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November 8, 2021

Mr. Bradford Billings
New Mexico Oil Conservation District
1220 South St. Francis Drive
Santa Fe, NM 87505
VIA: Electronic Submittal Only

**Re: Site Update and Remedial Work Plan
Former State G 4 Tank Battery, 1R-4863
Sec 18, T-19S, R-37E, Lea County**

Dear Mr. Billings:

Enclosed please find the Site Update and Remedial Work Plan for 1R-4863, Former State G 4 Tank Battery, located in Monument, New Mexico. The report summarizes the additional monitoring wells installed in March 2021 as well as liquid phase hydrocarbon (LPH) recovery efforts.

Per your request, the process of evaluating the viability of an air sparge/soil vapor extraction system had begun; however, Hess does not recommend further pursuing this option due to the presence of LPH in monitoring wells MW-1, MW-2, and MW-5. Hess is instead proposing to excavate soil in the areas with elevated Total Petroleum Hydrocarbons to a depth of four feet below ground surface, line the excavation with a polyethylene liner, and backfill with clean soil.

Hess will begin the proposed scope of work detailed in this report upon your approval. If you should have any further questions or require additional information, please feel free to contact the undersigned at 713-496-7296.

Sincerely,

A handwritten signature in blue ink, appearing to read "Brian Epperson".

Brian Epperson
Director, EHS

cc: Brad Freeman, GeoMonitoring Services

FORMER STATE G 4 TANK BATTERY 1R-4863

SECTION 18, TOWNSHIP 19 SOUTH, RANGE 37 EAST
MONUMENT, LEA COUNTY, NEW MEXICO

SITE UPDATE AND REMEDIAL WORK PLAN

Prepared for:



Hess Corporation

1501 McKinney
Houston, TX 77010

Prepared by:



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1.0 INTRODUCTION

The Former State G 4 Tank Battery (State G 4 or the Site) is located northwest of Monument, New Mexico in southern Lea County. The legal description of the site is Section 18, Township 19 South, and Range 37 East. The Site latitude is 32° 39' 24.1" and longitude is 103° 17' 47.4". The Site was formerly a tank battery that was dismantled at an unknown date. A regional location map showing the site location is included as **Figure 1**. No known environmental incidents have occurred at the Site; however, the Site is under investigation due to its historical use as a former tank battery. On December 5, 2005, the New Mexico Oil Conservation Division (NMOCD) approved a general work plan submitted by Hess Corporation (Hess) to investigate and remediate locations within the North Monument Grayburg San Andres Unit (NMGSAU) that have historical contamination. A C-141 form was submitted and approved by NMOCD on November 29, 2017, and remediation case number 1R-4863 was assigned.

BBC International (BBC) initiated the investigation of the former tank battery on June 30 and July 1, 2015 by advancing nine soil borings to depths as great as 55 feet below ground surface (bgs). The locations of these borings are shown on the Site Map in **Figure 2**. Soils were analyzed for Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX), Chloride, Total Petroleum Hydrocarbons Gasoline Range Organics (TPH-GRO), and Total Petroleum Hydrocarbons Diesel Range Organics (TPH-DRO). Chloride concentrations were above the NMOCD Standard in soil boring SP1 to a depth of 25 feet, SP2 at depths of 15 feet and 45 feet, and SP6 to a depth of 20 feet. Total TPH concentrations were above the NMOCD Standard in soil borings SP1, SP2, and SP7 to a depth of 55 feet in each location, as well as SP6 to a depth of 20 feet. Concentrations for Benzene or Total BTEX were not above the NMOCD Standard in any of the soil borings.

A monitoring well, MW-1, was installed by BBC during the initial investigation in July 2015. The presence of Liquid Phase Hydrocarbon (LPH) was observed in the monitoring well, and no groundwater sample was collected at that time. GeoMonitoring Services (GMS) gauged MW-1 three times in 2016 in August, October, and December. No measurable LPH was observed during these three events, and groundwater samples were collected and analyzed for BTEX, TPH-GRO, TPH-DRO, and Chlorides. Polynuclear Aromatic Hydrocarbons (PAHs) were also analyzed during the December 2016 sampling event. Only Chloride concentrations exceeded the New Mexico Water Quality Control Commission (NM WQCC) Standard of 250 milligrams per liter (mg/L) in October 2016 with a concentration of 850 mg/L and December 2016 with a concentration of 640 mg/L.

GMS utilized the information gathered during the initial investigation conducted by BBC International to further delineate the soil and groundwater impacts. GMS installed four additional monitoring wells and three soil borings in November 2016. An additional five soil borings were advanced and temporary wells were installed in November 2017. Analysis of soil samples demonstrated Total TPH concentrations in excess of the NMOCD Standards of 1,000 mg/kg to depths up to 60 feet in MW-2, 60 feet in MW-5, 50 feet in SB-10, 50 feet in SB-11, and 50 feet in SB-12. Soil borings SB-13 through SB-17

and MW-3 and MW-4 did not have any detections for Total TPH in excess of the NMOCD Standards. Chloride concentrations did not exceed the NMOCD Standard in any of the sample points. Groundwater samples did not have concentrations of BTEX or TPH above the NM WQCC Standards, with the exception of a Benzene detection in monitoring well MW-5 with a concentration of 32 µg/L. Chloride concentrations exceeded the NM WQCC standard in monitoring wells MW-1, MW-3, MW-4, and soil boring SB-14. The total dissolved solids (TDS) concentration in soil boring SB-14 exceeded the NM WQCC Standard. A Site Assessment Report further detailing the above investigation was submitted on July 25, 2018. In that report, Hess proposed excavating the areas with elevated TPH to a depth of four feet, installing a polyethylene liner, and backfilling with clean soil.

During a meeting at the NMOCD office on October 2, 2018, NMOCD expressed interest in Hess evaluating the viability of an air sparge and vapor extraction (AS/VE) system instead of the proposed excavation. On March 3, 2019, Hess submitted a Sparge Test Work Plan, which proposed installing one test point and one observation point. On June 19, 2019, Hess performed gamma and conductivity logs in the five monitoring wells to begin evaluating AS/VE viability. During this event, LPH was observed in the most upgradient monitoring well, MW-5, with a thickness of 3.5 feet. LPH thicknesses in monitoring wells MW-1 and MW-2 had also increased to greater than 6 feet.

A Site Update dated November 12, 2020, noted that LPH samples were subsequently collected from MW-1, MW-2, and MW-5, and the analysis concluded the LPH in all three wells came from the same source and/or release. The update also discussed baildown tests conducted on MW-1 and MW-5, and noted that after 8 hours, MW-1 returned to 57% of its pretest thickness, and MW-5 returned to 70% of its pretest thickness. The update concluded that Hess planned to install three additional monitoring wells immediately south of the road, upgradient of MW-5.

2.0 Monitor Well Installation and Soil Sampling Activities

Per Hess' proposal in the November 12, 2020, Site Update, three monitoring wells were installed upgradient of MW-5 on March 23, 2021 by HCI Drilling using an air rotary rig. Monitoring wells, MW-6, MW-7, and MW-8 were each advanced to a depth of 70 feet bgs and completed with 20 foot of PVC screen, followed by 50 feet of PVC riser. The annulus of each hole was backfilled with sand, followed by a bentonite seal. Well logs are found in **Attachment 1**. The soils were screened with a photoionization detector (PID) at five-foot intervals. No PID readings were measured above 0.0 parts per million (ppm) in any of the three wells. The PID readings for each monitoring well and soil boring are found on **Table 1**.

Soil samples were collected at intervals of every 10 feet and placed in a laboratory-supplied glass container to be analyzed by Cardinal Laboratories (Cardinal) in Hobbs, New Mexico for BTEX, Total TPH, and Chloride. No concentrations for Benzene, Total BTEX, or Total TPH were detected. No Chloride detections exceeded the NMOCD Standard of 10,000 mg/kg. A summary of the soil laboratory results is found on **Table 2**.

3.0 Groundwater Activities

After completing installation of monitoring wells MW-6, MW-7, and MW-8, each monitoring well was then developed by removing 15 to 30 gallons of water via pump. All monitoring wells on site were gauged on March 30, 2021. No LPH was observed in monitoring wells MW-3, MW-4, MW-6, MW-7, or MW-8. LPH was observed in monitoring wells MW-1, MW-2, and MW-5 with thicknesses of 6.64 feet, 6.61 feet, and 5.38 feet, respectively. The groundwater gradient was to the north, as shown in **Figure 1**.

Groundwater samples were collected from all monitoring wells on March 30, 2021, with the exception of MW-1, MW-2, and MW-5 due to the presence of LPH. The samples were analyzed for BTEX, TPH-GRO, TPH-DRO, TPH EXT-DRO, Chloride, TDS, and PAHs. Purging was completed by bailing three well volumes, and three field measurements were recorded for pH, conductivity, temperature, dissolved oxygen, salinity, TDS, and oxygen redox potential (ORP). Final readings for pH ranged from 6.75 standard units (s.u.) at MW-8 to 7.29 s.u. at MW-4. Final readings for conductivity ranged from 822 micro ohms per centimeter squared (μ ohms/cm²) at MW-6 to 2,214 μ ohms/cm² at MW-4. Final readings for dissolved oxygen ranged from 3.6 mg/L at MW-7 to 4.29 mg/L at MW-8. Final temperature readings ranged from 17.08 degrees Celsius (°C) at MW-6 to 21.35°C at MW-4. TDS ranged from 826 ppm at MW-6 to 1,552 ppm at MW-4. ORP ranged from -4.5 millivolts (mv) at MW-4 to 1,448.8 mv at MW-6. A summary of field data is found in **Table 5**.

The samples were transferred from the bailers into dedicated laboratory-supplied Teflon™-capped glassware. The groundwater samples were preserved with hydrochloric acid, placed into a cooler, and maintained at a temperature of less than 4°C for transportation to Cardinal.

None of the groundwater samples collected on March 30, 2021 had detected concentrations for BTEX, TPH-GRO, TPH-DRO, TPH Ext-DRO or PAHs. Monitoring wells MW-3, MW-4, MW-7, and MW-8 had Chloride concentrations above the NM WQCC Standard of 250 mg/L. These concentrations ranged from 252 mg/L in MW-3 to 380 mg/L in MW-7. Monitoring wells MW-3, MW-4, MW-7, and MW-8 also exceeded the NM WQCC Standard for TDS of 1,000 mg/L with concentrations ranging from 1,084 mg/L in MW-3 to 1,552 mg/L in MW-4. A summary of groundwater monitoring results is found in **Tables 4A and 4B** and is shown in **Figure 2**. The laboratory report is found in **Attachment 2**.

4.0 LPH Recovery Activities

In an effort to remove LPH from the monitoring wells, a solar sipper was installed in MW-1 and began recovery on March 30, 2021. The solar sipper was plumbed to discharge into an adjacent drum, which was stored in an overpack. A second solar sipper was installed in MW-2 on April 15, 2021 and was plumbed to discharge into a 300-gallon double wall tank. The wells and recovery containers were gauged monthly in order to measure the decrease in LPH thickness in the wells and monitor the recovery progress.

Approximately 9 gallons of LPH and 75 gallons of water have been recovered from monitoring well MW-1, and approximately 40 gallons of LPH and 250 gallons of water have been recovered from monitoring well MW-2 through September 2021. A summary of the solar sipper recovery is shown in **Table 5**. In addition, MW-1, MW-2, and MW-5 were bailed by hand on July 28, 2021, September 1, 2021, and September 28, 2021. Approximately 4 to 5 gallons were bailed from each well during these three bailing events. **Table 3** shows the decrease in LPH thicknesses in the monitoring wells through September 2021. The LPH thickness in MW-1 decreased from 6.64 feet on March 30, 2021, to 1.94 feet on September 28, 2021. The LPH thickness in MW-2 decreased from 6.61 feet on March 30, 2021, to 2.79 feet on September 28, 2021. The LPH thickness in MW-5 decreased from 4.68 feet on July 28, 2021, to 4.05 feet on September 28, 2021.

5.0 Recommended Remedial Plan and Schedule

Based on the presence of LPH in monitoring wells MW-1, MW-2, and MW-5, Hess does not recommend pursuing an AS/SVE system as this could promote mobility of the LPH. Hess instead would like to accelerate the remedial effort by excavating the areas with elevated Total TPH concentrations. An excavator will be utilized to excavate the approximately 16,000 square foot impacted area, which is shown in **Figure 3**, to a depth of 4 feet bgs. The approximately 2,850 cubic yards of excavated soils will then be stockpiled onsite to await transport by belly dump trucks for final disposal. Prior to beginning the excavation activities, the above-ground steel monitoring well shelters and associated concrete pad will be removed from the monitoring wells within the excavation area, while leaving the PVC riser pipe in place.

Subsequent to excavation activities, the excavation will be fully lined with a 20 mil polyethylene liner. The 20 mil polyethylene liner will be installed over the monitor well riser pipe and then sealed to the PVC riser pipe. Upon completing the liner installation, belly dump trucks will begin transporting approved backfill material to the site, and the backfill material will begin being placed into the lined excavation. The backfilled excavation will then be leveled to the surrounding grade surface utilizing the loader. Subsequent to completion, the above ground steel monitoring casings will be re-installed over the PVC riser pipe and secured with concrete bases.

