:00 PM	R61269
Isopropylbenzene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
4-Isopropyltoluene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
4-Methyl-2-pentanone	ND	10		µg/L	1	7/9/2019 7:23:00 PM	R61269
Methylene Chloride	ND	3.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
n-Butylbenzene	ND	3.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
n-Propylbenzene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
sec-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Styrene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
tert-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
trans-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Trichlorofluoromethane	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Vinyl chloride	ND	1.0		µg/L	1	7/9/2019 7:23:00 PM	R61269
Xylenes, Total	ND	1.5		µg/L	1	7/9/2019 7:23:00 PM	R61269
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	7/9/2019 7:23:00 PM	R61269
Surr: 4-Bromofluorobenzene	99.6	70-130		%Rec	1	7/9/2019 7:23:00 PM	R61269
Surr: Dibromofluoromethane	99.7	70-130		%Rec	1	7/9/2019 7:23:00 PM	R61269
Surr: Toluene-d8	94.6	70-130		%Rec	1	7/9/2019 7:23:00 PM	R61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-7

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 8:45:00 AM

Lab ID: 1907093-005

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS							Analyst: pmf
Arsenic	ND	0.0010		mg/L	1	7/3/2019 4:10:40 PM	A61144
Lead	ND	0.00050		mg/L	1	7/3/2019 4:10:40 PM	A61144
Selenium	ND	0.0010		mg/L	1	7/3/2019 4:10:40 PM	A61144
EPA 200.8: METALS							Analyst: pmf
Uranium	0.032	0.0025	*	mg/L	5	7/10/2019 3:57:21 PM	46082
EPA METHOD 300.0: ANIONS							Analyst: smb
Chloride	200	10		mg/L	20	7/2/2019 6:01:42 PM	R61119
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	7/2/2019 5:48:50 PM	R61119
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	7/2/2019 5:48:50 PM	R61119
Sulfate	990	25	*	mg/L	50	7/12/2019 5:40:05 PM	R61354
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	709.5	20.00		mg/L Ca	1	7/9/2019 2:46:38 PM	R61255
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	7/9/2019 2:46:38 PM	R61255
Total Alkalinity (as CaCO3)	709.5	20.00		mg/L Ca	1	7/9/2019 2:46:38 PM	R61255
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: CJS
Total Dissolved Solids	2600	20.0	*	mg/L	1	7/9/2019 6:00:00 PM	46049
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	8.30		H	pH units	1	7/9/2019 2:46:38 PM	R61255
EPA METHOD 200.7: DISSOLVED METALS							Analyst: ELS
Barium	0.016	0.0020		mg/L	1	7/8/2019 4:27:42 PM	D61217
Cadmium	ND	0.0020		mg/L	1	7/8/2019 4:27:42 PM	D61217
Calcium	23	1.0		mg/L	1	7/8/2019 4:27:42 PM	D61217
Chromium	ND	0.0060		mg/L	1	7/8/2019 4:27:42 PM	D61217
Silver	ND	0.0050		mg/L	1	7/8/2019 4:27:42 PM	D61217
Sodium	900	10		mg/L	10	7/9/2019 12:03:25 PM	A61238
EPA METHOD 245.1: MERCURY							Analyst: rde
Mercury	ND	0.00020		mg/L	1	7/15/2019 5:55:13 PM	46180
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Acenaphthylene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Aniline	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Anthracene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Azobenzene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Benz(a)anthracene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Benzo(a)pyrene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-7

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 8:45:00 AM

Lab ID: 1907093-005

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Benzo(b)fluoranthene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Benzo(g,h,i)perylene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Benzo(k)fluoranthene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Benzoic acid	ND	20		µg/L	1	7/13/2019 2:36:52 PM	46000
Benzyl alcohol	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Bis(2-chloroethyl)ether	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
4-Bromophenyl phenyl ether	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Butyl benzyl phthalate	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Carbazole	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
4-Chloro-3-methylphenol	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
4-Chloroaniline	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
2-Chloronaphthalene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
2-Chlorophenol	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Chrysene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Di-n-butyl phthalate	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Di-n-octyl phthalate	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Dibenz(a,h)anthracene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Dibenzofuran	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
1,2-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
1,3-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
1,4-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
3,3'-Dichlorobenzidine	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Diethyl phthalate	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Dimethyl phthalate	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
2,4-Dichlorophenol	ND	20		µg/L	1	7/13/2019 2:36:52 PM	46000
2,4-Dimethylphenol	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	7/13/2019 2:36:52 PM	46000
2,4-Dinitrophenol	ND	20		µg/L	1	7/13/2019 2:36:52 PM	46000
2,4-Dinitrotoluene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
2,6-Dinitrotoluene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Fluoranthene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Fluorene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Hexachlorobenzene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Hexachlorobutadiene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Hexachlorocyclopentadiene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-7

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 8:45:00 AM

Lab ID: 1907093-005

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Hexachloroethane	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Isophorone	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
1-Methylnaphthalene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
2-Methylnaphthalene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
2-Methylphenol	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
3+4-Methylphenol	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
N-Nitrosodimethylamine	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
N-Nitrosodiphenylamine	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Naphthalene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
2-Nitroaniline	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
3-Nitroaniline	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
4-Nitroaniline	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Nitrobenzene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
2-Nitrophenol	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
4-Nitrophenol	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Pentachlorophenol	ND	20		µg/L	1	7/13/2019 2:36:52 PM	46000
Phenanthrene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Phenol	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Pyrene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Pyridine	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
1,2,4-Trichlorobenzene	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
2,4,5-Trichlorophenol	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
2,4,6-Trichlorophenol	ND	10		µg/L	1	7/13/2019 2:36:52 PM	46000
Surr: 2-Fluorophenol	49.9	15-101		%Rec	1	7/13/2019 2:36:52 PM	46000
Surr: Phenol-d5	40.1	15-84.6		%Rec	1	7/13/2019 2:36:52 PM	46000
Surr: 2,4,6-Tribromophenol	83.0	27.8-112		%Rec	1	7/13/2019 2:36:52 PM	46000
Surr: Nitrobenzene-d5	76.1	33-113		%Rec	1	7/13/2019 2:36:52 PM	46000
Surr: 2-Fluorobiphenyl	73.2	26.6-107		%Rec	1	7/13/2019 2:36:52 PM	46000
Surr: 4-Terphenyl-d14	82.2	18.7-148		%Rec	1	7/13/2019 2:36:52 PM	46000
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Toluene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Ethylbenzene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-7

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 8:45:00 AM

Lab ID: 1907093-005

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Naphthalene	ND	2.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
1-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
2-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Acetone	ND	10		µg/L	1	7/9/2019 7:47:00 PM	R61269
Bromobenzene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Bromodichloromethane	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Bromoform	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Bromomethane	ND	3.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
2-Butanone	ND	10		µg/L	1	7/9/2019 7:47:00 PM	R61269
Carbon disulfide	ND	10		µg/L	1	7/9/2019 7:47:00 PM	R61269
Carbon Tetrachloride	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Chlorobenzene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Chloroethane	ND	2.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Chloroform	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Chloromethane	ND	3.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
2-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
4-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
cis-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Dibromochloromethane	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Dibromomethane	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
1,1-Dichloroethane	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
1,1-Dichloroethene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
1,2-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
1,3-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
2,2-Dichloropropane	ND	2.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
1,1-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Hexachlorobutadiene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
2-Hexanone	ND	10		µg/L	1	7/9/2019 7:47:00 PM	R61269
Isopropylbenzene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
4-Isopropyltoluene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
4-Methyl-2-pentanone	ND	10		µg/L	1	7/9/2019 7:47:00 PM	R61269
Methylene Chloride	ND	3.0		µg/L	1	7/9/2019 7:47:00 PM	R61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-7

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 8:45:00 AM

Lab ID: 1907093-005

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
n-Butylbenzene	ND	3.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
n-Propylbenzene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
sec-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Styrene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
tert-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
trans-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Trichlorofluoromethane	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Vinyl chloride	ND	1.0		µg/L	1	7/9/2019 7:47:00 PM	R61269
Xylenes, Total	ND	1.5		µg/L	1	7/9/2019 7:47:00 PM	R61269
Surr: 1,2-Dichloroethane-d4	110	70-130		%Rec	1	7/9/2019 7:47:00 PM	R61269
Surr: 4-Bromofluorobenzene	98.8	70-130		%Rec	1	7/9/2019 7:47:00 PM	R61269
Surr: Dibromofluoromethane	103	70-130		%Rec	1	7/9/2019 7:47:00 PM	R61269
Surr: Toluene-d8	93.9	70-130		%Rec	1	7/9/2019 7:47:00 PM	R61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-3

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 9:50:00 AM

Lab ID: 1907093-006

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS							Analyst: pmf
Arsenic	ND	0.0050		mg/L	5	7/3/2019 4:50:04 PM	A61144
Lead	ND	0.00050		mg/L	1	7/3/2019 4:13:22 PM	A61144
Selenium	ND	0.0050		mg/L	5	7/3/2019 4:50:04 PM	A61144
EPA 200.8: METALS							Analyst: pmf
Uranium	0.069	0.0025	*	mg/L	5	7/10/2019 3:59:33 PM	46082
EPA METHOD 300.0: ANIONS							Analyst: smb
Chloride	1000	50	*	mg/L	100	7/12/2019 5:52:30 PM	R61354
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	7/2/2019 6:14:34 PM	R61119
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	7/2/2019 6:14:34 PM	R61119
Sulfate	2600	50	*	mg/L	100	7/12/2019 5:52:30 PM	R61354
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	1067	20.00		mg/L Ca	1	7/9/2019 3:12:16 PM	R61255
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	7/9/2019 3:12:16 PM	R61255
Total Alkalinity (as CaCO3)	1067	20.00		mg/L Ca	1	7/9/2019 3:12:16 PM	R61255
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: CJS
Total Dissolved Solids	6680	20.0	*	mg/L	1	7/9/2019 6:00:00 PM	46049
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	7.76		H	pH units	1	7/9/2019 3:12:16 PM	R61255
EPA METHOD 200.7: DISSOLVED METALS							Analyst: ELS
Barium	0.014	0.0020		mg/L	1	7/8/2019 4:31:57 PM	D61217
Cadmium	ND	0.0020		mg/L	1	7/8/2019 4:31:57 PM	D61217
Calcium	160	5.0		mg/L	5	7/8/2019 4:34:17 PM	D61217
Chromium	ND	0.0060		mg/L	1	7/8/2019 4:31:57 PM	D61217
Silver	ND	0.0050		mg/L	1	7/8/2019 4:31:57 PM	D61217
Sodium	2100	50		mg/L	50	7/9/2019 12:05:30 PM	A61238
EPA METHOD 245.1: MERCURY							Analyst: rde
Mercury	ND	0.00020		mg/L	1	7/15/2019 5:57:28 PM	46180
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Acenaphthylene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Aniline	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Anthracene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Azobenzene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Benz(a)anthracene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Benzo(a)pyrene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-3