After completion of the above activities, Hess will resume LPH removal and sample the monitoring wells semiannually for TPH-GRO, TPH-DRO, TPH EXT-DRO, Chloride, and TDS. LPH samples will be collected for gas chromatography/mass spectrometry (GC/MS) analysis to determine the impact on contacted groundwater. Site status updates will be provided annually. Hess proposes the following schedule for completing the above activities:

- Remove monitor well shelters and concrete pads – December 1, 2021

- Begin excavation – December 2, 2021
- Install polyethylene liner – December 9, 2021
- Begin backfilling excavation – December 15, 2021
- Replace monitor well shelters and pads – December 17, 2021
- Resume LPH recovery and sample monitor wells – January 2022
- Collect LPH samples for GC/MS Analysis – January 2022

Tables

Table 1
Summary of PID Readings
Texaco NM State G 4 Battery

Sample Identification	Date Sampled	PID Reading (ppm)
MW-6 05'	3/23/2021	0
MW-6 10'		0
MW-6 15'		0
MW-6 20'		0
MW-6 25'		0
MW-6 30'		0
MW-6 35'		0
MW-6 40'		0
MW-6 45'		0
MW-6 50'		0
MW-6 55'		0
MW-6 60'		0
MW-6 65'		0
MW-6 70'		0
MW-7 05'	3/23/2021	0
MW-7 10'		0
MW-7 15'		0
MW-7 20'		0
MW-7 25'		0
MW-7 30'		0
MW-7 35'		0
MW-7 40'		0
MW-7 45'		0
MW-7 50'		0
MW-7 55'		0
MW-7 60'		0
MW-7 65'		0
MW-7 70'		0
MW-8 05'	3/23/2021	0
MW-8 10'		0
MW-8 15'		0
MW-8 20'		0
MW-8 25'		0
MW-8 30'		0
MW-8 35'		0
MW-8 40'		0
MW-8 45'		0
MW-8 50'		0
MW-8 55'		0
MW-8 60'		0
MW-8 65'		0
MW-8 70'		0

NOTE:

ppm - parts per million

Table 2
Summary of Soil Laboratory Results
BTEX, TPH, Chloride
Texaco NM State G 4 Battery

Sample Identification	Date Sampled	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (ng/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH-GRO (C6-C10) (mg/kg)	TPH-DRO (C10-C28) (mg/kg)	TPH-DRO (C28-C36) (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Standards:		10	NONE	NONE	NONE	50	NONE	NONE	NONE	2,500	10,000
MW-6 10'	3/23/2021	<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	48
MW-6 20'		<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	32
MW-6 30'		<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	32
MW-6 40'		<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	32
MW-6 50'		<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	16
MW-6 60'		<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	32
MW-6 70'		<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	16
MW-7 10'	3/23/2021	<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	48
MW-7 20'		<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	48
MW-7 30'		<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	16
MW-7 40'		<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	<16
MW-7 50'		<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	32
MW-7 60'		<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	16
MW-7 70'		<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	112
MW-8 10'	3/23/2021	<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	48
MW-8 20'		<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	48
MW-8 30'		<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	16
MW-8 40'		<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	32
MW-8 50'		<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	16
MW-8 60'		<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	16
MW-8 70'		<0.025	<0.025	<0.025	<0.025	<0.150	<10	<10	<10	ND	80

NOTE:

Groundwater between 51 - 100 feet

BTEX = Benzene, Toluene, Ethylbenzene, Total Xylenes

TPH = Total Petroleum Hydrocarbons

TPH-GRO = Total Petroleum Hydrocarbons Gasoline Range Organics

TPH-DRO = Total Petroleum Hydrocarbons Diesel Range Organics

NM WQCC = New Mexico Water Quality Control Commission

ND = Not Detected

mg/kg - milligrams per kilogram

NONE = no NM WQCC Standard for this constituent

BOLD values exceed NM WQCC standards**GeoMonitoring Services**

Table 3
Summary of Groundwater Gauging Data
Texaco NM State G 4 Battery

Well No.	Casing Diameter (inches)	Top of Casing to Bottom of Well (feet)	Top of Casing Elevation (feet)	Date	Top of Casing to LPH (feet)	Top of Casing to Water (feet)	LPH Thickness (feet)	Groundwater Elevation (feet)
MW-1	2	74.53	3707.36	12/21/2016	NE	58.99	0.0	3648.37
				11/30/2017	NE	59.71	0.0	3647.65
				7/24/2019	62.34	66.28	3.94	3644.232
				9/3/2019	62.08	64.17	2.09	3644.862
				10/6/2020	61.93	67.94	6.01	3644.228
				3/30/2021	61.96	68.6	6.64	3644.072
				6/21/2021	62.72	65.79	3.07	3644.026
				7/28/2021	62.05	66.11	4.06	3644.498
				9/1/2021	62.04	66.55	4.51	3644.418
MW-2	2	NM	3706.78	9/28/2021	62.06	64	1.94	3644.912
				12/21/2016	57.8	62.09	4.29	3648.122
				11/30/2017	NM	NM	NM	NM
				7/24/2019	61.63	66.98	5.35	3644.08
				9/3/2019	61.18	65.45	4.27	3644.746
				10/6/2020	61.26	67.45	6.19	3644.282
				3/30/2021	61.35	67.96	6.61	3644.108
				6/28/2021	61.97	67.05	5.08	3643.794
				7/28/2021	61.52	65.54	4.02	3644.456
MW-3	2	73.1	3707.14	9/1/2021	61.81	65.75	3.94	3644.182
				9/28/2021	61.4	64.19	2.79	3644.822
				12/21/2016	NE	58.87	0.0	3648.27
				11/30/2017	NE	59.56	0.0	3647.58
				7/24/2019	NE	62.48	0.0	3644.66
				9/3/2019	NE	62.03	0.0	3645.11
MW-4	2	73.3	3707.01	10/6/2020	NE	62.38	0.0	3644.76
				3/30/2021	NE	62.62	1.0	3644.52
				12/21/2016	NE	58.64	0.0	3648.37
				11/30/2017	NE	59.33	0.0	3647.68
				7/24/2019	NE	62.40	0.0	3644.61
				9/3/2019	NE	61.92	0.0	3645.09
MW-5	2	73.4	3706.57	10/6/2020	NE	62.15	0.0	3644.86
				3/30/2021	NE	62.42	0.0	3644.59
				12/21/2016	NE	58.05	0.0	3648.52
				11/30/2017	58.76	58.86	0.10	3647.79
				7/24/2019	61.57	64.51	2.94	3644.41
				9/3/2019	61.06	63.81	2.75	3644.96
				10/6/2020	61.10	65.9	4.80	3644.51
				3/30/2021	61.19	66.57	5.38	3644.304
				6/21/2021	61.55	67.54	5.99	3643.822
MW-6	2	75.30	3708.91	7/28/2021	61.12	65.73	4.61	3644.528
				9/1/2021	61.14	66.08	4.94	3644.442
				9/28/2021	60.93	64.98	4.05	3644.83
MW-7	2	74.32	3708.83	3/30/2021	NE	63.32	0.00	3645.51
MW-8	2	72.15	3707.36	3/30/2021	NE	62.35	0.00	3645.01

Note:

LPH - Liquid Phase Hydrocarbon

NM - Not Measured

NE - Not Encountered

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Table 4A
Summary of Groundwater Monitoring Results
BTEX, TPH, Chloride, and TDS
Texaco NM State G 4 Battery

Sample Identification	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TPH-GRO (C6-C10) (mg/L)	TPH-DRO (C10-C28) (mg/L)	TPH EXT-DRO (C28-C36) (mg/L)	Chloride (mg/L)	TDS (mg/L)
NM WQCC Standards:		10	750	750	620	NONE	NONE	NONE	250	1000
MW-1	12/21/2016	2.0	<0.5	3.0	10	16.9	163.0	NA	640	NA
	3/30/2021	NOT SAMPLED								
MW-2	12/21/2016	NOT SAMPLED								
	3/30/2021	NOT SAMPLED								
MW-3	12/21/2016	0.7	<0.5	<0.5	<2	<1	<1	NA	264	NA
	3/30/2021	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	252	1084
MW-4	12/21/2016	4.0	<0.5	<0.5	12	<1	1.58	NA	268	NA
	3/30/2021	2.0	<0.5	<0.5	2	<1	1.20	<1	340	1552
MW-5	12/21/2016	32	<0.5	16	110	4.68	13.2	NA	104	NA
	3/30/2021	NOT SAMPLED								
MW-6	3/30/2021	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	48	826
MW-7	3/30/2021	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	380	1464
MW-8	3/30/2021	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	368	1526
SB-13	11/30/2017	<0.5	<0.5	<1	<2	<1	<1		224	974
SB-14	11/30/2017	<0.5	<0.5	<1	<2	<1	2.44		320	1220
SB-15	11/30/2017	<0.5	<0.5	1	20	4.19	19.6		72	730
SB-16	11/30/2017	<0.5	<0.5	<1	<2	1.66	2.45		72	664
SB-17	11/30/2017	<0.5	<0.5	<1	<2	<1	<1		80	600

NOTE:

BTEX = Benzene, Toluene, Ethylbenzene, Total Xylenes
 TPH = Total Petroleum Hydrocarbons
 TPH-GRO = Total Petroleum Hydrocarbons Gasoline Range Organics
 TPH-DRO = Total Petroleum Hydrocarbons Diesel Range Organics
 NM WQCC = New Mexico Water Quality Control Commission
 NA=not analyzed
 µg/L = micrograms per Liter
 mg/L = milligrams per Liter
 NONE = no NM WQCC Standard for this constituent
BOLD values exceed NM WQCC standards

GeoMonitoring Services

Table 4B
Summary of Groundwater Monitoring Results
Polynuclear Aromatic Hydrocarbons
Texaco NM State G 4 Battery

Sample Identification	Date Sampled	Naphthalene (mg/L)	2-Methylnaphthalene (mg/L)	1-Methylnaphthalene (mg/L)	Acenaphthylene (mg/L)	Acenaphthene (mg/L)	Fluorene (mg/L)	Phenanthrene (mg/L)	Anthracene (mg/L)	Carbazole (mg/L)	Fluoranthene (mg/L)	Pyrene (mg/L)	Benzo[a]anthracene (mg/L)	Chrysene (mg/L)	Benzo[b]fluoranthene (mg/L)	Benzo[k]fluoranthene (mg/L)	Benzo[a]pyrene (mg/L)	Indeno[1,2,3-cd]pyrene (mg/L)	Dibenz[a,h]anthracene (mg/L)	Benzo[g,h,i]perylene (mg/L)
MW-1	12/21/2016	<0.002	0.0	0.0	<0.002	0.003	0.002	0.008	0.008	<0.003	<0.002	<0.002	0.003	0.003	<0.004	<0.006	0.0	<0.002	0.002	<0.004
	3/30/2021																			
MW-2	12/21/2016																			
	3/30/2021																			
MW-3	12/21/2016	<0.0002	<0.0002	<0.00009	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0007	<0.0002	<0.0002	<0.0002	<0.0005
	3/30/2021	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.001
MW-4	12/21/2016	<0.0002	<0.0002	<0.00009	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0007	<0.0002	<0.0002	<0.0002	<0.0005
	3/30/2021	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.001
MW-5	12/21/2016	0.002	0.004	0.006	<0.0002	<0.0002	0.001	0.001	0.001	<0.0003	<0.0002	<0.0002	<0.0001	<0.0002	<0.0004	<0.0006	<0.0002	<0.0002	<0.0002	<0.0004
	3/30/2021																			
MW-6	3/30/2021	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.001
MW-7	3/30/2021	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.001
MW-8	3/30/2021	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.001
SB-13	11/30/2017	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.001
SB-14	11/30/2017	<0.001	<0.001	<0.0005	<0.001	<0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.001
SB-15	11/30/2017	0.01	0.021	0.022	<0.001	<0.001	0.002	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.001
SB-16	11/30/2017	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.001
SB-17	11/30/2017	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.001

NOTE:
NM WQCC = New Mexico Water Quality Control Commission
mg/L - milligrams per Liter
NONE = no NM WQCC Standard for this constituent