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 9:50:00 AM

Lab ID: 1907093-006

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Benzo(b)fluoranthene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Benzo(g,h,i)perylene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Benzo(k)fluoranthene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Benzoic acid	ND	20		µg/L	1	7/13/2019 3:06:29 PM	46000
Benzyl alcohol	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Bis(2-chloroethyl)ether	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
4-Bromophenyl phenyl ether	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Butyl benzyl phthalate	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Carbazole	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
4-Chloro-3-methylphenol	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
4-Chloroaniline	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
2-Chloronaphthalene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
2-Chlorophenol	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Chrysene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Di-n-butyl phthalate	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Di-n-octyl phthalate	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Dibenz(a,h)anthracene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Dibenzofuran	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
1,2-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
1,3-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
1,4-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
3,3'-Dichlorobenzidine	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Diethyl phthalate	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Dimethyl phthalate	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
2,4-Dichlorophenol	ND	20		µg/L	1	7/13/2019 3:06:29 PM	46000
2,4-Dimethylphenol	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	7/13/2019 3:06:29 PM	46000
2,4-Dinitrophenol	ND	20		µg/L	1	7/13/2019 3:06:29 PM	46000
2,4-Dinitrotoluene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
2,6-Dinitrotoluene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Fluoranthene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Fluorene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Hexachlorobenzene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Hexachlorobutadiene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Hexachlorocyclopentadiene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-3

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 9:50:00 AM

Lab ID: 1907093-006

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Hexachloroethane	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Isophorone	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
1-Methylnaphthalene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
2-Methylnaphthalene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
2-Methylphenol	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
3+4-Methylphenol	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
N-Nitrosodimethylamine	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
N-Nitrosodiphenylamine	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Naphthalene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
2-Nitroaniline	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
3-Nitroaniline	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
4-Nitroaniline	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Nitrobenzene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
2-Nitrophenol	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
4-Nitrophenol	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Pentachlorophenol	ND	20		µg/L	1	7/13/2019 3:06:29 PM	46000
Phenanthrene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Phenol	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Pyrene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Pyridine	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
1,2,4-Trichlorobenzene	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
2,4,5-Trichlorophenol	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
2,4,6-Trichlorophenol	ND	10		µg/L	1	7/13/2019 3:06:29 PM	46000
Surr: 2-Fluorophenol	21.5	15-101		%Rec	1	7/13/2019 3:06:29 PM	46000
Surr: Phenol-d5	38.2	15-84.6		%Rec	1	7/13/2019 3:06:29 PM	46000
Surr: 2,4,6-Tribromophenol	35.8	27.8-112		%Rec	1	7/13/2019 3:06:29 PM	46000
Surr: Nitrobenzene-d5	86.8	33-113		%Rec	1	7/13/2019 3:06:29 PM	46000
Surr: 2-Fluorobiphenyl	78.2	26.6-107		%Rec	1	7/13/2019 3:06:29 PM	46000
Surr: 4-Terphenyl-d14	89.3	18.7-148		%Rec	1	7/13/2019 3:06:29 PM	46000
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Toluene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Ethylbenzene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-3

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 9:50:00 AM

Lab ID: 1907093-006

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Naphthalene	ND	2.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
1-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
2-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Acetone	ND	10		µg/L	1	7/9/2019 8:11:00 PM	R61269
Bromobenzene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Bromodichloromethane	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Bromoform	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Bromomethane	ND	3.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
2-Butanone	ND	10		µg/L	1	7/9/2019 8:11:00 PM	R61269
Carbon disulfide	ND	10		µg/L	1	7/9/2019 8:11:00 PM	R61269
Carbon Tetrachloride	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Chlorobenzene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Chloroethane	ND	2.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Chloroform	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Chloromethane	ND	3.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
2-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
4-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
cis-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Dibromochloromethane	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Dibromomethane	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
1,1-Dichloroethane	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
1,1-Dichloroethene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
1,2-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
1,3-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
2,2-Dichloropropane	ND	2.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
1,1-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Hexachlorobutadiene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
2-Hexanone	ND	10		µg/L	1	7/9/2019 8:11:00 PM	R61269
Isopropylbenzene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
4-Isopropyltoluene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
4-Methyl-2-pentanone	ND	10		µg/L	1	7/9/2019 8:11:00 PM	R61269
Methylene Chloride	ND	3.0		µg/L	1	7/9/2019 8:11:00 PM	R61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-3

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 9:50:00 AM

Lab ID: 1907093-006

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
n-Butylbenzene	ND	3.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
n-Propylbenzene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
sec-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Styrene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
tert-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
trans-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Trichlorofluoromethane	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Vinyl chloride	ND	1.0		µg/L	1	7/9/2019 8:11:00 PM	R61269
Xylenes, Total	ND	1.5		µg/L	1	7/9/2019 8:11:00 PM	R61269
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	7/9/2019 8:11:00 PM	R61269
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	7/9/2019 8:11:00 PM	R61269
Surr: Dibromofluoromethane	97.6	70-130		%Rec	1	7/9/2019 8:11:00 PM	R61269
Surr: Toluene-d8	93.1	70-130		%Rec	1	7/9/2019 8:11:00 PM	R61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-4

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 10:50:00 AM

Lab ID: 1907093-007

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS							Analyst: pmf
Arsenic	0.0024	0.0010		mg/L	1	7/3/2019 4:16:03 PM	A61144
Lead	ND	0.00050		mg/L	1	7/3/2019 4:16:03 PM	A61144
Selenium	ND	0.0010		mg/L	1	7/3/2019 4:16:03 PM	A61144
EPA 200.8: METALS							Analyst: pmf
Uranium	0.0012	0.00050		mg/L	1	7/10/2019 3:07:31 PM	46082
EPA METHOD 300.0: ANIONS							Analyst: smb
Chloride	180	10		mg/L	20	7/2/2019 6:53:10 PM	R61119
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	7/2/2019 6:40:18 PM	R61119
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	7/2/2019 6:40:18 PM	R61119
Sulfate	320	10	*	mg/L	20	7/2/2019 6:53:10 PM	R61119
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	755.5	20.00		mg/L Ca	1	7/9/2019 3:49:24 PM	R61255
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	7/9/2019 3:49:24 PM	R61255
Total Alkalinity (as CaCO3)	755.5	20.00		mg/L Ca	1	7/9/2019 3:49:24 PM	R61255
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: CJS
Total Dissolved Solids	1560	40.0	* D	mg/L	1	7/9/2019 6:00:00 PM	46049
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	8.01		H	pH units	1	7/9/2019 3:49:24 PM	R61255
EPA METHOD 200.7: DISSOLVED METALS							Analyst: ELS
Barium	0.050	0.0020		mg/L	1	7/8/2019 4:36:27 PM	D61217
Cadmium	ND	0.0020		mg/L	1	7/8/2019 4:36:27 PM	D61217
Calcium	20	1.0		mg/L	1	7/8/2019 4:36:27 PM	D61217
Chromium	ND	0.0060		mg/L	1	7/8/2019 4:36:27 PM	D61217
Silver	ND	0.0050		mg/L	1	7/8/2019 4:36:27 PM	D61217
Sodium	570	10		mg/L	10	7/9/2019 12:07:43 PM	A61238
EPA METHOD 245.1: MERCURY							Analyst: rde
Mercury	ND	0.00020		mg/L	1	7/15/2019 6:04:23 PM	46180
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Acenaphthylene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Aniline	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Anthracene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Azobenzene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Benz(a)anthracene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Benzo(a)pyrene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-4

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 10:50:00 AM

Lab ID: 1907093-007

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Benzo(b)fluoranthene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Benzo(g,h,i)perylene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Benzo(k)fluoranthene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Benzoic acid	ND	20		µg/L	1	7/13/2019 3:36:13 PM	46000
Benzyl alcohol	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Bis(2-chloroethyl)ether	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
4-Bromophenyl phenyl ether	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Butyl benzyl phthalate	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Carbazole	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
4-Chloro-3-methylphenol	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
4-Chloroaniline	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
2-Chloronaphthalene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
2-Chlorophenol	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Chrysene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Di-n-butyl phthalate	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Di-n-octyl phthalate	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Dibenz(a,h)anthracene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Dibenzofuran	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
1,2-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
1,3-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
1,4-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
3,3'-Dichlorobenzidine	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Diethyl phthalate	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Dimethyl phthalate	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
2,4-Dichlorophenol	ND	20		µg/L	1	7/13/2019 3:36:13 PM	46000
2,4-Dimethylphenol	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	7/13/2019 3:36:13 PM	46000
2,4-Dinitrophenol	ND	20		µg/L	1	7/13/2019 3:36:13 PM	46000
2,4-Dinitrotoluene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
2,6-Dinitrotoluene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Fluoranthene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Fluorene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Hexachlorobenzene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Hexachlorobutadiene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Hexachlorocyclopentadiene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-4

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 10:50:00 AM

Lab ID: 1907093-007

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Hexachloroethane	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Isophorone	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
1-Methylnaphthalene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
2-Methylnaphthalene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
2-Methylphenol	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
3+4-Methylphenol	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
N-Nitrosodimethylamine	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
N-Nitrosodiphenylamine	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Naphthalene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
2-Nitroaniline	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
3-Nitroaniline	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
4-Nitroaniline	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Nitrobenzene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
2-Nitrophenol	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
4-Nitrophenol	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Pentachlorophenol	ND	20		µg/L	1	7/13/2019 3:36:13 PM	46000
Phenanthrene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Phenol	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Pyrene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Pyridine	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
1,2,4-Trichlorobenzene	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
2,4,5-Trichlorophenol	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
2,4,6-Trichlorophenol	ND	10		µg/L	1	7/13/2019 3:36:13 PM	46000
Surr: 2-Fluorophenol	59.2	15-101		%Rec	1	7/13/2019 3:36:13 PM	46000
Surr: Phenol-d5	42.1	15-84.6		%Rec	1	7/13/2019 3:36:13 PM	46000
Surr: 2,4,6-Tribromophenol	82.4	27.8-112		%Rec	1	7/13/2019 3:36:13 PM	46000
Surr: Nitrobenzene-d5	79.4	33-113		%Rec	1	7/13/2019 3:36:13 PM	46000
Surr: 2-Fluorobiphenyl	73.8	26.6-107		%Rec	1	7/13/2019 3:36:13 PM	46000
Surr: 4-Terphenyl-d14	86.2	18.7-148		%Rec	1	7/13/2019 3:36:13 PM	46000
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Toluene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Ethylbenzene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-4

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 10:50:00 AM

Lab ID: 1907093-007

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Naphthalene	ND	2.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
1-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
2-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Acetone	ND	10		µg/L	1	7/9/2019 8:35:00 PM	R61269
Bromobenzene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Bromodichloromethane	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Bromoform	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Bromomethane	ND	3.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
2-Butanone	ND	10		µg/L	1	7/9/2019 8:35:00 PM	R61269
Carbon disulfide	ND	10		µg/L	1	7/9/2019 8:35:00 PM	R61269
Carbon Tetrachloride	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Chlorobenzene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Chloroethane	ND	2.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Chloroform	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Chloromethane	ND	3.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
2-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
4-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
cis-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Dibromochloromethane	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Dibromomethane	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
1,1-Dichloroethane	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
1,1-Dichloroethene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
1,2-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
1,3-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
2,2-Dichloropropane	ND	2.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
1,1-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Hexachlorobutadiene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
2-Hexanone	ND	10		µg/L	1	7/9/2019 8:35:00 PM	R61269
Isopropylbenzene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
4-Isopropyltoluene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
4-Methyl-2-pentanone	ND	10		µg/L	1	7/9/2019 8:35:00 PM	R61269
Methylene Chloride	ND	3.0		µg/L	1	7/9/2019 8:35:00 PM	R61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-4

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 10:50:00 AM

Lab ID: 1907093-007

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: RAA	
n-Butylbenzene	ND	3.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
n-Propylbenzene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
sec-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Styrene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
tert-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
trans-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Trichlorofluoromethane	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Vinyl chloride	ND	1.0		µg/L	1	7/9/2019 8:35:00 PM	R61269
Xylenes, Total	ND	1.5		µg/L	1	7/9/2019 8:35:00 PM	R61269
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	7/9/2019 8:35:00 PM	R61269
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	7/9/2019 8:35:00 PM	R61269
Surr: Dibromofluoromethane	101	70-130		%Rec	1	7/9/2019 8:35:00 PM	R61269
Surr: Toluene-d8	94.1	70-130		%Rec	1	7/9/2019 8:35:00 PM	R61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-5