GeoMonitoring Services

Table 5
Summary of Groundwater Field Data
Texaco NM State G 4 Battery

Well ID	Casing Diameter (inches)	Date	Amount Purged (gallons)	Field Reading	pH (s.u.)	Conductivity (μ ohms/cm ²)	Dissolved Oxygen (mg/L)	Temperature (°C)	Salinity (ppt)	Total Dissolved Solids (ppm)	ORP (mv)
MW-3	2	3/30/2021	3	1st	6.36	1361	4.47	20.89	0.74	961	852.6
				2nd	6.45	863	10.48	20.38	0.41	615	75.4
				3rd	6.92	1526	3.91	20.76	0.84	1084	55.1
MW-4	2	3/30/2021	5	1st	6.87	2140	2.43	22.04	1.17	1478	-6.7
				2nd	3.17	2223	2.96	20.69	1.25	1573	-47.6
				3rd	7.29	2214	3.87	21.35	1.23	1552	-4.5
MW-6	2	3/30/2021	5	1st	7.08	748	11.89	17.96	0.36	480	85
				2nd	7.18	673	8.49	17.82	0.51	669	1040.1
				3rd	7.28	822	3.93	17.08	0.64	826	1448.8
MW-7	3	3/30/2021	5	1st	1.52	1441	5.2	17.02	0.86	1109	374.2
				2nd	1.52	1642	5.37	18.1	0.97	1231	1359.2
				3rd	6.82	1927	3.6	17.78	1.16	1464	67.4
MW-8	4	3/30/2021	5	1st	3.53	1871	6.33	18.35	1.1	1392	293.7
				2nd	3.53	1932	5.74	18.21	1.15	1443	500.6
				3rd	6.75	2035	4.29	18.16	1.21	1526	163.1

GeoMonitoring Services

Table 6
Summary of Solar Sipper Recovery
April through September 2021
Texaco NM State G 4 Battery

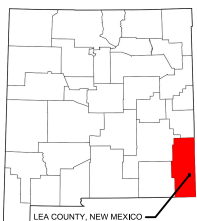
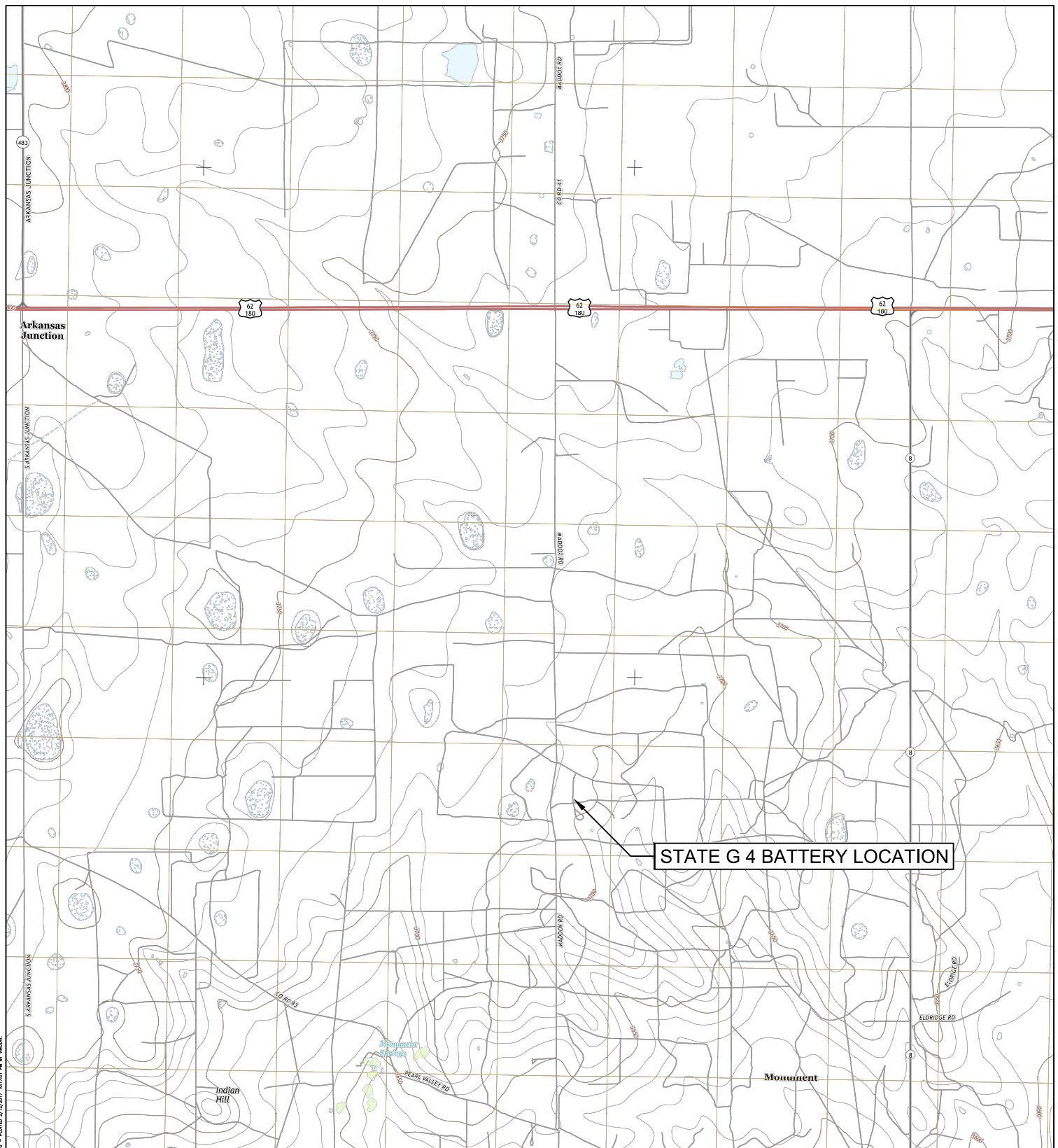
MW-1							
Date of Vacuuming Drums	Depth to LPH (feet)	Depth to Water (feet)	Thickness (feet)	Depth to Bottom (feet)	Amount of LPH (gallons)	Amount of Water (gallons)	Total Fluid (gallons)
7/28/2021	0.5	0.7	0.2	2.8	4.074	42.777	46.851
9/28/2021	0.95	1.2	0.25	2.8	5.0925	32.592	37.6845
Total:					9.1665	75.369	84.5355

55 gallon drum = 20.37 gallons per foot

MW-2							
Date of Vacuuming Tank	Depth to LPH (feet)	Depth to Water (feet)	Thickness (feet)	Depth to Bottom (feet)	Amount of LPH (gallons)	Amount of Water (gallons)	Total Fluid (gallons)
9/28/2021	0.94	1.25	0.31	3.14	40.92	249.48	290.4
Total:					40.92	249.48	290.4

390 gallon tank = 11 gallons per inch

Figures



0 2000 4000 8000
APPROXIMATE SCALE IN FEET



FIGURE 1
SITE LOCATION MAP
TEXACO NM STATE G 4 BATTERY
LEA COUNTY, NEW MEXICO

MAP SOURCE: USGS 7.5 MINUTE SERIES TOPOGRAPHIC MAP -- NONUM NORTH QUADRANGLE (2017)

DRAWN BY: VMW

DATE: 02/12/17


PROJECT NO: HESS E&P




Image courtesy of ImagePatch.com © 2017 Microsoft Corporation © 2010 NAA




GMS
GeoMonitoring Services
Environmental Remediation & Consulting



MONITORING WELL LOCATION




SOIL BORING LOCATION




INITIAL SOIL BORING LOCATION


LEGEND




3,644.76 GROUNDWATER ELEVATION (IN FEET)



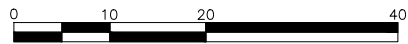
GROUNDWATER ELEVATION CONTOUR LINE (IN FEET)



INFERRED GROUNDWATER ELEVATION CONTOUR LINE (IN FEET)



N



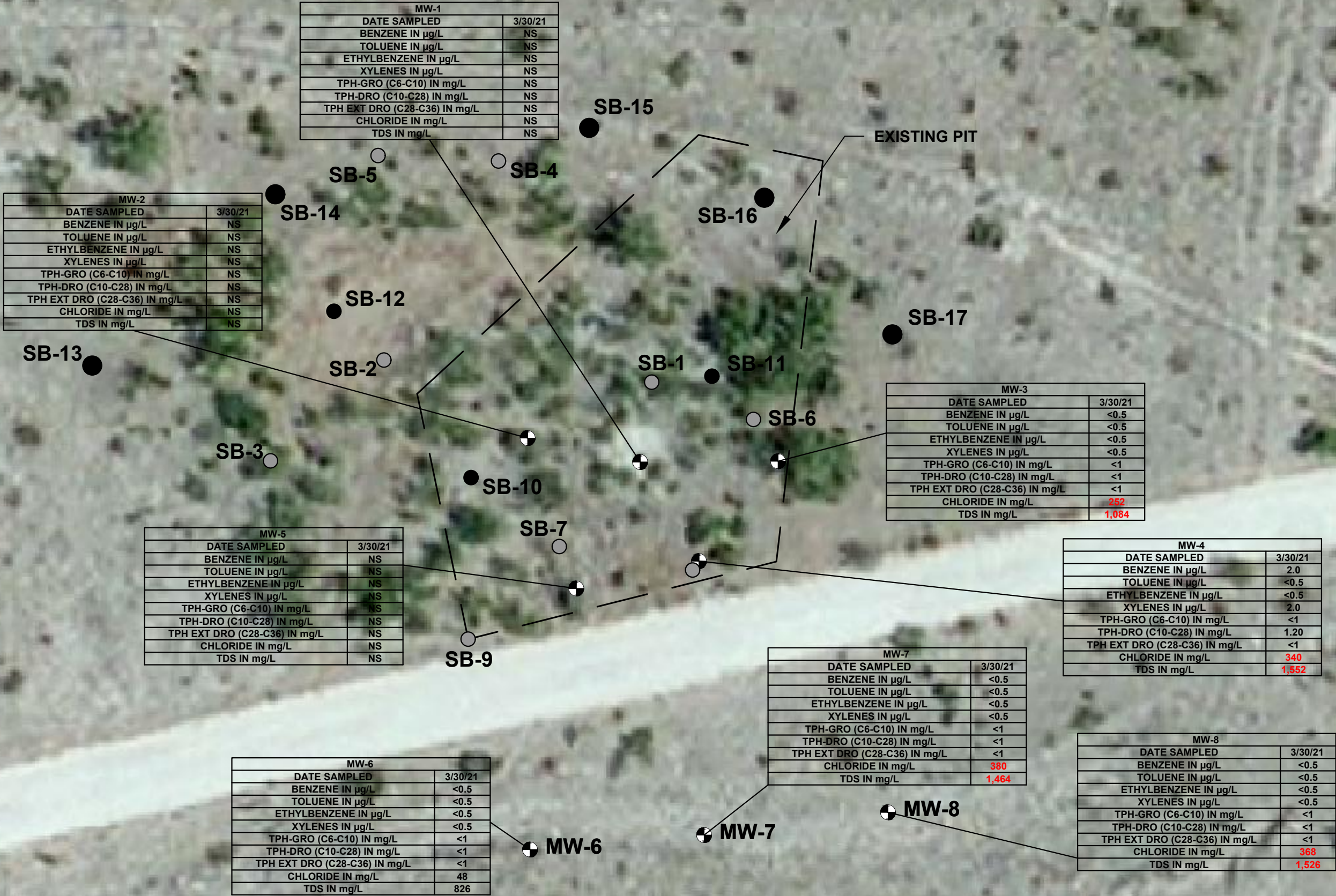
0 10 20 40
APPROXIMATE SCALE IN FEET

FIGURE 2
GROUNDWATER POTENTIOMETRIC MAP
MARCH 30, 2021
TEXACO NM STATE G 4 BATTERY
LEA COUNTY, NEW MEXICO

DRAWN BY: JFLAKE

DATE: 11/4/21

PROJECT NO: HESS E&P



NOTE: AERIAL SOURCE - USGS IMAGEPATCH.COM © MICROSOFT CORPORATION. FOR EACH SAMPLE COLLECTED, BTX, TPH, CHLORIDE, AND TDS DATA IS SHOWN. FOR PAH'S, ONLY CONSTITUENTS WHICH WERE DETECTED ARE SHOWN. ANALYTICAL DATA DISPLAYED IN RED EXCEEDS THE NEW MEXICO WATER QUALITY CONTROL COMMISSION STANDARDS.

- LEGEND**
- MONITORING WELL LOCATION
 - SOIL BORING LOCATION
 - INITIAL SOIL BORING LOCATION
 - NA - NOT ANALYZED

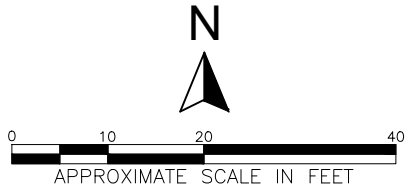


FIGURE 3
GROUNDWATER ANALYTICAL MAP
MARCH 30, 2021
TEXACO NM STATE G 4 BATTERY
LEA COUNTY, NEW MEXICO

DRAWN BY: JFLAKE DATE: 11/4/21 PROJECT NO: HESS E&P

SB-15							
DEPTH	10'	20'	30'	40'	50'	60'	70'
DATE	11/30/17	11/30/17	11/30/17	11/30/17	11/30/17	11/30/17	11/30/17
PARAMETER (MG/KG)							
BENZENE	ND	ND	ND	ND	ND	ND	ND
TOLUENE	ND	0.043	ND	ND	ND	ND	ND
ETHYLBENZENE	ND	ND	ND	ND	ND	ND	ND
XYLENES	ND	ND	ND	ND	ND	ND	ND
TOTAL BTEX	ND	ND	ND	ND	ND	ND	ND
THP-GRO (C6-C10)	10.6	ND	ND	15.5	11.2	ND	ND
TPH-DRO (C10-C28)	ND	ND	ND	110	46	ND	ND
TOTAL TPH	11	ND	ND	125.5	57.2	ND	ND
CHLORIDE	96	48	16	48	48	16	ND

MW-2								
DEPTH	10'	20'	30'	40'	45'	50'	60'	70'
DATE	11/8/16	11/8/16	11/8/16	11/8/16	11/8/16	11/8/16	11/8/16	11/8/16
PARAMETER (MG/KG)								
BENZENE	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	0.177	0.376	0.68	0.261	0.517	0.26	0.482	ND
ETHYLBENZENE	0.328	0.732	1.54	0.794	1.71	0.975	1.22	0.122
XYLENES	1.16	1.37	3.19	1.73	3.85	2.22	2.71	0.253
TOTAL BTEX	1.66	2.48	5.41	2.78	6.08	3.46	4.41	0.375
THP-GRO (C6-C10)	79.8	141	271	154	399	242	308	17.6
TPH-DRO (C10-C28)	4,540	3,680	4,430	2,510	4,120	3,130	4,360	419
TOTAL TPH	4,619.8	3,821	4,701	2,664	4,519	3,372	4,668	436.6
CHLORIDE	80	192	496	496	448	304	96	160

SB-16							
DEPTH	10'	20'	30'	40'	50'	60'	70'
DATE	11/30/17	11/30/17	11/30/17	11/30/17	11/30/17	11/30/17	11/30/17
PARAMETER (MG/KG)							
BENZENE	ND	ND	ND	ND	ND	ND	ND
TOLUENE	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	ND	ND	ND	ND	ND	ND	ND
XYLENES	ND	ND	ND	ND	ND	ND	ND
TOTAL BTEX	ND	ND	ND	ND	ND	ND	ND
THP-GRO (C6-C10)	ND	ND	ND	ND	ND	ND	ND
TPH-DRO (C10-C28)	ND	16	ND	ND	ND	ND	ND
TOTAL TPH	ND	16	ND	ND	ND	ND	ND
CHLORIDE	16	32	48	32	64	48	32

SB-17							
DEPTH	10'	20'	30'	40'	50'	60'	70'
DATE	11/30/17	11/30/17	11/30/17	11/30/17	11/30/17	11/30/17	11/30/17
PARAMETER (MG/KG)							
BENZENE	ND	ND	ND	ND	ND	ND	ND
TOLUENE	ND	ND	ND	0.026	ND	0.029	ND
ETHYLBENZENE	ND	ND	ND	ND	ND	ND	ND
XYLENES	ND	ND	ND	ND	ND	ND	ND
TOTAL BTEX	ND	ND	ND	ND	ND	ND	ND
THP-GRO (C6-C10)	ND	13	ND	ND	ND	15	ND
TPH-DRO (C10-C28)	14.1	23.3	ND	ND	ND	22.6	ND
TOTAL TPH	14.1	36.3	ND	ND	ND	37.6	ND
CHLORIDE	16	496	32	80	32	96	16

SB-11						
DEPTH	10'	20'	30'	35'	40'	50'
DATE	11/21/16	11/21/16	11/21/16	11/21/16	11/21/16	11/21/16
PARAMETER (MG/KG)						
BENZENE	ND	ND	ND	ND	ND	ND
TOLUENE	ND	ND	0.053	0.108	0.094	0.263
ETHYLBENZENE	ND	ND	ND	ND	ND	0.864
XYLENES	ND	ND	0.498	0.713	0.604	2.03
TOTAL BTEX	ND	ND	0.551	0.821	0.698	3.15
THP-GRO (C6-C10)	ND	ND	ND	ND	50.9	156
TPH-DRO (C10-C28)	ND	ND	1,580	1,380	1,170	2,680
TOTAL TPH	ND	ND	1,580	1,431	1,170	2,836
CHLORIDE	672	1,200	240	144	80	64

MW-3								
DEPTH	10'	20'	30'	40'	50'	55'	60'	70'
DATE	11/7/16	11/7/16	11/7/16	11/7/16	11/7/16	11/7/16	11/7/16	11/7/16
PARAMETER (MG/KG)								
BENZENE	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	ND	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
XYLENES	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL BTEX	ND	ND	ND	ND	ND	ND	ND	ND
THP-GRO (C6-C10)	ND	ND	ND	ND	ND	ND	ND	ND
TPH-DRO (C10-C28)	ND	31.2	11.8	168	ND	20.1	165	ND
TOTAL TPH	ND	31.2	11.8	168	ND	20.1	165	ND
CHLORIDE	528	176	64	80	144	80	96	48

MW-4								
DEPTH	10'	20'	30'	40'	50'	55'	60'	70'
DATE	11/8/16	11/8/16	11/8/16	11/8/16	11/8/16	11/8/16	11/8/16	11/8/16
PARAMETER (MG/KG)								
BENZENE	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	ND	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	ND	ND	ND	ND	ND	ND	ND	ND
XYLENES	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL BTEX	ND	ND	ND	ND	ND	ND	ND	ND
THP-GRO (C6-C10)	ND	ND	ND	ND	ND	ND	ND	ND
TPH-DRO (C10-C28)	ND	ND	ND	ND	102	209	ND	ND
TOTAL TPH	ND	ND	ND	125.5	102	209	ND	ND
CHLORIDE	48	ND	ND	32	32	ND	32	80

MW-5							
DEPTH	10'	20'	30'	40'	50'	60'	70'
DATE	11/8/16	11/8/16	11/8/16	11/8/16	11/8/16	11/8/16	11/8/16
PARAMETER (MG/KG)							
BENZENE	ND	ND	ND	ND	ND	ND	ND
TOLUENE	ND	ND	ND	ND	ND	0.104	ND
ETHYLBENZENE	ND	ND	ND	ND	ND	0.255	ND
XYLENES	ND	ND	0.613	ND	ND	0.532	ND
TOTAL BTEX	ND	ND	0.613	ND	ND	0.892	ND
THP-GRO (C6-C10)	ND	ND	100	ND	ND	52.8	ND
TPH-DRO (C10-C28)	306	106	3,050	123	17.1	987	17.9
TOTAL TPH	306	106	3,150	123	17.1	1,039.8	17.9
CHLORIDE	32	ND	ND	ND	ND	ND	128

NEW MEXICO OIL CONSERVATION DIVISION STANDARDS (IN MG/KG)	
BENZENE	100
TOLUENE	NS
ETHYLBENZENE	NS
XYLENES	NS
TOTAL BTEX	50
THP-GRO (C6-C10)	NS
TPH-DRO (C10-C28)	NS
TOTAL TPH	1,000
CHLORIDE	10,000

SB-13							
DEPTH	10'	20'	30'	40'	50'	60'	70'
DATE	11/30/17	11/30/17	11/30/17	11/30/17	11/30/17	11/30/17	11/30/17
PARAMETER (MG/KG)							
BENZENE	ND	ND	ND	ND	ND	ND	ND
TOLUENE	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	ND	ND	ND	ND	ND	ND	ND
XYLENES	ND	ND	ND	ND	ND	ND	ND
TOTAL BTEX	ND	ND	ND	ND	ND	ND	ND
THP-GRO (C6-C10)	ND	ND	ND	ND	ND	ND	ND
TPH-DRO (C10-C28)	ND	ND	ND	ND	ND	ND	ND
TOTAL TPH	ND	ND	ND	ND	ND	ND	ND
CHLORIDE	32	48	16	32	112	32	48

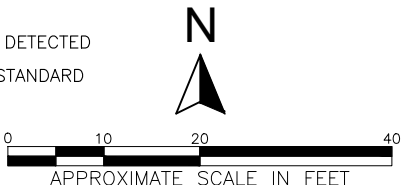
SB-12							
DEPTH	10'	20'	30'	35'	40'	50'	
DATE	11/21/16	11/21/16	11/21/16	11/21/16	11/21/16	11/21/16	11/21/16
PARAMETER (MG/KG)							
BENZENE	ND	ND	ND	ND	ND	ND	ND
TOLUENE	0.61	0.421	0.167	0.307	0.18	0.148	
ETHYLBENZENE	1.37	0.918	0.436	0.794	0.382	0.568	
XYLENES	4.92	1.72	0.888	1.72	0.806	1.29	
TOTAL BTEX	6.9	3.06	1.49	2.82	1.37	2.0	
THP-GRO (C6-C10)	269	103	54.7	124	62.4	84.1	
TPH-DRO (C10-C28)	3,750	2,540	2,080	3,680	2,790	2,370	
TOTAL TPH	4,019	2,643	2,135	3,804	2,852	2,454	
CHLORIDE	48	160	224	96	48	32	

SB-10						
DEPTH	10'	15'	20'	30'	40'	50'
DATE	11/21/16	11/21/16	11/21/16	11/21/16	11/21/16	11/21/16
PARAMETER (MG/KG)						
BENZENE	ND	ND	ND	ND	ND	ND
TOLUENE	1.96	0.561	0.289	0.294	0.316	0.184
ETHYLBENZENE	3.62	1.12	0.603	0.618	1.36	0.694
XYLENES	7.76	2.24	1.2	1.22	3.23	1.71
TOTAL BTEX	13.3	3.92	2.09	2.24	4.9	2.59
THP-GRO (C6-C10)	578	213	136	113	213	160
TPH-DRO (C10-C28)	6,210	4,220	3,110	2,780	2,830	2,490
TOTAL TPH	6,788	4,433	3,246	2,893	3,043	2,650
CHLORIDE	128	160	112	256	368	192

- MONITORING WELL LOCATION
- SOIL BORING LOCATION
- INITIAL SOIL BORING LOCATION
- FORMER PIT
- PROPOSED EXCAVATION AREA

MG/KG – MILLIGRAM PER KILOGRAM
BTEX – BENZENE, TOLUENE, ETHYLBENZENE, TOTAL XYLENES
TPH – TOTAL PETROLEUM HYDROCARBONS
TPH-GRO – TOTAL PETROLEUM HYDROCARBONS (GASOLINE RANGE ORGANICS)
TPH-DRO – TOTAL PETROLEUM HYDROCARBONS (DIESEL RANGE ORGANICS)