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 11:50:00 AM

Lab ID: 1907093-008

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS							Analyst: pmf
Arsenic	ND	0.0050		mg/L	5	7/3/2019 4:52:47 PM	A61144
Lead	ND	0.00050		mg/L	1	7/3/2019 4:18:45 PM	A61144
Selenium	ND	0.0050		mg/L	5	7/3/2019 4:52:47 PM	A61144
EPA 200.8: METALS							Analyst: pmf
Uranium	0.038	0.0025	*	mg/L	5	7/10/2019 4:01:44 PM	46082
EPA METHOD 300.0: ANIONS							Analyst: smb
Chloride	390	50	*	mg/L	100	7/12/2019 6:04:55 PM	R61354
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	7/2/2019 7:06:01 PM	R61119
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	7/2/2019 7:06:01 PM	R61119
Sulfate	2200	50	*	mg/L	100	7/12/2019 6:04:55 PM	R61354
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	831.7	20.00		mg/L Ca	1	7/9/2019 4:20:33 PM	R61255
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	7/9/2019 4:20:33 PM	R61255
Total Alkalinity (as CaCO3)	831.7	20.00		mg/L Ca	1	7/9/2019 4:20:33 PM	R61255
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: CJS
Total Dissolved Solids	4730	20.0	*	mg/L	1	7/9/2019 6:00:00 PM	46049
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	7.54		H	pH units	1	7/9/2019 4:20:33 PM	R61255
EPA METHOD 200.7: DISSOLVED METALS							Analyst: ELS
Barium	0.0096	0.0020		mg/L	1	7/8/2019 4:40:32 PM	D61217
Cadmium	ND	0.0020		mg/L	1	7/8/2019 4:40:32 PM	D61217
Calcium	170	5.0		mg/L	5	7/8/2019 4:42:42 PM	D61217
Chromium	ND	0.0060		mg/L	1	7/8/2019 4:40:32 PM	D61217
Silver	ND	0.0050		mg/L	1	7/8/2019 4:40:32 PM	D61217
Sodium	1500	20		mg/L	20	7/9/2019 12:09:58 PM	A61238
EPA METHOD 245.1: MERCURY							Analyst: rde
Mercury	ND	0.00020		mg/L	1	7/15/2019 6:06:40 PM	46180
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Acenaphthylene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Aniline	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Anthracene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Azobenzene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Benz(a)anthracene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Benzo(a)pyrene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-5

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 11:50:00 AM

Lab ID: 1907093-008

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Benzo(b)fluoranthene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Benzo(g,h,i)perylene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Benzo(k)fluoranthene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Benzoic acid	ND	20		µg/L	1	7/13/2019 4:05:58 PM	46000
Benzyl alcohol	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Bis(2-chloroethyl)ether	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
4-Bromophenyl phenyl ether	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Butyl benzyl phthalate	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Carbazole	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
4-Chloro-3-methylphenol	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
4-Chloroaniline	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
2-Chloronaphthalene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
2-Chlorophenol	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Chrysene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Di-n-butyl phthalate	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Di-n-octyl phthalate	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Dibenz(a,h)anthracene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Dibenzofuran	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
1,2-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
1,3-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
1,4-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
3,3'-Dichlorobenzidine	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Diethyl phthalate	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Dimethyl phthalate	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
2,4-Dichlorophenol	ND	20		µg/L	1	7/13/2019 4:05:58 PM	46000
2,4-Dimethylphenol	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	7/13/2019 4:05:58 PM	46000
2,4-Dinitrophenol	ND	20		µg/L	1	7/13/2019 4:05:58 PM	46000
2,4-Dinitrotoluene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
2,6-Dinitrotoluene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Fluoranthene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Fluorene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Hexachlorobenzene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Hexachlorobutadiene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Hexachlorocyclopentadiene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-5

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 11:50:00 AM

Lab ID: 1907093-008

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Hexachloroethane	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Isophorone	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
1-Methylnaphthalene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
2-Methylnaphthalene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
2-Methylphenol	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
3+4-Methylphenol	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
N-Nitrosodimethylamine	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
N-Nitrosodiphenylamine	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Naphthalene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
2-Nitroaniline	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
3-Nitroaniline	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
4-Nitroaniline	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Nitrobenzene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
2-Nitrophenol	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
4-Nitrophenol	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Pentachlorophenol	ND	20		µg/L	1	7/13/2019 4:05:58 PM	46000
Phenanthrene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Phenol	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Pyrene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Pyridine	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
1,2,4-Trichlorobenzene	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
2,4,5-Trichlorophenol	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
2,4,6-Trichlorophenol	ND	10		µg/L	1	7/13/2019 4:05:58 PM	46000
Surr: 2-Fluorophenol	31.2	15-101		%Rec	1	7/13/2019 4:05:58 PM	46000
Surr: Phenol-d5	37.4	15-84.6		%Rec	1	7/13/2019 4:05:58 PM	46000
Surr: 2,4,6-Tribromophenol	51.3	27.8-112		%Rec	1	7/13/2019 4:05:58 PM	46000
Surr: Nitrobenzene-d5	70.2	33-113		%Rec	1	7/13/2019 4:05:58 PM	46000
Surr: 2-Fluorobiphenyl	67.5	26.6-107		%Rec	1	7/13/2019 4:05:58 PM	46000
Surr: 4-Terphenyl-d14	80.9	18.7-148		%Rec	1	7/13/2019 4:05:58 PM	46000
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Toluene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Ethylbenzene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-5

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 11:50:00 AM

Lab ID: 1907093-008

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Naphthalene	ND	2.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
1-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
2-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Acetone	ND	10		µg/L	1	7/9/2019 8:59:00 PM	R61269
Bromobenzene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Bromodichloromethane	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Bromoform	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Bromomethane	ND	3.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
2-Butanone	ND	10		µg/L	1	7/9/2019 8:59:00 PM	R61269
Carbon disulfide	ND	10		µg/L	1	7/9/2019 8:59:00 PM	R61269
Carbon Tetrachloride	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Chlorobenzene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Chloroethane	ND	2.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Chloroform	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Chloromethane	ND	3.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
2-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
4-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
cis-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Dibromochloromethane	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Dibromomethane	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
1,1-Dichloroethane	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
1,1-Dichloroethene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
1,2-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
1,3-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
2,2-Dichloropropane	ND	2.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
1,1-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Hexachlorobutadiene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
2-Hexanone	ND	10		µg/L	1	7/9/2019 8:59:00 PM	R61269
Isopropylbenzene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
4-Isopropyltoluene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
4-Methyl-2-pentanone	ND	10		µg/L	1	7/9/2019 8:59:00 PM	R61269
Methylene Chloride	ND	3.0		µg/L	1	7/9/2019 8:59:00 PM	R61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-5

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 11:50:00 AM

Lab ID: 1907093-008

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: RAA	
n-Butylbenzene	ND	3.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
n-Propylbenzene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
sec-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Styrene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
tert-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
trans-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Trichlorofluoromethane	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Vinyl chloride	ND	1.0		µg/L	1	7/9/2019 8:59:00 PM	R61269
Xylenes, Total	ND	1.5		µg/L	1	7/9/2019 8:59:00 PM	R61269
Surr: 1,2-Dichloroethane-d4	110	70-130		%Rec	1	7/9/2019 8:59:00 PM	R61269
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	1	7/9/2019 8:59:00 PM	R61269
Surr: Dibromofluoromethane	103	70-130		%Rec	1	7/9/2019 8:59:00 PM	R61269
Surr: Toluene-d8	93.7	70-130		%Rec	1	7/9/2019 8:59:00 PM	R61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: TRIP BLANK

Project: 2019 Annual GW Sampling

Collection Date:

Lab ID: 1907093-009

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Toluene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Ethylbenzene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Naphthalene	ND	2.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
1-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
2-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Acetone	ND	10		µg/L	1	7/9/2019 9:23:00 PM	R61269
Bromobenzene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Bromodichloromethane	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Bromoform	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Bromomethane	ND	3.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
2-Butanone	ND	10		µg/L	1	7/9/2019 9:23:00 PM	R61269
Carbon disulfide	ND	10		µg/L	1	7/9/2019 9:23:00 PM	R61269
Carbon Tetrachloride	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Chlorobenzene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Chloroethane	ND	2.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Chloroform	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Chloromethane	ND	3.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
2-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
4-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
cis-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Dibromochloromethane	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Dibromomethane	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
1,1-Dichloroethane	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
1,1-Dichloroethene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
1,2-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
1,3-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
2,2-Dichloropropane	ND	2.0		µg/L	1	7/9/2019 9:23:00 PM	R61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: TRIP BLANK

Project: 2019 Annual GW Sampling

Collection Date:

Lab ID: 1907093-009

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: RAA	
1,1-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Hexachlorobutadiene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
2-Hexanone	ND	10		µg/L	1	7/9/2019 9:23:00 PM	R61269
Isopropylbenzene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
4-Isopropyltoluene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
4-Methyl-2-pentanone	ND	10		µg/L	1	7/9/2019 9:23:00 PM	R61269
Methylene Chloride	ND	3.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
n-Butylbenzene	ND	3.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
n-Propylbenzene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
sec-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Styrene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
tert-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
trans-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Trichlorofluoromethane	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Vinyl chloride	ND	1.0		µg/L	1	7/9/2019 9:23:00 PM	R61269
Xylenes, Total	ND	1.5		µg/L	1	7/9/2019 9:23:00 PM	R61269
Surr: 1,2-Dichloroethane-d4	82.8	70-130		%Rec	1	7/9/2019 9:23:00 PM	R61269
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	7/9/2019 9:23:00 PM	R61269
Surr: Dibromofluoromethane	96.0	70-130		%Rec	1	7/9/2019 9:23:00 PM	R61269
Surr: Toluene-d8	97.5	70-130		%Rec	1	7/9/2019 9:23:00 PM	R61269

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-1R

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 12:40:00 PM

Lab ID: 1907093-010

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS							Analyst: pmf
Arsenic	0.019	0.0050	*	mg/L	5	7/3/2019 4:55:29 PM	A61144
Lead	ND	0.00050		mg/L	1	7/3/2019 4:21:26 PM	A61144
Selenium	ND	0.0050		mg/L	5	7/3/2019 4:55:29 PM	A61144
EPA 200.8: METALS							Analyst: pmf
Uranium	0.025	0.00050		mg/L	1	7/10/2019 3:11:53 PM	46082
EPA METHOD 300.0: ANIONS							Analyst: smb
Chloride	370	10	*	mg/L	20	7/2/2019 8:10:25 PM	R61119
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	7/2/2019 7:58:06 PM	R61119
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	7/2/2019 7:58:06 PM	R61119
Sulfate	1200	25	*	mg/L	50	7/12/2019 6:17:20 PM	R61354
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	467.8	20.00		mg/L Ca	1	7/9/2019 4:51:25 PM	R61255
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	7/9/2019 4:51:25 PM	R61255
Total Alkalinity (as CaCO3)	467.8	20.00		mg/L Ca	1	7/9/2019 4:51:25 PM	R61255
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: CJS
Total Dissolved Solids	2890	20.0	*	mg/L	1	7/9/2019 6:00:00 PM	46049
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	7.80		H	pH units	1	7/9/2019 4:51:25 PM	R61255
EPA METHOD 200.7: DISSOLVED METALS							Analyst: ELS
Barium	0.094	0.0020		mg/L	1	7/8/2019 4:44:51 PM	D61217
Cadmium	ND	0.0020		mg/L	1	7/8/2019 4:44:51 PM	D61217
Calcium	300	5.0		mg/L	5	7/8/2019 4:47:09 PM	D61217
Chromium	ND	0.0060		mg/L	1	7/8/2019 4:44:51 PM	D61217
Silver	ND	0.0050		mg/L	1	7/8/2019 4:44:51 PM	D61217
Sodium	680	10		mg/L	10	7/9/2019 12:12:12 PM	A61238
EPA METHOD 245.1: MERCURY							Analyst: rde
Mercury	ND	0.00020		mg/L	1	7/15/2019 6:08:57 PM	46180
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Acenaphthylene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Aniline	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Anthracene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Azobenzene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Benz(a)anthracene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Benzo(a)pyrene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-1R