ND – NOT DETECTED
NS – NO STANDARD



NOTE: AERIAL SOURCE – USGS IMAGEPATCH.COM © MICROSOFT CORPORATION. CONCENTRATIONS IN RED EXCEED NMOCD STANDARDS

Image courtesy of ImagePatch.com © 2017 Microsoft Corporation © 2010 NAI

FIGURE 4
PROPOSED EXCAVATION AREA
TEXACO NM STATE G 4 BATTERY
LEA COUNTY, NEW MEXICO

DRAWN BY: JFLAKE DATE: 11/4/21 PROJECT NO: HESS E&P

Attachments

Attachment 1

Well Logs

DRILLING CO. HCI DRILLING GEOLOGIST: _____

DRILLER: KENNY COOPER CLIENT: HESS CORPORATION

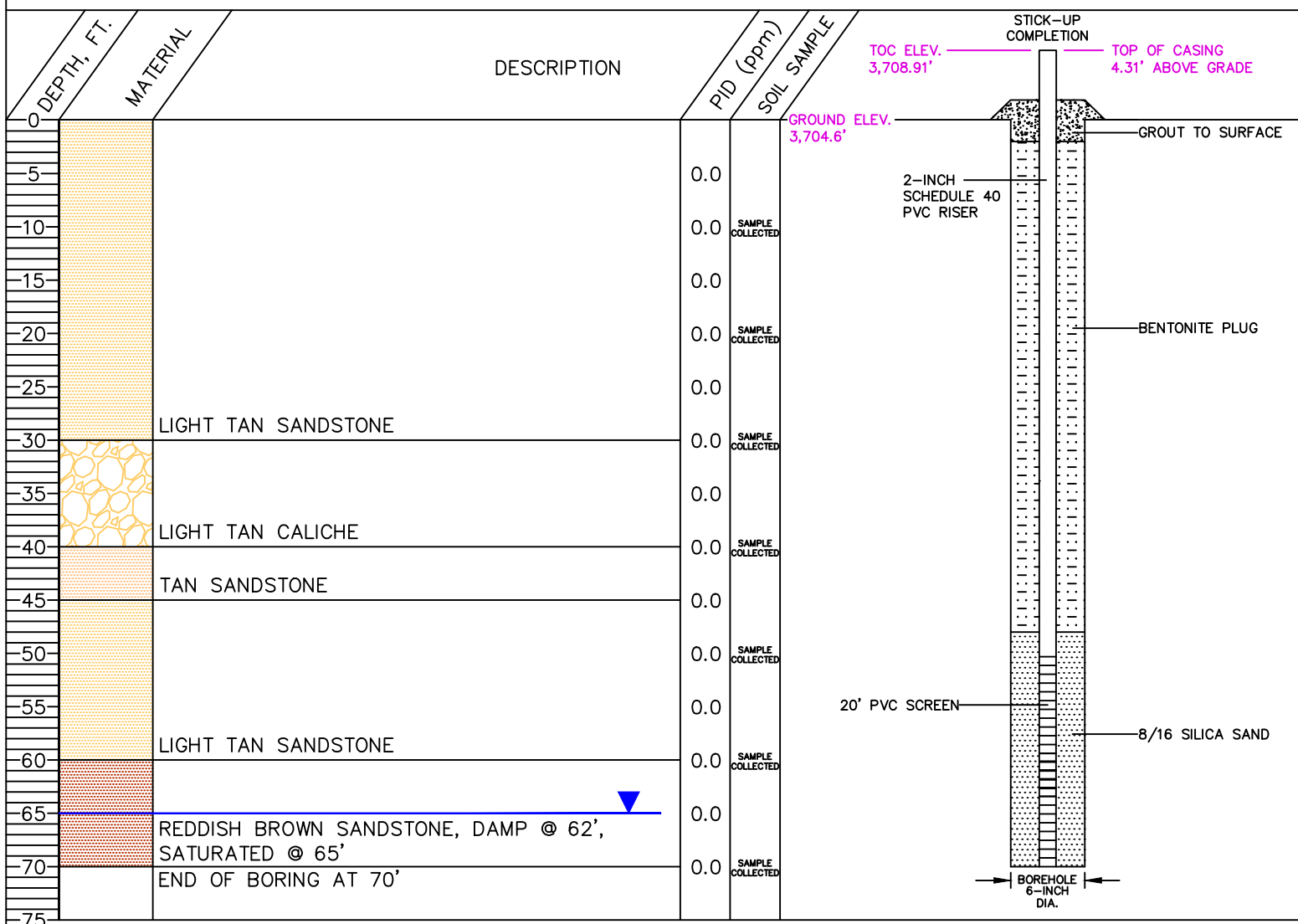
PROJECT NO: TEXACO STATE G4 BATTERY LOCATION: MONUMENT, NEW MEXICO

DATE COMPLETED: 3/23/21

METHOD: AIR ROTARY

SCREEN TYPE: PVC – 20' SET 50' TO 70' BSG

NOTES: BORING PRE-CLEARED TO 4"

SOIL BORING MW-6MONITOR WELL MW-6

LEGEND

▼ APPROXIMATE WATER LEVEL AT TIME OF DRILLING

LATITUDE: N 32° 39' 23.0"

LONGITUDE: W 103° 17' 47.8"



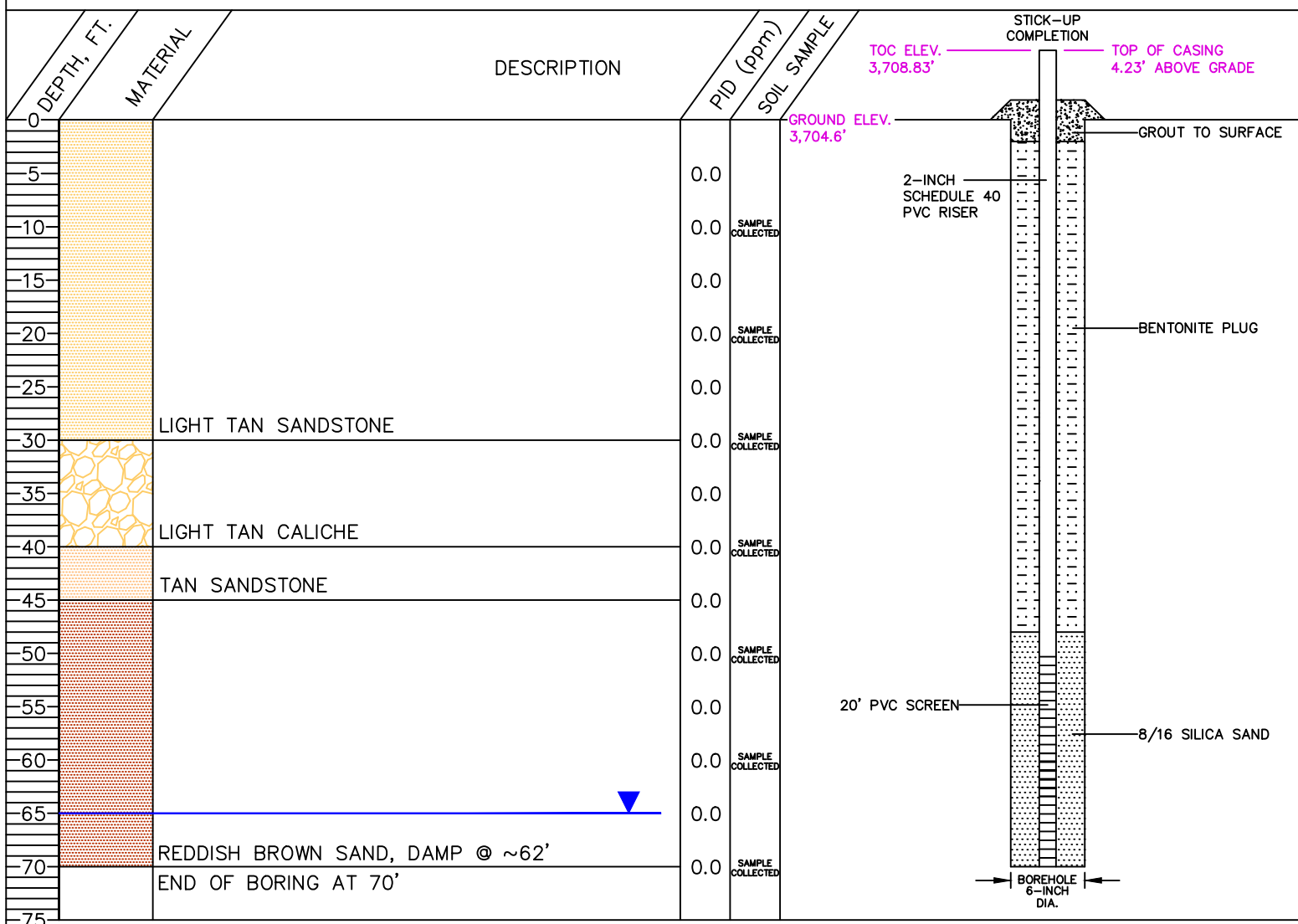
BORING LOG
MW-6
TEXACO STATE G4 BATTERY
HESS E&P – NEW MEXICO
MONUMENT, NEW MEXICO

DRAWN BY:
JFLAKE

DATE:
10/31/21

PROJ. NO.
HESS

DRILLING CO. HCI DRILLING GEOLOGIST: _____
 DRILLER: KENNY COOPER CLIENT: HESS CORPORATION
 PROJECT NO: TEXACO STATE G4 BATTERY LOCATION: MONUMENT, NEW MEXICO
 DATE COMPLETED: 3/23/21
 METHOD: AIR ROTARY
 SCREEN TYPE: PVC – 20' SET 50' TO 70' BSG
 NOTES: BORING PRE-CLEARED TO 3-4"

SOIL BORING MW-7MONITOR WELL MW-7

LEGEND

▼ APPROXIMATE WATER LEVEL AT TIME OF DRILLING

LATITUDE: N 32° 39' 23.0"

LONGITUDE: W 103° 17' 47.2"



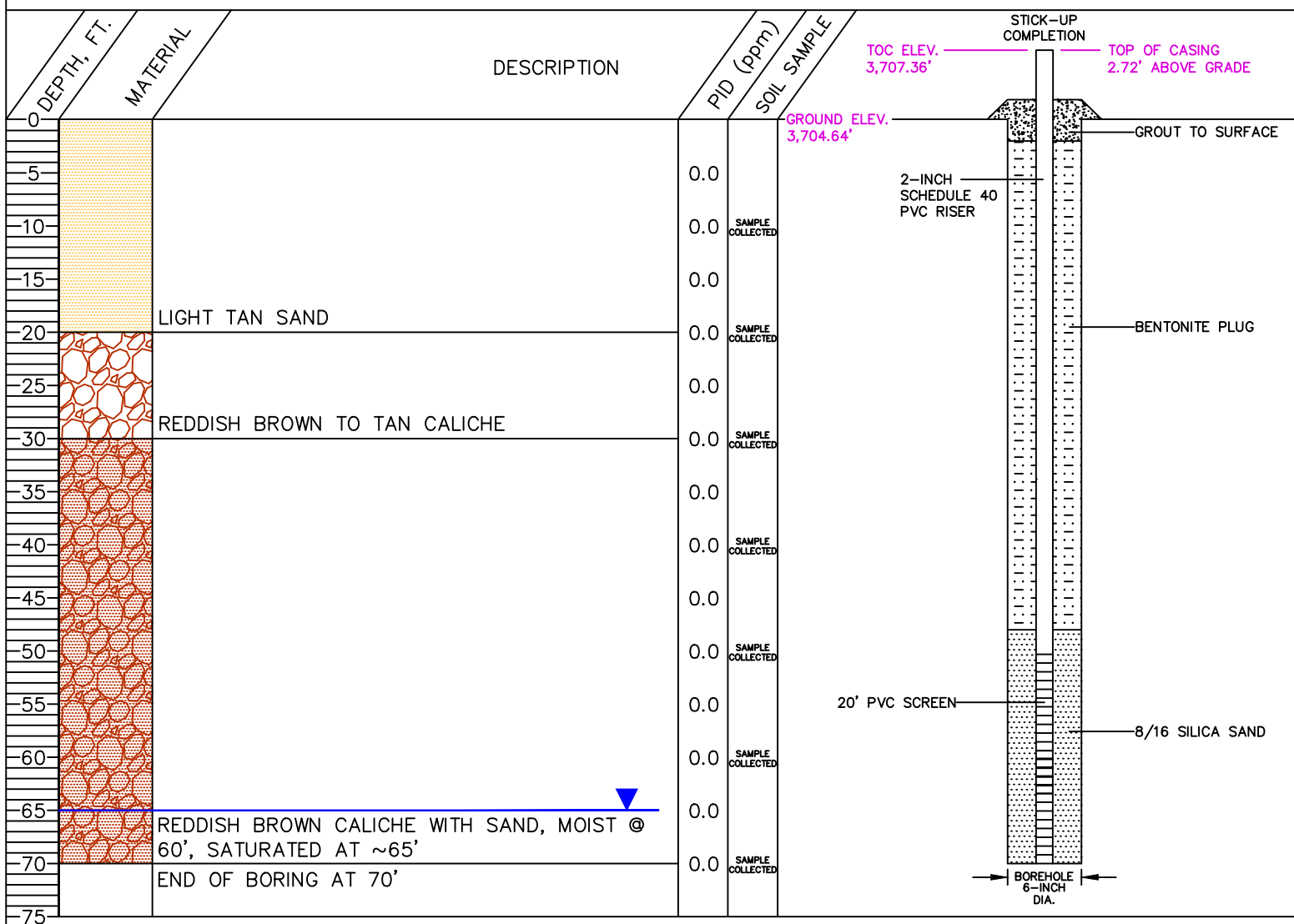
BORING LOG
MW-7
TEXACO STATE G4 BATTERY
HESS E&P – NEW MEXICO
MONUMENT, NEW MEXICO

DRAWN BY:
JFLAKE

DATE:
10/31/21

PROJ. NO.
HESS

DRILLING CO. HCI DRILLING GEOLOGIST: _____
 DRILLER: KENNY COOPER CLIENT: HESS CORPORATION
 PROJECT NO: TEXACO STATE G4 BATTERY LOCATION: MONUMENT, NEW MEXICO
 DATE COMPLETED: 3/23/21
 METHOD: AIR ROTARY
 SCREEN TYPE: PVC – 20' SET 50' TO 70' BSG
 NOTES: BORING PRE-CLEARED TO 4"

SOIL BORING MW-8MONITOR WELL MW-8

LEGEND

▼ APPROXIMATE WATER LEVEL AT TIME OF DRILLING

LATITUDE: N 32° 39' 23.1"

LONGITUDE: W 103° 17' 46.6"



BORING LOG
 MW-8
 TEXACO STATE G4 BATTERY
 HESS E&P – NEW MEXICO
 MONUMENT, NEW MEXICO

DRAWN BY:
JFLAKE

DATE:
10/31/21

PROJ. NO.
HESS

Attachment 2

Laboratory Reports



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

March 25, 2021

BRAD FREEMAN

GEO MONITORING SERVICES

P. O. BOX 295

FULSHEAR, TX 77441

RE: G STATE 4

Enclosed are the results of analyses for samples received by the laboratory on 03/23/21 12:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
 BRAD FREEMAN
 P. O. BOX 295
 FULSHEAR TX, 77441
 Fax To: NONE

Received: 03/23/2021
 Reported: 03/25/2021
 Project Name: G STATE 4
 Project Number: G STATE 4
 Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: MW 6 @ 10 (H210731-01)

BTEX 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	03/24/2021	ND	0.498	99.5	0.500	1.13	
Toluene*	<0.025	0.025	03/24/2021	ND	0.493	98.6	0.500	2.27	
Ethylbenzene*	<0.025	0.025	03/24/2021	ND	0.501	100	0.500	1.65	
Total Xylenes*	<0.025	0.025	03/24/2021	ND	1.48	98.9	1.50	2.13	
Total BTEX	<0.150	0.150	03/24/2021	ND					

Surrogate: Dibromofluoromethane 100 % 81.7-113

Surrogate: Toluene-d8 97.9 % 84.4-116

Surrogate: 4-Bromofluorobenzene 93.9 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	03/24/2021	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/23/2021	ND	175	87.7	200	4.27	
DRO >C10-C28*	<10.0	10.0	03/23/2021	ND	174	87.2	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	03/23/2021	ND					

Surrogate: 1-Chlorooctane 81.7 % 44.3-144

Surrogate: 1-Chlorooctadecane 80.4 % 42.2-156

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
 BRAD FREEMAN
 P. O. BOX 295
 FULSHEAR TX, 77441
 Fax To: NONE

Received: 03/23/2021
 Reported: 03/25/2021
 Project Name: G STATE 4
 Project Number: G STATE 4
 Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: MW 6 @ 20 (H210731-02)

BTX 8260B			mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	03/24/2021	ND	0.498	99.5	0.500	1.13		
Toluene*	<0.025	0.025	03/24/2021	ND	0.493	98.6	0.500	2.27		
Ethylbenzene*	<0.025	0.025	03/24/2021	ND	0.501	100	0.500	1.65		
Total Xylenes*	<0.025	0.025	03/24/2021	ND	1.48	98.9	1.50	2.13		
Total BTX	<0.150	0.150	03/24/2021	ND						

Surrogate: Dibromofluoromethane 99.0 % 81.7-113
 Surrogate: Toluene-d8 99.2 % 84.4-116
 Surrogate: 4-Bromofluorobenzene 92.5 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/24/2021	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/23/2021	ND	175	87.7	200	4.27	
DRO >C10-C28*	<10.0	10.0	03/23/2021	ND	174	87.2	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	03/23/2021	ND					

Surrogate: 1-Chlorooctane 88.8 % 44.3-144
 Surrogate: 1-Chlorooctadecane 88.3 % 42.2-156

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
BRAD FREEMAN
P. O. BOX 295
FULSHEAR TX, 77441
Fax To: NONE

Received: 03/23/2021
Reported: 03/25/2021
Project Name: G STATE 4
Project Number: G STATE 4
Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: MW 6 @ 30 (H210731-03)

BTEx 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	03/24/2021	ND	0.498	99.5	0.500	1.13	
Toluene*	<0.025	0.025	03/24/2021	ND	0.493	98.6	0.500	2.27	
Ethylbenzene*	<0.025	0.025	03/24/2021	ND	0.501	100	0.500	1.65	
Total Xylenes*	<0.025	0.025	03/24/2021	ND	1.48	98.9	1.50	2.13	
Total BTEx	<0.150	0.150	03/24/2021	ND					

Surrogate: Dibromofluoromethane 99.2 % 81.7-113
Surrogate: Toluene-d8 99.0 % 84.4-116
Surrogate: 4-Bromofluorobenzene 92.7 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/24/2021	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/23/2021	ND	175	87.7	200	4.27	
DRO >C10-C28*	<10.0	10.0	03/23/2021	ND	174	87.2	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	03/23/2021	ND					

Surrogate: 1-Chlorooctane 84.7 % 44.3-144
Surrogate: 1-Chlorooctadecane 82.2 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
BRAD FREEMAN
P. O. BOX 295
FULSHEAR TX, 77441
Fax To: NONE

Received: 03/23/2021
Reported: 03/25/2021
Project Name: G STATE 4
Project Number: G STATE 4
Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: MW 6 @ 40 (H210731-04)

BTEx 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	03/24/2021	ND	0.498	99.5	0.500	1.13	
Toluene*	<0.025	0.025	03/24/2021	ND	0.493	98.6	0.500	2.27	
Ethylbenzene*	<0.025	0.025	03/24/2021	ND	0.501	100	0.500	1.65	
Total Xylenes*	<0.025	0.025	03/24/2021	ND	1.48	98.9	1.50	2.13	
Total BTEx	<0.150	0.150	03/24/2021	ND					

Surrogate: Dibromofluoromethane 99.2 % 81.7-113
Surrogate: Toluene-d8 99.2 % 84.4-116
Surrogate: 4-Bromofluorobenzene 92.2 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/24/2021	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/23/2021	ND	175	87.7	200	4.27	
DRO >C10-C28*	<10.0	10.0	03/23/2021	ND	174	87.2	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	03/23/2021	ND					

Surrogate: 1-Chlorooctane 84.9 % 44.3-144
Surrogate: 1-Chlorooctadecane 83.8 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
 BRAD FREEMAN
 P. O. BOX 295
 FULSHEAR TX, 77441
 Fax To: NONE

Received: 03/23/2021
 Reported: 03/25/2021
 Project Name: G STATE 4
 Project Number: G STATE 4
 Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: MW 6 @ 50 (H210731-05)

BTX 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	03/24/2021	ND	0.498	99.5	0.500	1.13	
Toluene*	<0.025	0.025	03/24/2021	ND	0.493	98.6	0.500	2.27	
Ethylbenzene*	<0.025	0.025	03/24/2021	ND	0.501	100	0.500	1.65	
Total Xylenes*	<0.025	0.025	03/24/2021	ND	1.48	98.9	1.50	2.13	
Total BTX	<0.150	0.150	03/24/2021	ND					

Surrogate: Dibromofluoromethane 102 % 81.7-113
 Surrogate: Toluene-d8 98.5 % 84.4-116
 Surrogate: 4-Bromofluorobenzene 93.2 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	03/24/2021	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/23/2021	ND	175	87.7	200	4.27	
DRO >C10-C28*	<10.0	10.0	03/23/2021	ND	174	87.2	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	03/23/2021	ND					

Surrogate: 1-Chlorooctane 81.3 % 44.3-144
 Surrogate: 1-Chlorooctadecane 80.1 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
BRAD FREEMAN
P. O. BOX 295
FULSHEAR TX, 77441
Fax To: NONE

Received: 03/23/2021
Reported: 03/25/2021
Project Name: G STATE 4
Project Number: G STATE 4
Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: MW 6 @ 60 (H210731-06)

BTX 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	03/24/2021	ND	0.498	99.5	0.500	1.13	
Toluene*	<0.025	0.025	03/24/2021	ND	0.493	98.6	0.500	2.27	
Ethylbenzene*	<0.025	0.025	03/24/2021	ND	0.501	100	0.500	1.65	
Total Xylenes*	<0.025	0.025	03/24/2021	ND	1.48	98.9	1.50	2.13	
Total BTX	<0.150	0.150	03/24/2021	ND					

Surrogate: Dibromofluoromethane 98.8 % 81.7-113
Surrogate: Toluene-d8 99.7 % 84.4-116
Surrogate: 4-Bromofluorobenzene 91.6 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/24/2021	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/23/2021	ND	175	87.7	200	4.27	
DRO >C10-C28*	<10.0	10.0	03/23/2021	ND	174	87.2	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	03/23/2021	ND					

Surrogate: 1-Chlorooctane 81.3 % 44.3-144
Surrogate: 1-Chlorooctadecane 79.3 % 42.2-156

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
 BRAD FREEMAN
 P. O. BOX 295
 FULSHEAR TX, 77441
 Fax To: NONE

Received: 03/23/2021
 Reported: 03/25/2021
 Project Name: G STATE 4
 Project Number: G STATE 4
 Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: MW 6 @ 70 (H210731-07)

BTEx 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	03/24/2021	ND	0.498	99.5	0.500	1.13	
Toluene*	<0.025	0.025	03/24/2021	ND	0.493	98.6	0.500	2.27	
Ethylbenzene*	<0.025	0.025	03/24/2021	ND	0.501	100	0.500	1.65	
Total Xylenes*	<0.025	0.025	03/24/2021	ND	1.48	98.9	1.50	2.13	
Total BTEx	<0.150	0.150	03/24/2021	ND					

Surrogate: Dibromofluoromethane 100 % 81.7-113
 Surrogate: Toluene-d8 99.9 % 84.4-116
 Surrogate: 4-Bromofluorobenzene 91.8 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	03/24/2021	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/23/2021	ND	175	87.7	200	4.27	
DRO >C10-C28*	<10.0	10.0	03/23/2021	ND	174	87.2	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	03/23/2021	ND					

Surrogate: 1-Chlorooctane 88.0 % 44.3-144
 Surrogate: 1-Chlorooctadecane 85.1 % 42.2-156

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
 BRAD FREEMAN
 P. O. BOX 295
 FULSHEAR TX, 77441
 Fax To: NONE

Received: 03/23/2021
 Reported: 03/25/2021
 Project Name: G STATE 4
 Project Number: G STATE 4
 Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: MW 7 @ 10 (H210731-08)

BTEx 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	03/24/2021	ND	0.498	99.5	0.500	1.13	
Toluene*	<0.025	0.025	03/24/2021	ND	0.493	98.6	0.500	2.27	
Ethylbenzene*	<0.025	0.025	03/24/2021	ND	0.501	100	0.500	1.65	
Total Xylenes*	<0.025	0.025	03/24/2021	ND	1.48	98.9	1.50	2.13	
Total BTEx	<0.150	0.150	03/24/2021	ND					

Surrogate: Dibromofluoromethane 100 % 81.7-113
 Surrogate: Toluene-d8 98.8 % 84.4-116
 Surrogate: 4-Bromofluorobenzene 91.5 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	03/24/2021	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/24/2021	ND	175	87.7	200	4.27	
DRO >C10-C28*	<10.0	10.0	03/24/2021	ND	174	87.2	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	03/24/2021	ND					

Surrogate: 1-Chlorooctane 87.5 % 44.3-144
 Surrogate: 1-Chlorooctadecane 86.3 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
 BRAD FREEMAN
 P. O. BOX 295
 FULSHEAR TX, 77441
 Fax To: NONE

Received: 03/23/2021
 Reported: 03/25/2021
 Project Name: G STATE 4
 Project Number: G STATE 4
 Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: MW 7 @ 20 (H210731-09)

BTX 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	03/24/2021	ND	0.498	99.5	0.500	1.13	
Toluene*	<0.025	0.025	03/24/2021	ND	0.493	98.6	0.500	2.27	
Ethylbenzene*	<0.025	0.025	03/24/2021	ND	0.501	100	0.500	1.65	
Total Xylenes*	<0.025	0.025	03/24/2021	ND	1.48	98.9	1.50	2.13	
Total BTX	<0.150	0.150	03/24/2021	ND					

Surrogate: Dibromofluoromethane 98.6 % 81.7-113
 Surrogate: Toluene-d8 99.6 % 84.4-116
 Surrogate: 4-Bromofluorobenzene 92.5 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	03/24/2021	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/24/2021	ND	175	87.7	200	4.27	
DRO >C10-C28*	<10.0	10.0	03/24/2021	ND	174	87.2	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	03/24/2021	ND					

Surrogate: 1-Chlorooctane 89.7 % 44.3-144
 Surrogate: 1-Chlorooctadecane 88.3 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

GEO MONITORING SERVICES
 BRAD FREEMAN
 P. O. BOX 295
 FULSHEAR TX, 77441
 Fax To: NONE

Received: 03/23/2021
 Reported: 03/25/2021
 Project Name: G STATE 4
 Project Number: G STATE 4
 Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: MW 7 @ 30 (H210731-10)

BTEx 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	03/24/2021	ND	0.498	99.5	0.500	1.13	
Toluene*	<0.025	0.025	03/24/2021	ND	0.493	98.6	0.500	2.27	
Ethylbenzene*	<0.025	0.025	03/24/2021	ND	0.501	100	0.500	1.65	
Total Xylenes*	<0.025	0.025	03/24/2021	ND	1.48	98.9	1.50	2.13	
Total BTEx	<0.150	0.150	03/24/2021	ND					

Surrogate: Dibromofluoromethane 102 % 81.7-113
 Surrogate: Toluene-d8 98.7 % 84.4-116
 Surrogate: 4-Bromofluorobenzene 92.0 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	03/24/2021	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/24/2021	ND	175	87.7	200	4.27	
DRO >C10-C28*	<10.0	10.0	03/24/2021	ND	174	87.2	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	03/24/2021	ND					

Surrogate: 1-Chlorooctane 87.0 % 44.3-144
 Surrogate: 1-Chlorooctadecane 85.7 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

GEO MONITORING SERVICES
 BRAD FREEMAN
 P. O. BOX 295
 FULSHEAR TX, 77441
 Fax To: NONE

Received: 03/23/2021
 Reported: 03/25/2021
 Project Name: G STATE 4
 Project Number: G STATE 4
 Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: MW 7 @ 40 (H210731-11)

BTEx 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	03/24/2021	ND	0.498	99.5	0.500	1.13	
Toluene*	<0.025	0.025	03/24/2021	ND	0.493	98.6	0.500	2.27	
Ethylbenzene*	<0.025	0.025	03/24/2021	ND	0.501	100	0.500	1.65	
Total Xylenes*	<0.025	0.025	03/24/2021	ND	1.48	98.9	1.50	2.13	
Total BTEx	<0.150	0.150	03/24/2021	ND					