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 12:40:00 PM

Lab ID: 1907093-010

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Benzo(b)fluoranthene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Benzo(g,h,i)perylene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Benzo(k)fluoranthene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Benzoic acid	ND	20		µg/L	1	7/13/2019 4:35:44 PM	46000
Benzyl alcohol	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Bis(2-chloroethyl)ether	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
4-Bromophenyl phenyl ether	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Butyl benzyl phthalate	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Carbazole	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
4-Chloro-3-methylphenol	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
4-Chloroaniline	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
2-Chloronaphthalene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
2-Chlorophenol	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Chrysene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Di-n-butyl phthalate	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Di-n-octyl phthalate	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Dibenz(a,h)anthracene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Dibenzofuran	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
1,2-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
1,3-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
1,4-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
3,3'-Dichlorobenzidine	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Diethyl phthalate	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Dimethyl phthalate	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
2,4-Dichlorophenol	ND	20		µg/L	1	7/13/2019 4:35:44 PM	46000
2,4-Dimethylphenol	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	7/13/2019 4:35:44 PM	46000
2,4-Dinitrophenol	ND	20		µg/L	1	7/13/2019 4:35:44 PM	46000
2,4-Dinitrotoluene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
2,6-Dinitrotoluene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Fluoranthene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Fluorene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Hexachlorobenzene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Hexachlorobutadiene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Hexachlorocyclopentadiene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-1R

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 12:40:00 PM

Lab ID: 1907093-010

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Hexachloroethane	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Isophorone	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
1-Methylnaphthalene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
2-Methylnaphthalene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
2-Methylphenol	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
3+4-Methylphenol	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
N-Nitrosodimethylamine	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
N-Nitrosodiphenylamine	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Naphthalene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
2-Nitroaniline	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
3-Nitroaniline	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
4-Nitroaniline	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Nitrobenzene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
2-Nitrophenol	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
4-Nitrophenol	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Pentachlorophenol	ND	20		µg/L	1	7/13/2019 4:35:44 PM	46000
Phenanthrene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Phenol	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Pyrene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Pyridine	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
1,2,4-Trichlorobenzene	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
2,4,5-Trichlorophenol	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
2,4,6-Trichlorophenol	ND	10		µg/L	1	7/13/2019 4:35:44 PM	46000
Surr: 2-Fluorophenol	32.0	15-101		%Rec	1	7/13/2019 4:35:44 PM	46000
Surr: Phenol-d5	41.1	15-84.6		%Rec	1	7/13/2019 4:35:44 PM	46000
Surr: 2,4,6-Tribromophenol	50.0	27.8-112		%Rec	1	7/13/2019 4:35:44 PM	46000
Surr: Nitrobenzene-d5	81.6	33-113		%Rec	1	7/13/2019 4:35:44 PM	46000
Surr: 2-Fluorobiphenyl	82.8	26.6-107		%Rec	1	7/13/2019 4:35:44 PM	46000
Surr: 4-Terphenyl-d14	94.6	18.7-148		%Rec	1	7/13/2019 4:35:44 PM	46000
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Toluene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Ethylbenzene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-1R

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 12:40:00 PM

Lab ID: 1907093-010

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Naphthalene	ND	2.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
1-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
2-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Acetone	10	10		µg/L	1	7/9/2019 9:47:00 PM	R61269
Bromobenzene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Bromodichloromethane	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Bromoform	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Bromomethane	ND	3.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
2-Butanone	ND	10		µg/L	1	7/9/2019 9:47:00 PM	R61269
Carbon disulfide	ND	10		µg/L	1	7/9/2019 9:47:00 PM	R61269
Carbon Tetrachloride	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Chlorobenzene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Chloroethane	ND	2.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Chloroform	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Chloromethane	ND	3.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
2-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
4-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
cis-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Dibromochloromethane	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Dibromomethane	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
1,1-Dichloroethane	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
1,1-Dichloroethene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
1,2-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
1,3-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
2,2-Dichloropropane	ND	2.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
1,1-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Hexachlorobutadiene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
2-Hexanone	ND	10		µg/L	1	7/9/2019 9:47:00 PM	R61269
Isopropylbenzene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
4-Isopropyltoluene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
4-Methyl-2-pentanone	ND	10		µg/L	1	7/9/2019 9:47:00 PM	R61269
Methylene Chloride	ND	3.0		µg/L	1	7/9/2019 9:47:00 PM	R61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-1R

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 12:40:00 PM

Lab ID: 1907093-010

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
n-Butylbenzene	ND	3.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
n-Propylbenzene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
sec-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Styrene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
tert-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
trans-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Trichlorofluoromethane	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Vinyl chloride	ND	1.0		µg/L	1	7/9/2019 9:47:00 PM	R61269
Xylenes, Total	ND	1.5		µg/L	1	7/9/2019 9:47:00 PM	R61269
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	7/9/2019 9:47:00 PM	R61269
Surr: 4-Bromofluorobenzene	99.4	70-130		%Rec	1	7/9/2019 9:47:00 PM	R61269
Surr: Dibromofluoromethane	102	70-130		%Rec	1	7/9/2019 9:47:00 PM	R61269
Surr: Toluene-d8	91.8	70-130		%Rec	1	7/9/2019 9:47:00 PM	R61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-6

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 1:35:00 PM

Lab ID: 1907093-011

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS							Analyst: pmf
Arsenic	ND	0.0010		mg/L	1	7/3/2019 4:24:08 PM	A61144
Lead	ND	0.00050		mg/L	1	7/3/2019 4:24:08 PM	A61144
Selenium	ND	0.0010		mg/L	1	7/3/2019 4:24:08 PM	A61144
EPA 200.8: METALS							Analyst: pmf
Uranium	0.0076	0.00050		mg/L	1	7/9/2019 6:19:22 PM	A61268
EPA METHOD 300.0: ANIONS							Analyst: smb
Chloride	66	2.5		mg/L	5	7/2/2019 8:23:18 PM	R61119
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	7/2/2019 8:23:18 PM	R61119
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	7/2/2019 8:23:18 PM	R61119
Sulfate	260	10	*	mg/L	20	7/2/2019 8:36:10 PM	R61119
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	453.3	20.00		mg/L Ca	1	7/9/2019 5:11:06 PM	R61255
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	7/9/2019 5:11:06 PM	R61255
Total Alkalinity (as CaCO3)	453.3	20.00		mg/L Ca	1	7/9/2019 5:11:06 PM	R61255
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: CJS
Total Dissolved Solids	962	20.0	*	mg/L	1	7/9/2019 6:00:00 PM	46049
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	8.13		H	pH units	1	7/9/2019 5:11:06 PM	R61255
EPA METHOD 200.7: DISSOLVED METALS							Analyst: ELS
Barium	0.031	0.0020		mg/L	1	7/8/2019 4:55:54 PM	D61217
Cadmium	ND	0.0020		mg/L	1	7/8/2019 4:55:54 PM	D61217
Calcium	35	1.0		mg/L	1	7/8/2019 4:55:54 PM	D61217
Chromium	ND	0.0060		mg/L	1	7/8/2019 4:55:54 PM	D61217
Silver	ND	0.0050		mg/L	1	7/8/2019 4:55:54 PM	D61217
Sodium	310	5.0		mg/L	5	7/8/2019 5:02:27 PM	D61217
EPA METHOD 245.1: MERCURY							Analyst: rde
Mercury	ND	0.00020		mg/L	1	7/15/2019 6:11:15 PM	46180
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Acenaphthylene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Aniline	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Anthracene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Azobenzene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Benz(a)anthracene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Benzo(a)pyrene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000

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

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

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
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P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-6

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 1:35:00 PM

Lab ID: 1907093-011

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Benzo(b)fluoranthene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Benzo(g,h,i)perylene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Benzo(k)fluoranthene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Benzoic acid	ND	20		µg/L	1	7/13/2019 5:05:29 PM	46000
Benzyl alcohol	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Bis(2-chloroethyl)ether	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
4-Bromophenyl phenyl ether	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Butyl benzyl phthalate	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Carbazole	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
4-Chloro-3-methylphenol	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
4-Chloroaniline	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
2-Chloronaphthalene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
2-Chlorophenol	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Chrysene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Di-n-butyl phthalate	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Di-n-octyl phthalate	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Dibenz(a,h)anthracene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Dibenzofuran	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
1,2-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
1,3-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
1,4-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
3,3'-Dichlorobenzidine	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Diethyl phthalate	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Dimethyl phthalate	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
2,4-Dichlorophenol	ND	20		µg/L	1	7/13/2019 5:05:29 PM	46000
2,4-Dimethylphenol	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	7/13/2019 5:05:29 PM	46000
2,4-Dinitrophenol	ND	20		µg/L	1	7/13/2019 5:05:29 PM	46000
2,4-Dinitrotoluene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
2,6-Dinitrotoluene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Fluoranthene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Fluorene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Hexachlorobenzene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Hexachlorobutadiene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Hexachlorocyclopentadiene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-6

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 1:35:00 PM

Lab ID: 1907093-011

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Hexachloroethane	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Isophorone	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
1-Methylnaphthalene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
2-Methylnaphthalene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
2-Methylphenol	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
3+4-Methylphenol	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
N-Nitrosodimethylamine	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
N-Nitrosodiphenylamine	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Naphthalene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
2-Nitroaniline	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
3-Nitroaniline	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
4-Nitroaniline	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Nitrobenzene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
2-Nitrophenol	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
4-Nitrophenol	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Pentachlorophenol	ND	20		µg/L	1	7/13/2019 5:05:29 PM	46000
Phenanthrene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Phenol	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Pyrene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Pyridine	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
1,2,4-Trichlorobenzene	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
2,4,5-Trichlorophenol	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
2,4,6-Trichlorophenol	ND	10		µg/L	1	7/13/2019 5:05:29 PM	46000
Surr: 2-Fluorophenol	45.6	15-101		%Rec	1	7/13/2019 5:05:29 PM	46000
Surr: Phenol-d5	35.9	15-84.6		%Rec	1	7/13/2019 5:05:29 PM	46000
Surr: 2,4,6-Tribromophenol	64.1	27.8-112		%Rec	1	7/13/2019 5:05:29 PM	46000
Surr: Nitrobenzene-d5	65.4	33-113		%Rec	1	7/13/2019 5:05:29 PM	46000
Surr: 2-Fluorobiphenyl	67.6	26.6-107		%Rec	1	7/13/2019 5:05:29 PM	46000
Surr: 4-Terphenyl-d14	70.3	18.7-148		%Rec	1	7/13/2019 5:05:29 PM	46000
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Toluene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Ethylbenzene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-6