Surrogate: Dibromofluoromethane 101 % 81.7-113
 Surrogate: Toluene-d8 99.7 % 84.4-116
 Surrogate: 4-Bromofluorobenzene 91.0 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	03/24/2021	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/24/2021	ND	175	87.7	200	4.27	
DRO >C10-C28*	<10.0	10.0	03/24/2021	ND	174	87.2	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	03/24/2021	ND					

Surrogate: 1-Chlorooctane 85.4 % 44.3-144
 Surrogate: 1-Chlorooctadecane 84.1 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

GEO MONITORING SERVICES
BRAD FREEMAN
P. O. BOX 295
FULSHEAR TX, 77441
Fax To: NONE

Received: 03/23/2021
Reported: 03/25/2021
Project Name: G STATE 4
Project Number: G STATE 4
Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: MW 7 @ 50 (H210731-12)

BTEx 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	03/24/2021	ND	0.498	99.5	0.500	1.13	
Toluene*	<0.025	0.025	03/24/2021	ND	0.493	98.6	0.500	2.27	
Ethylbenzene*	<0.025	0.025	03/24/2021	ND	0.501	100	0.500	1.65	
Total Xylenes*	<0.025	0.025	03/24/2021	ND	1.48	98.9	1.50	2.13	
Total BTEx	<0.150	0.150	03/24/2021	ND					

Surrogate: Dibromofluoromethane 99.7 % 81.7-113
Surrogate: Toluene-d8 100 % 84.4-116
Surrogate: 4-Bromofluorobenzene 92.3 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/24/2021	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/24/2021	ND	175	87.7	200	4.27	
DRO >C10-C28*	<10.0	10.0	03/24/2021	ND	174	87.2	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	03/24/2021	ND					

Surrogate: 1-Chlorooctane 85.4 % 44.3-144
Surrogate: 1-Chlorooctadecane 84.5 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

GEO MONITORING SERVICES
 BRAD FREEMAN
 P. O. BOX 295
 FULSHEAR TX, 77441
 Fax To: NONE

Received: 03/23/2021
 Reported: 03/25/2021
 Project Name: G STATE 4
 Project Number: G STATE 4
 Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: MW 7 @ 60 (H210731-13)

BTX 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	03/25/2021	ND	0.498	99.5	0.500	1.13	
Toluene*	<0.025	0.025	03/25/2021	ND	0.493	98.6	0.500	2.27	
Ethylbenzene*	<0.025	0.025	03/25/2021	ND	0.501	100	0.500	1.65	
Total Xylenes*	<0.025	0.025	03/25/2021	ND	1.48	98.9	1.50	2.13	
Total BTX	<0.150	0.150	03/25/2021	ND					

Surrogate: Dibromofluoromethane 99.0 % 81.7-113
 Surrogate: Toluene-d8 99.3 % 84.4-116
 Surrogate: 4-Bromofluorobenzene 91.7 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	03/24/2021	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/24/2021	ND	175	87.7	200	4.27	
DRO >C10-C28*	<10.0	10.0	03/24/2021	ND	174	87.2	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	03/24/2021	ND					

Surrogate: 1-Chlorooctane 90.2 % 44.3-144
 Surrogate: 1-Chlorooctadecane 89.4 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

GEO MONITORING SERVICES
 BRAD FREEMAN
 P. O. BOX 295
 FULSHEAR TX, 77441
 Fax To: NONE

Received: 03/23/2021
 Reported: 03/25/2021
 Project Name: G STATE 4
 Project Number: G STATE 4
 Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: MW 7 @ 70 (H210731-14)

BTX 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	03/25/2021	ND	0.498	99.5	0.500	1.13	
Toluene*	<0.025	0.025	03/25/2021	ND	0.493	98.6	0.500	2.27	
Ethylbenzene*	<0.025	0.025	03/25/2021	ND	0.501	100	0.500	1.65	
Total Xylenes*	<0.025	0.025	03/25/2021	ND	1.48	98.9	1.50	2.13	
Total BTX	<0.150	0.150	03/25/2021	ND					

Surrogate: Dibromofluoromethane 99.3 % 81.7-113
 Surrogate: Toluene-d8 98.1 % 84.4-116
 Surrogate: 4-Bromofluorobenzene 92.0 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	03/24/2021	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/25/2021	ND	175	87.7	200	4.27	
DRO >C10-C28*	<10.0	10.0	03/25/2021	ND	174	87.2	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	03/25/2021	ND					

Surrogate: 1-Chlorooctane 82.5 % 44.3-144
 Surrogate: 1-Chlorooctadecane 79.7 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
BRAD FREEMAN
P. O. BOX 295
FULSHEAR TX, 77441
Fax To: NONE

Received: 03/23/2021
Reported: 03/25/2021
Project Name: G STATE 4
Project Number: G STATE 4
Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: MW 8 @ 10 (H210731-15)

BTX 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	03/25/2021	ND	0.498	99.5	0.500	1.13	
Toluene*	<0.025	0.025	03/25/2021	ND	0.493	98.6	0.500	2.27	
Ethylbenzene*	<0.025	0.025	03/25/2021	ND	0.501	100	0.500	1.65	
Total Xylenes*	<0.025	0.025	03/25/2021	ND	1.48	98.9	1.50	2.13	
Total BTX	<0.150	0.150	03/25/2021	ND					

Surrogate: Dibromofluoromethane 99.8 % 81.7-113
Surrogate: Toluene-d8 99.6 % 84.4-116
Surrogate: 4-Bromofluorobenzene 92.4 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	03/24/2021	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/24/2021	ND	211	105	200	2.37	
DRO >C10-C28*	<10.0	10.0	03/24/2021	ND	207	104	200	3.89	
EXT DRO >C28-C36	<10.0	10.0	03/24/2021	ND					

Surrogate: 1-Chlorooctane 81.2 % 44.3-144
Surrogate: 1-Chlorooctadecane 76.7 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

GEO MONITORING SERVICES
 BRAD FREEMAN
 P. O. BOX 295
 FULSHEAR TX, 77441
 Fax To: NONE

Received: 03/23/2021
 Reported: 03/25/2021
 Project Name: G STATE 4
 Project Number: G STATE 4
 Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: MW 8 @ 20 (H210731-16)

BTX 8260B			mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	03/25/2021	ND	0.498	99.5	0.500	1.13		
Toluene*	<0.025	0.025	03/25/2021	ND	0.493	98.6	0.500	2.27		
Ethylbenzene*	<0.025	0.025	03/25/2021	ND	0.501	100	0.500	1.65		
Total Xylenes*	<0.025	0.025	03/25/2021	ND	1.48	98.9	1.50	2.13		
Total BTX	<0.150	0.150	03/25/2021	ND						

Surrogate: Dibromofluoromethane 101 % 81.7-113
 Surrogate: Toluene-d8 98.9 % 84.4-116
 Surrogate: 4-Bromofluorobenzene 92.3 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	03/24/2021	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/24/2021	ND	211	105	200	2.37	
DRO >C10-C28*	<10.0	10.0	03/24/2021	ND	207	104	200	3.89	
EXT DRO >C28-C36	<10.0	10.0	03/24/2021	ND					

Surrogate: 1-Chlorooctane 82.8 % 44.3-144
 Surrogate: 1-Chlorooctadecane 77.5 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
 BRAD FREEMAN
 P. O. BOX 295
 FULSHEAR TX, 77441
 Fax To: NONE

Received: 03/23/2021
 Reported: 03/25/2021
 Project Name: G STATE 4
 Project Number: G STATE 4
 Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: MW 8 @ 30 (H210731-17)

BTX 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	03/25/2021	ND	0.498	99.5	0.500	1.13	
Toluene*	<0.025	0.025	03/25/2021	ND	0.493	98.6	0.500	2.27	
Ethylbenzene*	<0.025	0.025	03/25/2021	ND	0.501	100	0.500	1.65	
Total Xylenes*	<0.025	0.025	03/25/2021	ND	1.48	98.9	1.50	2.13	
Total BTX	<0.150	0.150	03/25/2021	ND					

Surrogate: Dibromofluoromethane 101 % 81.7-113
 Surrogate: Toluene-d8 99.4 % 84.4-116
 Surrogate: 4-Bromofluorobenzene 90.1 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	03/24/2021	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/24/2021	ND	211	105	200	2.37	
DRO >C10-C28*	<10.0	10.0	03/24/2021	ND	207	104	200	3.89	
EXT DRO >C28-C36	<10.0	10.0	03/24/2021	ND					

Surrogate: 1-Chlorooctane 79.2 % 44.3-144
 Surrogate: 1-Chlorooctadecane 74.1 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

GEO MONITORING SERVICES
BRAD FREEMAN
P. O. BOX 295
FULSHEAR TX, 77441
Fax To: NONE

Received: 03/23/2021
Reported: 03/25/2021
Project Name: G STATE 4
Project Number: G STATE 4
Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: MW 8 @ 40 (H210731-18)

BTX 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	03/25/2021	ND	0.498	99.5	0.500	1.13	
Toluene*	<0.025	0.025	03/25/2021	ND	0.493	98.6	0.500	2.27	
Ethylbenzene*	<0.025	0.025	03/25/2021	ND	0.501	100	0.500	1.65	
Total Xylenes*	<0.025	0.025	03/25/2021	ND	1.48	98.9	1.50	2.13	
Total BTX	<0.150	0.150	03/25/2021	ND					

Surrogate: Dibromofluoromethane 101 % 81.7-113
Surrogate: Toluene-d8 99.4 % 84.4-116
Surrogate: 4-Bromofluorobenzene 92.6 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/24/2021	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/24/2021	ND	211	105	200	2.37	
DRO >C10-C28*	<10.0	10.0	03/24/2021	ND	207	104	200	3.89	
EXT DRO >C28-C36	<10.0	10.0	03/24/2021	ND					

Surrogate: 1-Chlorooctane 82.2 % 44.3-144
Surrogate: 1-Chlorooctadecane 77.9 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
BRAD FREEMAN
P. O. BOX 295
FULSHEAR TX, 77441
Fax To: NONE

Received: 03/23/2021
Reported: 03/25/2021
Project Name: G STATE 4
Project Number: G STATE 4
Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: MW 8 @ 50 (H210731-19)

BTX 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	03/25/2021	ND	0.498	99.5	0.500	1.13	
Toluene*	<0.025	0.025	03/25/2021	ND	0.493	98.6	0.500	2.27	
Ethylbenzene*	<0.025	0.025	03/25/2021	ND	0.501	100	0.500	1.65	
Total Xylenes*	<0.025	0.025	03/25/2021	ND	1.48	98.9	1.50	2.13	
Total BTX	<0.150	0.150	03/25/2021	ND					

Surrogate: Dibromofluoromethane 100 % 81.7-113
Surrogate: Toluene-d8 98.8 % 84.4-116
Surrogate: 4-Bromofluorobenzene 91.5 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	03/24/2021	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/24/2021	ND	211	105	200	2.37	
DRO >C10-C28*	<10.0	10.0	03/24/2021	ND	207	104	200	3.89	
EXT DRO >C28-C36	<10.0	10.0	03/24/2021	ND					

Surrogate: 1-Chlorooctane 82.0 % 44.3-144
Surrogate: 1-Chlorooctadecane 78.7 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
 BRAD FREEMAN
 P. O. BOX 295
 FULSHEAR TX, 77441
 Fax To: NONE

Received: 03/23/2021
 Reported: 03/25/2021
 Project Name: G STATE 4
 Project Number: G STATE 4
 Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: MW 8 @ 60 (H210731-20)

BTX 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	03/25/2021	ND	0.498	99.5	0.500	1.13	
Toluene*	<0.025	0.025	03/25/2021	ND	0.493	98.6	0.500	2.27	
Ethylbenzene*	<0.025	0.025	03/25/2021	ND	0.501	100	0.500	1.65	
Total Xylenes*	<0.025	0.025	03/25/2021	ND	1.48	98.9	1.50	2.13	
Total BTX	<0.150	0.150	03/25/2021	ND					

Surrogate: Dibromofluoromethane 99.7 % 81.7-113
 Surrogate: Toluene-d8 98.7 % 84.4-116
 Surrogate: 4-Bromofluorobenzene 91.0 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	03/24/2021	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/24/2021	ND	211	105	200	2.37	
DRO >C10-C28*	<10.0	10.0	03/24/2021	ND	207	104	200	3.89	
EXT DRO >C28-C36	<10.0	10.0	03/24/2021	ND					

Surrogate: 1-Chlorooctane 83.7 % 44.3-144
 Surrogate: 1-Chlorooctadecane 78.9 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

GEO MONITORING SERVICES
 BRAD FREEMAN
 P. O. BOX 295
 FULSHEAR TX, 77441
 Fax To: NONE

Received: 03/23/2021
 Reported: 03/25/2021
 Project Name: G STATE 4
 Project Number: G STATE 4
 Project Location: MONUMENT, NM

Sampling Date: 03/23/2021
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: MW 8 @ 70 (H210731-21)