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 1:35:00 PM

Lab ID: 1907093-011

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Naphthalene	ND	2.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
1-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
2-Methylnaphthalene	ND	4.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Acetone	ND	10		µg/L	1	7/9/2019 11:48:00 PM	B61269
Bromobenzene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Bromodichloromethane	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Bromoform	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Bromomethane	ND	3.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
2-Butanone	ND	10		µg/L	1	7/9/2019 11:48:00 PM	B61269
Carbon disulfide	ND	10		µg/L	1	7/9/2019 11:48:00 PM	B61269
Carbon Tetrachloride	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Chlorobenzene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Chloroethane	ND	2.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Chloroform	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Chloromethane	ND	3.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
2-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
4-Chlorotoluene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
cis-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Dibromochloromethane	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Dibromomethane	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
1,1-Dichloroethane	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
1,1-Dichloroethene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
1,2-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
1,3-Dichloropropane	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
2,2-Dichloropropane	ND	2.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
1,1-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Hexachlorobutadiene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
2-Hexanone	ND	10		µg/L	1	7/9/2019 11:48:00 PM	B61269
Isopropylbenzene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
4-Isopropyltoluene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
4-Methyl-2-pentanone	ND	10		µg/L	1	7/9/2019 11:48:00 PM	B61269
Methylene Chloride	ND	3.0		µg/L	1	7/9/2019 11:48:00 PM	B61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-6

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 1:35:00 PM

Lab ID: 1907093-011

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: RAA	
n-Butylbenzene	ND	3.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
n-Propylbenzene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
sec-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Styrene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
tert-Butylbenzene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
trans-1,2-DCE	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Trichlorofluoromethane	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Vinyl chloride	ND	1.0		µg/L	1	7/9/2019 11:48:00 PM	B61269
Xylenes, Total	ND	1.5		µg/L	1	7/9/2019 11:48:00 PM	B61269
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	7/9/2019 11:48:00 PM	B61269
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	7/9/2019 11:48:00 PM	B61269
Surr: Dibromofluoromethane	103	70-130		%Rec	1	7/9/2019 11:48:00 PM	B61269
Surr: Toluene-d8	93.0	70-130		%Rec	1	7/9/2019 11:48:00 PM	B61269

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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	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-2

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 2:45:00 PM

Lab ID: 1907093-012

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS							Analyst: pmf
Arsenic	ND	0.0010		mg/L	1	7/3/2019 4:32:17 PM	A61144
Lead	ND	0.00050		mg/L	1	7/3/2019 4:32:17 PM	A61144
Selenium	0.0013	0.0010		mg/L	1	7/3/2019 4:32:17 PM	A61144
EPA 200.8: METALS							Analyst: pmf
Uranium	ND	0.00050		mg/L	1	7/10/2019 3:14:03 PM	46082
EPA METHOD 300.0: ANIONS							Analyst: smb
Chloride	770	50	*	mg/L	100	7/12/2019 6:29:45 PM	R61354
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	7/2/2019 8:49:02 PM	R61119
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	7/2/2019 8:49:02 PM	R61119
Sulfate	ND	2.5		mg/L	5	7/2/2019 8:49:02 PM	R61119
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	2017	50.00		mg/L Ca	2.5	7/11/2019 6:31:04 PM	R61334
Carbonate (As CaCO3)	ND	5.000		mg/L Ca	2.5	7/11/2019 6:31:04 PM	R61334
Total Alkalinity (as CaCO3)	2017	50.00		mg/L Ca	2.5	7/11/2019 6:31:04 PM	R61334
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: CJS
Total Dissolved Solids	3660	40.0	*D	mg/L	1	7/9/2019 6:00:00 PM	46049
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	8.03		H	pH units	1	7/9/2019 5:29:39 PM	R61255
EPA METHOD 200.7: DISSOLVED METALS							Analyst: ELS
Barium	0.52	0.0020		mg/L	1	7/8/2019 5:08:48 PM	D61217
Cadmium	ND	0.0020		mg/L	1	7/8/2019 5:08:48 PM	D61217
Calcium	35	1.0		mg/L	1	7/8/2019 5:08:48 PM	D61217
Chromium	ND	0.0060		mg/L	1	7/8/2019 5:08:48 PM	D61217
Silver	ND	0.0050		mg/L	1	7/8/2019 5:08:48 PM	D61217
Sodium	1400	20		mg/L	20	7/9/2019 12:14:33 PM	A61238
EPA METHOD 245.1: MERCURY							Analyst: rde
Mercury	ND	0.00020		mg/L	1	7/15/2019 6:13:32 PM	46180
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Acenaphthylene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Aniline	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Anthracene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Azobenzene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Benz(a)anthracene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Benzo(a)pyrene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-2

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 2:45:00 PM

Lab ID: 1907093-012

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Benzo(b)fluoranthene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Benzo(g,h,i)perylene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Benzo(k)fluoranthene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Benzoic acid	ND	20		µg/L	1	7/13/2019 5:35:06 PM	46000
Benzyl alcohol	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Bis(2-chloroethyl)ether	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
4-Bromophenyl phenyl ether	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Butyl benzyl phthalate	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Carbazole	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
4-Chloro-3-methylphenol	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
4-Chloroaniline	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
2-Chloronaphthalene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
2-Chlorophenol	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Chrysene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Di-n-butyl phthalate	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Di-n-octyl phthalate	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Dibenz(a,h)anthracene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Dibenzofuran	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
1,2-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
1,3-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
1,4-Dichlorobenzene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
3,3'-Dichlorobenzidine	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Diethyl phthalate	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Dimethyl phthalate	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
2,4-Dichlorophenol	ND	20		µg/L	1	7/13/2019 5:35:06 PM	46000
2,4-Dimethylphenol	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	7/13/2019 5:35:06 PM	46000
2,4-Dinitrophenol	ND	20		µg/L	1	7/13/2019 5:35:06 PM	46000
2,4-Dinitrotoluene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
2,6-Dinitrotoluene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Fluoranthene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Fluorene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Hexachlorobenzene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Hexachlorobutadiene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Hexachlorocyclopentadiene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-2

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 2:45:00 PM

Lab ID: 1907093-012

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Hexachloroethane	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Isophorone	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
1-Methylnaphthalene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
2-Methylnaphthalene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
2-Methylphenol	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
3+4-Methylphenol	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
N-Nitrosodimethylamine	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
N-Nitrosodiphenylamine	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Naphthalene	16	10		µg/L	1	7/13/2019 5:35:06 PM	46000
2-Nitroaniline	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
3-Nitroaniline	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
4-Nitroaniline	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Nitrobenzene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
2-Nitrophenol	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
4-Nitrophenol	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Pentachlorophenol	ND	20		µg/L	1	7/13/2019 5:35:06 PM	46000
Phenanthrene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Phenol	21	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Pyrene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Pyridine	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
1,2,4-Trichlorobenzene	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
2,4,5-Trichlorophenol	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
2,4,6-Trichlorophenol	ND	10		µg/L	1	7/13/2019 5:35:06 PM	46000
Surr: 2-Fluorophenol	47.0	15-101		%Rec	1	7/13/2019 5:35:06 PM	46000
Surr: Phenol-d5	37.3	15-84.6		%Rec	1	7/13/2019 5:35:06 PM	46000
Surr: 2,4,6-Tribromophenol	71.1	27.8-112		%Rec	1	7/13/2019 5:35:06 PM	46000
Surr: Nitrobenzene-d5	69.6	33-113		%Rec	1	7/13/2019 5:35:06 PM	46000
Surr: 2-Fluorobiphenyl	68.9	26.6-107		%Rec	1	7/13/2019 5:35:06 PM	46000
Surr: 4-Terphenyl-d14	78.3	18.7-148		%Rec	1	7/13/2019 5:35:06 PM	46000
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	24000	100	E	µg/L	100	7/10/2019 4:42:00 PM	R61279
Toluene	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Ethylbenzene	88	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
1,2,4-Trimethylbenzene	24	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
1,3,5-Trimethylbenzene	7.8	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-2

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 2:45:00 PM

Lab ID: 1907093-012

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Naphthalene	18	2.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
1-Methylnaphthalene	6.2	4.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
2-Methylnaphthalene	8.1	4.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Acetone	ND	10		µg/L	1	7/10/2019 1:00:00 AM	B61269
Bromobenzene	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Bromodichloromethane	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Bromoform	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Bromomethane	ND	3.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
2-Butanone	ND	10		µg/L	1	7/10/2019 1:00:00 AM	B61269
Carbon disulfide	ND	10		µg/L	1	7/10/2019 1:00:00 AM	B61269
Carbon Tetrachloride	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Chlorobenzene	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Chloroethane	ND	2.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Chloroform	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Chloromethane	ND	3.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
2-Chlorotoluene	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
4-Chlorotoluene	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
cis-1,2-DCE	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Dibromochloromethane	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Dibromomethane	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
1,1-Dichloroethane	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
1,1-Dichloroethene	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
1,2-Dichloropropane	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
1,3-Dichloropropane	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
2,2-Dichloropropane	ND	2.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
1,1-Dichloropropene	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Hexachlorobutadiene	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
2-Hexanone	ND	10		µg/L	1	7/10/2019 1:00:00 AM	B61269
Isopropylbenzene	3.6	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
4-Isopropyltoluene	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
4-Methyl-2-pentanone	19	10		µg/L	1	7/10/2019 1:00:00 AM	B61269
Methylene Chloride	ND	3.0		µg/L	1	7/10/2019 1:00:00 AM	B61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: WMW-2

Project: 2019 Annual GW Sampling

Collection Date: 7/1/2019 2:45:00 PM

Lab ID: 1907093-012

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
n-Butylbenzene	ND	3.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
n-Propylbenzene	2.9	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
sec-Butylbenzene	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Styrene	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
tert-Butylbenzene	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
trans-1,2-DCE	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Trichlorofluoromethane	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Vinyl chloride	ND	1.0		µg/L	1	7/10/2019 1:00:00 AM	B61269
Xylenes, Total	470	150		µg/L	100	7/10/2019 4:42:00 PM	R61279
Surr: 1,2-Dichloroethane-d4	13.2	70-130	S	%Rec	1	7/10/2019 1:00:00 AM	B61269
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	7/10/2019 1:00:00 AM	B61269
Surr: Dibromofluoromethane	98.8	70-130		%Rec	1	7/10/2019 1:00:00 AM	B61269
Surr: Toluene-d8	98.0	70-130		%Rec	1	7/10/2019 1:00:00 AM	B61269

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: TRIP BLANK

Project: 2019 Annual GW Sampling

Collection Date:

Lab ID: 1907093-013

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Toluene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Ethylbenzene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Naphthalene	ND	2.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
1-Methylnaphthalene	ND	4.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
2-Methylnaphthalene	ND	4.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Acetone	ND	10		µg/L	1	7/10/2019 5:06:00 PM	R61279
Bromobenzene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Bromodichloromethane	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Bromoform	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Bromomethane	ND	3.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
2-Butanone	ND	10		µg/L	1	7/10/2019 5:06:00 PM	R61279
Carbon disulfide	ND	10		µg/L	1	7/10/2019 5:06:00 PM	R61279
Carbon Tetrachloride	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Chlorobenzene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Chloroethane	ND	2.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Chloroform	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Chloromethane	ND	3.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
2-Chlorotoluene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
4-Chlorotoluene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
cis-1,2-DCE	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Dibromochloromethane	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Dibromomethane	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
1,1-Dichloroethane	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
1,1-Dichloroethene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
1,2-Dichloropropane	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
1,3-Dichloropropane	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
2,2-Dichloropropane	ND	2.0		µg/L	1	7/10/2019 5:06:00 PM	R61279

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907093

Date Reported: 7/19/2019

CLIENT: Marathon

Client Sample ID: TRIP BLANK

Project: 2019 Annual GW Sampling

Collection Date:

Lab ID: 1907093-013

Matrix: AQUEOUS

Received Date: 7/2/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
1,1-Dichloropropene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Hexachlorobutadiene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
2-Hexanone	ND	10		µg/L	1	7/10/2019 5:06:00 PM	R61279
Isopropylbenzene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
4-Isopropyltoluene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
4-Methyl-2-pentanone	ND	10		µg/L	1	7/10/2019 5:06:00 PM	R61279
Methylene Chloride	ND	3.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
n-Butylbenzene	ND	3.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
n-Propylbenzene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
sec-Butylbenzene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Styrene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
tert-Butylbenzene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
trans-1,2-DCE	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Trichlorofluoromethane	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Vinyl chloride	ND	1.0		µg/L	1	7/10/2019 5:06:00 PM	R61279
Xylenes, Total	ND	1.5		µg/L	1	7/10/2019 5:06:00 PM	R61279
Surr: 1,2-Dichloroethane-d4	110	70-130		%Rec	1	7/10/2019 5:06:00 PM	R61279
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	7/10/2019 5:06:00 PM	R61279
Surr: Dibromofluoromethane	103	70-130		%Rec	1	7/10/2019 5:06:00 PM	R61279
Surr: Toluene-d8	92.4	70-130		%Rec	1	7/10/2019 5:06:00 PM	R61279

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon

Project: 2019 Annual GW Sampling

Sample ID: MB-D	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: D61217	RunNo: 61217								
Prep Date:	Analysis Date: 7/8/2019	SeqNo: 2075112 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Silver	ND	0.0050								
Sodium	ND	1.0								

Sample ID: LLCS-D	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: D61217	RunNo: 61217								
Prep Date:	Analysis Date: 7/8/2019	SeqNo: 2075113 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0020	0.0020	0.002000	0	100	50	150			
Cadmium	ND	0.0020	0.002000	0	80.6	50	150			
Calcium	ND	1.0	0.5000	0	105	50	150			
Chromium	0.0064	0.0060	0.006000	0	107	50	150			
Silver	ND	0.0050	0.005000	0	96.2	50	150			
Sodium	ND	1.0	0.5000	0	107	50	150			

Sample ID: LCS-D	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: D61217	RunNo: 61217								
Prep Date:	Analysis Date: 7/8/2019	SeqNo: 2075114 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	99.4	85	115			
Cadmium	0.52	0.0020	0.5000	0	103	85	115			
Calcium	50	1.0	50.00	0	99.7	85	115			
Chromium	0.51	0.0060	0.5000	0	101	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Sodium	51	1.0	50.00	0	101	85	115			

Sample ID: 1907093-001EMS	SampType: MS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: EB01	Batch ID: D61217	RunNo: 61217								
Prep Date:	Analysis Date: 7/8/2019	SeqNo: 2075178 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	99.4	70	130			
Cadmium	0.53	0.0020	0.5000	0	106	70	130			
Calcium	51	1.0	50.00	0	103	70	130			
Chromium	0.51	0.0060	0.5000	0	102	70	130			

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon

Project: 2019 Annual GW Sampling

Sample ID: 1907093-001EMS	SampType: MS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: EB01	Batch ID: D61217	RunNo: 61217								
Prep Date:	Analysis Date: 7/8/2019	SeqNo: 2075178	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.10	0.0050	0.1000	0	102	70	130			
Sodium	52	1.0	50.00	0	103	70	130			

Sample ID: 1907093-001EMSD	SampType: MSD	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: EB01	Batch ID: D61217	RunNo: 61217								
Prep Date:	Analysis Date: 7/8/2019	SeqNo: 2075179	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.6	70	130	0.888	20	
Cadmium	0.52	0.0020	0.5000	0	105	70	130	1.47	20	
Calcium	51	1.0	50.00	0	103	70	130	0.0550	20	
Chromium	0.50	0.0060	0.5000	0	101	70	130	1.28	20	
Silver	0.10	0.0050	0.1000	0	101	70	130	1.01	20	
Sodium	52	1.0	50.00	0	104	70	130	0.412	20	

Sample ID: 1907093-011EMS	SampType: MS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: WMW-6	Batch ID: D61217	RunNo: 61217								
Prep Date:	Analysis Date: 7/8/2019	SeqNo: 2075203	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0.03142	95.2	70	130			
Cadmium	0.52	0.0020	0.5000	0	103	70	130			
Calcium	83	1.0	50.00	34.61	97.3	70	130			
Chromium	0.49	0.0060	0.5000	0	97.7	70	130			
Silver	0.089	0.0050	0.1000	0	88.7	70	130			

Sample ID: 1907093-011EMSD	SampType: MSD	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: WMW-6	Batch ID: D61217	RunNo: 61217								
Prep Date:	Analysis Date: 7/8/2019	SeqNo: 2075205	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.0020	0.5000	0.03142	98.5	70	130	3.17	20	
Cadmium	0.53	0.0020	0.5000	0	106	70	130	3.03	20	
Calcium	86	1.0	50.00	34.61	102	70	130	2.73	20	
Chromium	0.51	0.0060	0.5000	0	101	70	130	3.38	20	
Silver	0.088	0.0050	0.1000	0	87.9	70	130	0.924	20	

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon
Project: 2019 Annual GW Sampling

Sample ID: MB-A	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: A61238	RunNo: 61238								
Prep Date:	Analysis Date: 7/9/2019	SeqNo: 2075930 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID: LLCS-A	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: A61238	RunNo: 61238								
Prep Date:	Analysis Date: 7/9/2019	SeqNo: 2075932 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0	0.5000	0	120	50	150			

Sample ID: LCS-A	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: A61238	RunNo: 61238								
Prep Date:	Analysis Date: 7/9/2019	SeqNo: 2075934 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	50	1.0	50.00	0	101	85	115			

Sample ID: LCSD-A	SampType: LCSD	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSS02	Batch ID: A61238	RunNo: 61238								
Prep Date:	Analysis Date: 7/9/2019	SeqNo: 2075936 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	51	1.0	50.00	0	102	85	115	1.37	20	

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon
Project: 2019 Annual GW Sampling

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Metals
Client ID: PBW	Batch ID: A61268	RunNo: 61268
Prep Date:	Analysis Date: 7/9/2019	SeqNo: 2076819 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Uranium	ND	0.00050

Sample ID: MSLLCS	SampType: LCSLL	TestCode: EPA 200.8: Metals
Client ID: BatchQC	Batch ID: A61268	RunNo: 61268
Prep Date:	Analysis Date: 7/9/2019	SeqNo: 2076820 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Uranium	ND	0.00050 0.0005000 0 93.8 50 150

Sample ID: MSLCS	SampType: LCS	TestCode: EPA 200.8: Metals
Client ID: LCSW	Batch ID: A61268	RunNo: 61268
Prep Date:	Analysis Date: 7/9/2019	SeqNo: 2076821 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 96.3 85 115

Sample ID: MB-46082	SampType: MBLK	TestCode: EPA 200.8: Metals
Client ID: PBW	Batch ID: 46082	RunNo: 61283
Prep Date: 7/9/2019	Analysis Date: 7/10/2019	SeqNo: 2077526 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Uranium	ND	0.00050

Sample ID: MSLLCS-46082	SampType: LCSLL	TestCode: EPA 200.8: Metals
Client ID: BatchQC	Batch ID: 46082	RunNo: 61283
Prep Date: 7/9/2019	Analysis Date: 7/10/2019	SeqNo: 2077528 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Uranium	ND	0.00050 0.0005000 0 98.6 50 150

Sample ID: MSLCS-46082	SampType: LCS	TestCode: EPA 200.8: Metals
Client ID: LCSW	Batch ID: 46082	RunNo: 61283
Prep Date: 7/9/2019	Analysis Date: 7/10/2019	SeqNo: 2077530 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 98.6 85 115

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon

Project: 2019 Annual GW Sampling

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals
Client ID: PBW	Batch ID: A61144	RunNo: 61144
Prep Date:	Analysis Date: 7/3/2019	SeqNo: 2071890 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Arsenic	ND	0.0010
Lead	ND	0.00050
Selenium	ND	0.0010

Sample ID: MSLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals
Client ID: BatchQC	Batch ID: A61144	RunNo: 61144
Prep Date:	Analysis Date: 7/3/2019	SeqNo: 2071891 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Arsenic	ND	0.0010 0.001000 0 99.3 50 150
Lead	ND	0.00050 0.0005000 0 92.3 50 150
Selenium	ND	0.0010 0.001000 0 79.7 50 150

Sample ID: MSLCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals
Client ID: LCSW	Batch ID: A61144	RunNo: 61144
Prep Date:	Analysis Date: 7/3/2019	SeqNo: 2071892 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Arsenic	0.023	0.0010 0.02500 0 92.7 85 115
Lead	0.012	0.00050 0.01250 0 95.0 85 115
Selenium	0.023	0.0010 0.02500 0 90.9 85 115

Sample ID: 1907093-001EMSL	SampType: MS	TestCode: EPA 200.8: Dissolved Metals
Client ID: EB01	Batch ID: A61144	RunNo: 61144
Prep Date:	Analysis Date: 7/3/2019	SeqNo: 2071899 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Arsenic	0.025	0.0010 0.02500 0 98.5 70 130
Lead	0.012	0.00050 0.01250 0 95.0 70 130
Selenium	0.025	0.0010 0.02500 0 100 70 130

Sample ID: 1907093-001EMSDL	SampType: MSD	TestCode: EPA 200.8: Dissolved Metals
Client ID: EB01	Batch ID: A61144	RunNo: 61144
Prep Date:	Analysis Date: 7/3/2019	SeqNo: 2071902 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Arsenic	0.024	0.0010 0.02500 0 95.1 70 130 3.52 20
Lead	0.012	0.00050 0.01250 0 96.8 70 130 1.90 20
Selenium	0.024	0.0010 0.02500 0 94.2 70 130 6.22 20

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon
Project: 2019 Annual GW Sampling

Sample ID: 1907093-002EMSL		SampType: MS		TestCode: EPA 200.8: Dissolved Metals						
Client ID: WMW-8		Batch ID: A61144		RunNo: 61144						
Prep Date:		Analysis Date: 7/3/2019		SeqNo: 2071904		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.027	0.0010	0.02500	0.0004731	105	70	130			
Lead	0.011	0.00050	0.01250	0	88.5	70	130			
Selenium	0.025	0.0010	0.02500	0.0001888	98.5	70	130			

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon
Project: 2019 Annual GW Sampling

Sample ID: MB-46180	SampType: MBLK	TestCode: EPA Method 245.1: Mercury
Client ID: PBW	Batch ID: 46180	RunNo: 61401
Prep Date: 7/15/2019	Analysis Date: 7/15/2019	SeqNo: 2081167 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND 0.00020	

Sample ID: LCS-46180	SampType: LCS	TestCode: EPA Method 245.1: Mercury
Client ID: LCSW	Batch ID: 46180	RunNo: 61401
Prep Date: 7/15/2019	Analysis Date: 7/15/2019	SeqNo: 2081168 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 99.8 80 120	

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon
Project: 2019 Annual GW Sampling

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R61119	RunNo: 61119								
Prep Date:	Analysis Date: 7/2/2019	SeqNo: 2071016 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: R61119	RunNo: 61119								
Prep Date:	Analysis Date: 7/2/2019	SeqNo: 2071017 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	97.7	90	110			
Nitrogen, Nitrite (As N)	0.93	0.10	1.000	0	92.9	90	110			
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	103	90	110			
Sulfate	10	0.50	10.00	0	102	90	110			

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R61354	RunNo: 61354								
Prep Date:	Analysis Date: 7/12/2019	SeqNo: 2080250 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: R61354	RunNo: 61354								
Prep Date:	Analysis Date: 7/12/2019	SeqNo: 2080251 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	96.1	90	110			
Sulfate	10	0.50	10.00	0	102	90	110			

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon

Project: 2019 Annual GW Sampling

Sample ID: 100ng lcs	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: R61269		RunNo: 61269							
Prep Date:	Analysis Date: 7/9/2019		SeqNo: 2077010		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.4	70	130			
Toluene	18	1.0	20.00	0	92.2	70	130			
Chlorobenzene	19	1.0	20.00	0	94.9	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	89.0	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	93.7	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		110	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.4		10.00		93.6	70	130			

Sample ID: rb	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R61269		RunNo: 61269							
Prep Date:	Analysis Date: 7/9/2019		SeqNo: 2077011		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon
Project: 2019 Annual GW Sampling

Sample ID: rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R61269			RunNo: 61269						
Prep Date:	Analysis Date: 7/9/2019			SeqNo: 2077011	Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon

Project: 2019 Annual GW Sampling

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R61269	RunNo: 61269								
Prep Date:	Analysis Date: 7/9/2019	SeqNo: 2077011			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		111	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.2	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.4		10.00		93.7	70	130			

Sample ID: 100ng lcs2	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: B61269	RunNo: 61269								
Prep Date:	Analysis Date: 7/9/2019	SeqNo: 2077063			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.4	70	130			
Toluene	19	1.0	20.00	0	92.8	70	130			
Chlorobenzene	19	1.0	20.00	0	95.1	70	130			
1,1-Dichloroethene	17	1.0	20.00	0	86.7	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	92.9	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		110	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		99.9	70	130			
Surr: Toluene-d8	9.3		10.00		93.3	70	130			

Sample ID: rb2	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: B61269	RunNo: 61269								
Prep Date:	Analysis Date: 7/9/2019	SeqNo: 2077064			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon

Project: 2019 Annual GW Sampling

Sample ID: rb2	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: B61269			RunNo: 61269						
Prep Date:	Analysis Date: 7/9/2019			SeqNo: 2077064	Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
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								

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon
Project: 2019 Annual GW Sampling

Sample ID: rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: B61269		RunNo: 61269							
Prep Date:	Analysis Date: 7/9/2019		SeqNo: 2077064		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		109	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.9	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.5	70	130			
Surr: Toluene-d8	9.4		10.00		93.6	70	130			

Sample ID: 1907093-011ams	SampType: MS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: WMW-6	Batch ID: B61269		RunNo: 61269							
Prep Date:	Analysis Date: 7/10/2019		SeqNo: 2077066		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	20	1.0	20.00	0	98.2	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	90.1	67.6	130			
Trichloroethene (TCE)	19	1.0	20.00	0	96.9	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		109	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.3		10.00		92.6	70	130			

Sample ID: 1907093-011amsd	SampType: MSD		TestCode: EPA Method 8260B: VOLATILES							
Client ID: WMW-6	Batch ID: B61269		RunNo: 61269							
Prep Date:	Analysis Date: 7/10/2019		SeqNo: 2077067		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.5	70	130	5.07	20	
Toluene	18	1.0	20.00	0	90.0	70	130	8.73	20	

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon

Project: 2019 Annual GW Sampling

Sample ID: 1907093-011amsd		SampType: MSD		TestCode: EPA Method 8260B: VOLATILES						
Client ID: WMW-6		Batch ID: B61269		RunNo: 61269						
Prep Date:		Analysis Date: 7/10/2019		SeqNo: 2077067		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chlorobenzene	19	1.0	20.00	0	93.8	70	130	8.25	20	
1,1-Dichloroethene	17	1.0	20.00	0	84.8	67.6	130	6.07	20	
Trichloroethene (TCE)	18	1.0	20.00	0	91.9	70	130	5.37	20	
Surr: 1,2-Dichloroethane-d4	11		10.00		110	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130	0	0	
Surr: Dibromofluoromethane	10		10.00		102	70	130	0	0	
Surr: Toluene-d8	9.2		10.00		92.3	70	130	0	0	

Sample ID: 100ng lcs		SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID: LCSW		Batch ID: R61279			RunNo: 61279					
Prep Date:		Analysis Date: 7/10/2019			SeqNo: 2077321		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.2	70	130			
Toluene	18	1.0	20.00	0	91.5	70	130			
Chlorobenzene	19	1.0	20.00	0	96.0	70	130			
1,1-Dichloroethene	17	1.0	20.00	0	82.7	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	90.7	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.7	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.3		10.00		92.9	70	130			

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R61279	RunNo: 61279								
Prep Date:	Analysis Date: 7/10/2019	SeqNo: 2077322			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon

Project: 2019 Annual GW Sampling

Sample ID: rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R61279			RunNo: 61279						
Prep Date:	Analysis Date: 7/10/2019			SeqNo: 2077322	Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
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								

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon
Project: 2019 Annual GW Sampling

Sample ID: rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R61279			RunNo: 61279						
Prep Date:	Analysis Date: 7/10/2019			SeqNo: 2077322		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		110	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.2	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.2		10.00		91.9	70	130			

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon

Project: 2019 Annual GW Sampling

Sample ID: mb-46000	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 46000	RunNo: 61260								
Prep Date: 7/3/2019	Analysis Date: 7/9/2019	SeqNo: 2076703	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon

Project: 2019 Annual GW Sampling

Sample ID: mb-46000	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 46000	RunNo: 61260								
Prep Date: 7/3/2019	Analysis Date: 7/9/2019	SeqNo: 2076703 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	95		200.0		47.4	15	101			
Surr: Phenol-d5	79		200.0		39.6	15	84.6			
Surr: 2,4,6-Tribromophenol	130		200.0		66.1	27.8	112			
Surr: Nitrobenzene-d5	70		100.0		69.5	33	113			
Surr: 2-Fluorobiphenyl	60		100.0		59.7	26.6	107			
Surr: 4-Terphenyl-d14	65		100.0		64.9	18.7	148			

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon

Project: 2019 Annual GW Sampling

Sample ID: Ics-46000		SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles					
Client ID: LCSW		Batch ID: 46000			RunNo: 61260					
Prep Date: 7/3/2019		Analysis Date: 7/9/2019			SeqNo: 2076704		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	80	10	100.0	0	80.5	32.2	94			
4-Chloro-3-methylphenol	70	10	100.0	0	70.2	37.7	101			
2-Chlorophenol	75	10	100.0	0	75.2	32.6	90.1			
1,4-Dichlorobenzene	43	10	100.0	0	42.8	30	87.2			
2,4-Dinitrotoluene	65	10	100.0	0	64.5	35.9	85.8			
N-Nitrosodi-n-propylamine	67	10	100.0	0	67.4	37.1	108			
4-Nitrophenol	36	10	100.0	0	36.1	22.4	86.6			
Pentachlorophenol	53	20	100.0	0	53.0	31.6	91			
Phenol	43	10	100.0	0	42.8	21.7	84.9			
Pyrene	79	10	100.0	0	78.9	46.3	103			
1,2,4-Trichlorobenzene	57	10	100.0	0	57.5	30.2	88.3			
Surr: 2-Fluorophenol	160		300.0		54.7	15	101			
Surr: Phenol-d5	130		300.0		41.9	15	84.6			
Surr: 2,4,6-Tribromophenol	200		300.0		67.7	27.8	112			
Surr: Nitrobenzene-d5	170		200.0		85.9	33	113			
Surr: 2-Fluorobiphenyl	140		200.0		71.6	26.6	107			
Surr: 4-Terphenyl-d14	140		200.0		68.8	18.7	148			

Sample ID: Icsd-46000		SampType: LCSD			TestCode: EPA Method 8270C: Semivolatiles					
Client ID: LCSS02		Batch ID: 46000			RunNo: 61260					
Prep Date: 7/3/2019		Analysis Date: 7/9/2019			SeqNo: 2076705		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	55	10	100.0	0	55.0	32.2	102	37.5	32.9	R
4-Chloro-3-methylphenol	61	10	100.0	0	61.0	37.7	111	14.1	29.9	
2-Chlorophenol	58	10	100.0	0	58.2	32.6	102	25.4	28.5	
1,4-Dichlorobenzene	27	10	100.0	0	27.1	15	93.4	44.8	44.9	
2,4-Dinitrotoluene	58	10	100.0	0	57.6	35.9	93.4	11.3	28.5	
N-Nitrosodi-n-propylamine	60	10	100.0	0	60.0	37.1	112	11.6	29.9	
4-Nitrophenol	36	10	100.0	0	36.4	15	86.6	0.828	68	
Pentachlorophenol	54	20	100.0	0	54.2	31.6	91	2.35	39.5	
Phenol	34	10	100.0	0	34.0	15	84.9	23.0	44.2	
Pyrene	77	10	100.0	0	76.7	46.3	103	2.85	23.8	
1,2,4-Trichlorobenzene	31	10	100.0	0	30.9	15.7	103	60.2	38	R
Surr: 2-Fluorophenol	120		300.0		38.6	15	101	0	0	
Surr: Phenol-d5	95		300.0		31.7	15	84.6	0	0	
Surr: 2,4,6-Tribromophenol	190		300.0		63.9	27.8	112	0	0	
Surr: Nitrobenzene-d5	120		200.0		58.2	33	113	0	0	
Surr: 2-Fluorobiphenyl	99		200.0		49.5	26.6	107	0	0	

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon
Project: 2019 Annual GW Sampling

Sample ID: lcscd-46000	SampType: LCSD	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: LCSS02	Batch ID: 46000	RunNo: 61260								
Prep Date: 7/3/2019	Analysis Date: 7/9/2019	SeqNo: 2076705			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	140		200.0		69.2	18.7	148	0	0	

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon
Project: 2019 Annual GW Sampling

Sample ID: mb-1 alk	SampType: mblk	TestCode: SM2320B: Alkalinity								
Client ID: PBW	Batch ID: R61255	RunNo: 61255								
Prep Date:	Analysis Date: 7/9/2019	SeqNo: 2076376 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: R61255	RunNo: 61255								
Prep Date:	Analysis Date: 7/9/2019	SeqNo: 2076377 Units: mg/L CaCO3								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	76.28	20.00	80.00	0	95.4	90	110			

Sample ID: mb-2 alk	SampType: mblk	TestCode: SM2320B: Alkalinity								
Client ID: PBW	Batch ID: R61255	RunNo: 61255								
Prep Date:	Analysis Date: 7/9/2019	SeqNo: 2076399 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: R61255	RunNo: 61255								
Prep Date:	Analysis Date: 7/9/2019	SeqNo: 2076400 Units: mg/L CaCO3								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	77.44	20.00	80.00	0	96.8	90	110			

Sample ID: mb-1 alk	SampType: mblk	TestCode: SM2320B: Alkalinity								
Client ID: PBW	Batch ID: R61334	RunNo: 61334								
Prep Date:	Analysis Date: 7/11/2019	SeqNo: 2078957 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: R61334	RunNo: 61334								
Prep Date:	Analysis Date: 7/11/2019	SeqNo: 2078958 Units: mg/L CaCO3								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	76.88	20.00	80.00	0	96.1	90	110			

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907093

19-Jul-19

Client: Marathon
Project: 2019 Annual GW Sampling

Sample ID: MB-46049	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: PBW	Batch ID: 46049	RunNo: 61262								
Prep Date: 7/8/2019	Analysis Date: 7/9/2019	SeqNo: 2076563 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: LCS-46049	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: LCSW	Batch ID: 46049	RunNo: 61262								
Prep Date: 7/8/2019	Analysis Date: 7/9/2019	SeqNo: 2076564 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	997	20.0	1000	0	99.7	80	120			

Qualifiers:

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

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

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **1907093**

RcptNo: **1**

Received By: **Anne Thorne** 7/2/2019 10:00:00 AM

Anne Thorne

Completed By: **Anne Thorne** 7/2/2019 1:03:38 PM

Anne Thorne

Reviewed By: **TO** 7/2/19

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels? Yes ☒ No ☐
(Note discrepancies on chain of custody)
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? Yes ☒ No ☐
(If no, notify customer for authorization.)

of preserved bottles checked for pH: **30**
(<2 or >12 unless noted)
Adjusted? **No**
Checked by: **TO 7.2.19**

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:

CUSTODY SEALS INTACT ON ALL SAMPLE BOTTLES/at 7/2/19

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			
2	1.2	Good	Yes			
3	1.6	Good	Yes			

Chain-of-Custody Record

Client: **Marathon Petroleum Company**

Wingate Plant

Mailing Address: **92 Giant Crossing Road**

Gallup, NM 87301

Phone #: **505-726-9745**

email or Fax#: BMoore1@Marathonpetroleum.com

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

☐ Other

☒ EDD (Type) **EXCEL**

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

2019 Annual GW Sampling

Project #:

Project Manager: **Brian Moore**

Sampler: **Tracy Payne - 919-561-7055**

On Ice: ☒ Yes ☐ No

Sample Temperature: **1.1°C, 1.2°C, 1.6°C**

Date Time Matrix Sample Request ID

7/1/19 0730

H₂O

WMW-8

40ml VOA-3

HCl

1 Liter 2x
Amber - X

Neat

250 ml

Plastic-1

HNO₃

125 ml

Plastic-1

HNO₃

125 ml

Plastic-1

H₂SO₄

500 ml

Plastic-1

Neat

Container Type and #

Preservative Type

HEAL No.

1907093

Analysis Request

BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pesticides / 8082 PCB's	8260B	8270 (Semi-VOA)	See Attached Sheet	Air Bubbles (Y or N)
									X	X		
										X		
											X	
											X	
											X	
											X	
											X	

Remarks: * ANALYZE NO₂ & NO₃ FROM THE UNPRESERVED BOTTLE

Received by: *Chen* Date: 7/1/19 Time: 1000

Relinquished by: *BM* Date: 7/1/19 Time: 1000

Chain-of-Custody Record

Client: **Marathon Petroleum Company**
Wingate Plant
 Mailing Address: **92 Giant Crossing Road**
Gallup, NM 87301
 Phone #: **505-726-9745**

email or Fax#: BMoore1@Marathonpetroleum.com
 QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
☐ Other _____
☒ EDD (Type) EXCEL

Date	Time	Matrix	Sample Request ID
7/1/19	0950	H ₂ O	WMW-3

Date: 7/2/19 Time: 1000
 Relinquished by: [Signature]
 Date: 7/2/19 Time: 1000
 Relinquished by: [Signature]

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

2019 Annual GW Sampling

Project #:

Project Manager: **Brian Moore**

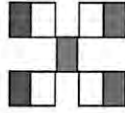
Sampler: **Tracy Payne - 919-561-7055**

On Ice: ☒ Yes ☐ No

Sample Temperature: 11.5°C, 12.5°C, 16.5°C

Container Type and #	Preservative Type	HEAL No.
40ml VOA-3	HCl	1907003
1 Liter Amber - 1	Neat	206
250 ml Plastic-1	HNO ₃	206
125 ml Plastic-1	HNO ₃	206
125 ml Plastic-1	H ₂ SO ₄	206
500 ml Plastic-1	Neat	206

Received by: [Signature] Date: 07/02/19 Time: 1000
 Received by: _____ Date: _____ Time: _____



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

BTX+MTBE+TMBs(8021)	BTX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCBs	8260B	8270 (Semi-VOA)	See Attached Sheet	Air Bubbles (Y or N)
									X			
										X		
											X	
											X	
											X	
											X	
											X	

Remarks: * ANALYZE NO₂ & NO₃ FROM THE UNPRESERVED BOTTLE

Chain-of-Custody Record

Client: **Marathon Petroleum Company**

Wingate Plant

Mailing Address: **92 Giant Crossing Road**

Gallup, NM 87301

Phone #: **505-726-9745**

email or Fax#: BMoore1@Marathonpetroleum.com

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

☐ Other _____

☒ EDD (Type) EXCEL

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

2019 Annual GW Sampling

Project #:

Project Manager: **Brian Moore**

Sampler: **Tracy Payne - 919-561-7055**

On Ice: ☒ Yes ☐ No

Sample Temperature: 11.2, 12.2, 16.2

Date Time Matrix Sample Request ID

7/1/19 1050

H₂O

WMW-4

1 Liter
Amber - 1

250 ml
Plastic-1

125 ml
Plastic-1

125 ml
Plastic-1

500 ml
Plastic-1

Neat

HNO₃

HNO₃

H₂SO₄

Neat

Container Type and #

HCl

Preservative Type

HEAL No. 1907093

BTX+MTBE+TPH (Gas only)

TPH 8015B (GRO/DRO/MRO)

TPH (Method 418.1)

EDB (Method 504.1)

PAH (8310 or 8270SIMS)

RCRA 8 Metals

Anions (F⁻, Cl⁻, NO₃⁻, NO₂⁻, PO₄⁻, SO₄⁻)

8081 Pesticides / 8082 PCB's

8260B

8270 (Semi-VOA)

See Attached Sheet

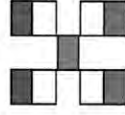
Air Bubbles (Y or N)

Remarks: * ANALYZE NO₂ & NO₃ FROM THE UNPRESERVED BOTTLE

Received by: [Signature] Date 07/02/19 Time 1000

Relinquished by: [Signature] Date 7/2/19 Time 1000

Analysis Request



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Chain-of-Custody Record

Client: **Marathon Petroleum Company**

Wingate Plant

Mailing Address: **92 Giant Crossing Road****Gallup, NM 87301**Phone #: **505-726-9745**email or Fax#: BMoore1@Marathonpetroleum.com

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)☐ Other _____☒ EDD (Type) **EXCEL**

Turn-Around Time:

☒ Standard ☐ Rush _____

Project Name:

2019 Annual GW Sampling

Project #:

Project Manager: **Brian Moore**Sampler: **Tracy Payne - 919-561-7055**On Ice: ☒ Yes ☐ NoSample Temperature: **11.0°C / 52.0°F**

Date

Time

Matrix

Sample Request ID

Container Type and #

Preservative Type

HEAL No.

BTEX+MTBE+TPH (Gas only)

TPH 8015B (GRO/DRO/MRO)

TPH (Method 418.1)

EDB (Method 504.1)

PAH (8310 or 8270SIMS)

RCRA 8 Metals

Anions (F, Cl, NO₃, NO₂, PO₄, SO₄)

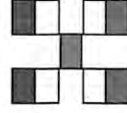
8081 Pesticides / 8082 PCB's

8260B

8270 (Semi-VOA)

See Attached Sheet

Air Bubbles (Y or N)


**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

www.hallenvironmental.com

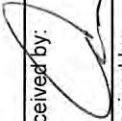
4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date: **7/2/19**Time: **1000**Relinquished by: **[Signature]**Relinquished by: **[Signature]**Received by: **[Signature]**Date: **07/02/19**Time: **1000**Received by: **[Signature]**Date: **07/02/19**Time: **1000**
**Remarks: * ANALYZE NO₂ & NO₃ FROM THE
UNPRESERVED BOTTLE**

Chain-of-Custody Record				Turn-Around Time:			
Client: Marathon Petroleum Company				☒ Standard ☐ Rush			
Wingate Plant				Project Name:			
Mailing Address: 92 Giant Crossing Road				2019 Annual GW Sampling			
Phone #: 505-726-9745				Project #:			
email or Fax#: BMoore1@Marathonpetroleum.com				Project Manager: Brian Moore			
QA/QC Package:				Sampler: Tracy Payne - 919-561-7055			
☒ Standard ☐ Level 4 (Full Validation)				☒ Yes ☐ No			
☐ Other _____				Sample Temperature: 11[°] 1.2[°] 1.6[°]			
Date		Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
7/1/19	1335	H ₂ O	WMW-6	40ml VOA-3	HCl		1907093
				1 Liter Amber - 1	Neat		011
				250 ml Plastic-1	HNO ₃		011
				125 ml Plastic-1	HNO ₃		011
				125 ml Plastic-1	H ₂ SO ₄		011
				500 ml Plastic-1	Neat		011
Date: 7/2/19 1000				Relinquished by:	Received by:		Date: 07/02/19 1000
Time: 1000				Relinquished by:	Received by:		Date: 07/02/19 1000

Turn-Around Time:		☒ Standard ☐ Rush	
Project Name:			
2019 Annual GW Sampling			
Project #:			
Project Manager: Brian Moore			
Sampler:		Tracy Payne - 919-561-7055	
On Ice:		☒ Yes ☐ No	
Sample Temperature: 11.2°C / 1.6"			
Container Type and #	Preservative Type	HEAL No.	
40ml VOA-3	HCl	1907093	
1 Liter Amber - 1	Neat	Dil	
250 ml Plastic-1	HNO ₃	Dil	
125 ml Plastic-1	HNO ₃	Dil	
125 ml Plastic-1	H ₂ SO ₄	Dil	
500 ml Plastic-1	Neat	Dil	
Received by:		Date	Time
		07/02/19	1000
Received by:		Date	Time

Analysis Request

[illegible]

Remarks: * ANALYZE NO₂ & NO₃ FROM THE UNPRESERVED BOTTLE

Chain-of-Custody Record

Client: **Marathon Petroleum Company**

Wingate Plant

Mailing Address: **92 Giant Crossing Road**

Gallup, NM 87301

Phone #: **505-726-9745**

email or Fax#: BMoore1@Marathonpetroleum.com

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

☐ Other _____

☒ EDD (Type) EXCEL

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

2019 Annual GW Sampling

Project #:

Project Manager: **Brian Moore**

Sampler: **Tracy Payne - 919-561-7055**

On Ice: ☒ Yes ☐ No

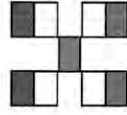
Sample Temperature: 1.1°C, 1.2°C, 1.6°C

Date Time Matrix Sample Request ID

7/1/19	1445	H ₂ O	WMW-2
7/1/19		H ₂ O	TRIP BLANK

Date: 7/2/19 Time: 1000 Relinquished by: [Signature]

Date: 7/2/19 Time: 1000 Relinquished by: [Signature]



**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

BTEX+MTBE+TMBs(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pesticides / 8082 PCB's	8260B	8270 (Semi-VOA)	See Attached Sheet	Air Bubbles (Y or N)
									X			
										X		
											X	
											X	
											X	
											X	
											X	
											X	
											X	
											X	

Remarks: * ANALYZE NO₂ & NO₃ FROM THE UNPRESERVED BOTTLE

**Annual Groundwater Sampling Event
Marathon Petroleum Company
Wingate Plant - Gallup, New Mexico**

METHOD
8260 VOCs
8270 SVOCs
3010/6010 Metals - Dissolved Arsenic Barium Cadmium Calcium Chromium Lead Selenium Silver Sodium
7470 Mercury - Dissolved
SM2320B Alkalinity, Total as CaCO ₃
SM2540C Total Dissolved Solids
EPA 9040 pH
EPA 300.0 Chloride Sulfate Nitrogen, Nitrate
EPA Method 200.8 Total Uranium