BTX 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	03/25/2021	ND	0.505	101	0.500	0.409	
Toluene*	<0.025	0.025	03/25/2021	ND	0.497	99.5	0.500	0.524	
Ethylbenzene*	<0.025	0.025	03/25/2021	ND	0.499	99.8	0.500	0.118	
Total Xylenes*	<0.025	0.025	03/25/2021	ND	1.48	98.5	1.50	0.365	
Total BTX	<0.150	0.150	03/25/2021	ND					

Surrogate: Dibromofluoromethane 101 % 81.7-113
 Surrogate: Toluene-d8 98.8 % 84.4-116
 Surrogate: 4-Bromofluorobenzene 90.3 % 62.8-131

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	03/24/2021	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/24/2021	ND	211	105	200	2.37	
DRO >C10-C28*	<10.0	10.0	03/24/2021	ND	207	104	200	3.89	
EXT DRO >C28-C36	<10.0	10.0	03/24/2021	ND					

Surrogate: 1-Chlorooctane 79.6 % 44.3-144
 Surrogate: 1-Chlorooctadecane 73.6 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager

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Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

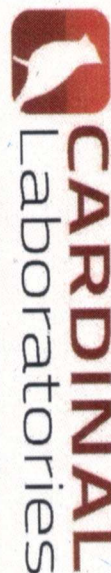
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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Page 1 of 3

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>GeoMonitoring Services</u>		P.O. #: <u>GState 4</u>		ANALYSIS REQUEST	
Project Manager: <u>Brad Freeman</u>		Company:			
Address:		Attn:			
City:	State:	Zip:			
Phone #: <u>713-417-6141</u>	Fax #:	Address: <u>AR@geomanet</u>			
Project #: <u>GState 4</u>	Project Owner:	City:	State:	Zip:	
Project Name: <u>GState 4</u>	Project Location: <u>Monument, NM</u>	Phone #:			
Sampler Name:	Fax #:				
FOR LAB USE ONLY					
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.
				GROUNDWATER	
				WASTEWATER	
				SOIL	
				OIL	
				SLUDGE	
				OTHER:	
				ACID/BASE:	
				ICE / COOL	
				OTHER:	
		DATE	TIME		
<u>H210731</u>	<u>MW6@10</u>	<u>3-23-21</u>	<u>0855</u>	<u>BTEX</u>	<u>TPH EXT 8015</u>
<u>2</u>	<u>MW6@20</u>		<u>0900</u>	<u>Chloride</u>	
<u>3</u>	<u>MW6@30</u>		<u>0905</u>		
<u>4</u>	<u>MW6@40</u>		<u>0908</u>		
<u>5</u>	<u>MW6@50</u>		<u>0912</u>		
<u>6</u>	<u>MW6@60</u>		<u>0915</u>		
<u>7</u>	<u>MW6@70</u>		<u>0918</u>		
<u>8</u>	<u>MW6@80</u>		<u>0945</u>		
<u>9</u>	<u>MW6@90</u>		<u>0948</u>		
<u>10</u>	<u>MW6@100</u>		<u>0950</u>		

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Relinquished By: Paul Hume Date: 3-23-21 Received By: Monica C. Adams

Time: 1:05

Delivered By: (Circle One) Observed Temp. °C 2.3 Sample Condition Intact CHECKED BY: Y.E.

Sampler - UPS - Bus - Other: Corrected Temp. °C Yes No No No

Turnaround Time: Standard Rush Bacteria (only) Sample Condition Intact Observed Temp. °C Corrected Temp. °C

Thermometer ID #113 Yes No No No

Correction Factor None

REMARKS:

Verbal Result: ☐ Yes ☐ No Add'l Phone #:

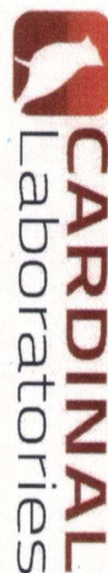
All Results are emailed. Please provide Email address:



Page 2 of 3

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Page 3 of 3

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

April 13, 2021

BRAD FREEMAN

GEO MONITORING SERVICES

P. O. BOX 295

FULSHEAR, TX 77441

RE: G STATE 4

Enclosed are the results of analyses for samples received by the laboratory on 03/30/21 13:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at

www.tceq.texas.gov/field/ga/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Total Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:GEO MONITORING SERVICES
P. O. BOX 295
FULSHEAR TX, 77441Project: G STATE 4
Project Number: NONE GIVEN
Project Manager: BRAD FREEMAN
Fax To: NONEReported:
13-Apr-21 16:42

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW - 6	H210785-01	Water	30-Mar-21 07:10	30-Mar-21 13:45
MW - 7	H210785-02	Water	30-Mar-21 08:10	30-Mar-21 13:45
MW - 8	H210785-03	Water	30-Mar-21 08:55	30-Mar-21 13:45
MW - 3	H210785-04	Water	30-Mar-21 12:10	30-Mar-21 13:45
MW - 4	H210785-05	Water	30-Mar-21 13:00	30-Mar-21 13:45

Cardinal Laboratories

*=Accredited Analyte

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A handwritten signature in cursive script, appearing to read "Celey D. Keene", written in black ink.

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
P. O. BOX 295
FULSHEAR TX, 77441

Project: G STATE 4
Project Number: NONE GIVEN
Project Manager: BRAD FREEMAN
Fax To: NONE

Reported:
13-Apr-21 16:42

MW - 6**H210785-01 (Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride*	48.0		4.00	mg/L	1	1032904	GM	01-Apr-21	4500-Cl-B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<1.00		1.00	mg/L	0.1	1033005	MS	31-Mar-21	8015B	
DRO >C10-C28*	<1.00		1.00	mg/L	0.1	1033005	MS	31-Mar-21	8015B	
EXT DRO >C28-C36	<1.00		1.00	mg/L	0.1	1033005	MS	31-Mar-21	8015B	
Surrogate: 1-Chlorooctane			81.7 %	34.5-148		1033005	MS	31-Mar-21	8015B	
Surrogate: 1-Chlorooctadecane			82.5 %	46.4-149		1033005	MS	31-Mar-21	8015B	

Volatile Organic Compounds by EPA Method 8260B

Benzene*	<0.0005		0.0005	mg/L	1	1040109	MS	01-Apr-21	8260B	
Toluene*	<0.0005		0.0005	mg/L	1	1040109	MS	01-Apr-21	8260B	
Ethylbenzene*	<0.0005		0.0005	mg/L	1	1040109	MS	01-Apr-21	8260B	
Total Xylenes*	<0.0005		0.0005	mg/L	1	1040109	MS	01-Apr-21	8260B	
Total BTEX	<0.003		0.003	mg/L	1	1040109	MS	01-Apr-21	8260B	
Surrogate: Dibromofluoromethane			103 %	82.4-141		1040109	MS	01-Apr-21	8260B	
Surrogate: Toluene-d8			98.6 %	87.1-110		1040109	MS	01-Apr-21	8260B	
Surrogate: 4-Bromofluorobenzene			90.4 %	76.4-114		1040109	MS	01-Apr-21	8260B	

Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.001		0.001	mg/L	1.02	1033111	MS	13-Apr-21	8270C	
2-Methylnaphthalene*	<0.001		0.001	mg/L	1.02	1033111	MS	13-Apr-21	8270C	
1-Methylnaphthalene	<0.0005		0.0005	mg/L	1.02	1033111	MS	13-Apr-21	8270C	
Acenaphthylene*	<0.001		0.001	mg/L	1.02	1033111	MS	13-Apr-21	8270C	
Acenaphthene*	<0.001		0.001	mg/L	1.02	1033111	MS	13-Apr-21	8270C	
Fluorene*	<0.001		0.001	mg/L	1.02	1033111	MS	13-Apr-21	8270C	
Phenanthrene*	<0.001		0.001	mg/L	1.02	1033111	MS	13-Apr-21	8270C	
Anthracene*	<0.001		0.001	mg/L	1.02	1033111	MS	13-Apr-21	8270C	
Carbazole*	<0.001		0.001	mg/L	1.02	1033111	MS	13-Apr-21	8270C	

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
P. O. BOX 295
FULSHEAR TX, 77441

Project: G STATE 4
Project Number: NONE GIVEN
Project Manager: BRAD FREEMAN
Fax To: NONE

Reported:
13-Apr-21 16:42

MW - 6**H210785-01 (Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Polynuclear Aromatic Compounds by GC/MS**

Fluoranthene*	<0.001		0.001	mg/L	1.02	1033111	MS	13-Apr-21	8270C	
Pyrene*	<0.001		0.001	mg/L	1.02	1033111	MS	13-Apr-21	8270C	
Benzo[a]anthracene*	<0.001		0.001	mg/L	1.02	1033111	MS	13-Apr-21	8270C	
Chrysene*	<0.001		0.001	mg/L	1.02	1033111	MS	13-Apr-21	8270C	
Benzo[b]fluoranthene*	<0.001		0.001	mg/L	1.02	1033111	MS	13-Apr-21	8270C	
Benzo[k]fluoranthene*	<0.001		0.001	mg/L	1.02	1033111	MS	13-Apr-21	8270C	
Benzo[a]pyrene*	<0.0002		0.0002	mg/L	1.02	1033111	MS	13-Apr-21	8270C	
Indeno[1,2,3-cd]pyrene*	<0.001		0.001	mg/L	1.02	1033111	MS	13-Apr-21	8270C	
Dibenz[a,h]anthracene*	<0.001		0.001	mg/L	1.02	1033111	MS	13-Apr-21	8270C	
Benzo[g,h,i]perylene*	<0.001		0.001	mg/L	1.02	1033111	MS	13-Apr-21	8270C	
Surrogate: Nitrobenzene-d5			39.2 %	20.3-96.6		1033111	MS	13-Apr-21	8270C	
Surrogate: 2-Fluorobiphenyl			39.3 %	18.9-97.9		1033111	MS	13-Apr-21	8270C	
Surrogate: Terphenyl-d14			38.3 %	14.7-112		1033111	MS	13-Apr-21	8270C	

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
P. O. BOX 295
FULSHEAR TX, 77441

Project: G STATE 4
Project Number: NONE GIVEN
Project Manager: BRAD FREEMAN
Fax To: NONE

Reported:
13-Apr-21 16:42

MW - 7**H210785-02 (Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride*	380		4.00	mg/L	1	1032904	GM	01-Apr-21	4500-Cl-B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<1.00		1.00	mg/L	0.1	1033005	MS	31-Mar-21	8015B	
DRO >C10-C28*	<1.00		1.00	mg/L	0.1	1033005	MS	31-Mar-21	8015B	
EXT DRO >C28-C36	<1.00		1.00	mg/L	0.1	1033005	MS	31-Mar-21	8015B	
Surrogate: 1-Chlorooctane			80.8 %	34.5-148		1033005	MS	31-Mar-21	8015B	
Surrogate: 1-Chlorooctadecane			80.6 %	46.4-149		1033005	MS	31-Mar-21	8015B	

Volatile Organic Compounds by EPA Method 8260B

Benzene*	<0.0005		0.0005	mg/L	1	1040109	MS	01-Apr-21	8260B	
Toluene*	<0.0005		0.0005	mg/L	1	1040109	MS	01-Apr-21	8260B	
Ethylbenzene*	<0.0005		0.0005	mg/L	1	1040109	MS	01-Apr-21	8260B	
Total Xylenes*	<0.0005		0.0005	mg/L	1	1040109	MS	01-Apr-21	8260B	
Total BTEX	<0.003		0.003	mg/L	1	1040109	MS	01-Apr-21	8260B	
Surrogate: Dibromofluoromethane			103 %	82.4-141		1040109	MS	01-Apr-21	8260B	
Surrogate: Toluene-d8			98.9 %	87.1-110		1040109	MS	01-Apr-21	8260B	
Surrogate: 4-Bromofluorobenzene			90.4 %	76.4-114		1040109	MS	01-Apr-21	8260B	

Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
2-Methylnaphthalene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
1-Methylnaphthalene	<0.0005		0.0005	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Acenaphthylene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Acenaphthene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Fluorene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Phenanthrene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Anthracene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Carbazole*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Fluoranthene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
P. O. BOX 295
FULSHEAR TX, 77441

Project: G STATE 4
Project Number: NONE GIVEN
Project Manager: BRAD FREEMAN
Fax To: NONE

Reported:
13-Apr-21 16:42

MW - 7**H210785-02 (Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Polynuclear Aromatic Compounds by GC/MS**

Pyrene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Benzo[a]anthracene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Chrysene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Benzo[b]fluoranthene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Benzo[k]fluoranthene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Benzo[a]pyrene*	<0.0002		0.0002	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Indeno[1,2,3-cd]pyrene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Dibenz[a,h]anthracene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Benzo[g,h,i]perylene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Surrogate: Nitrobenzene-d5			35.1 %	20.3-96.6		1033111	MS	13-Apr-21	8270C	
Surrogate: 2-Fluorobiphenyl			35.1 %	18.9-97.9		1033111	MS	13-Apr-21	8270C	
Surrogate: Terphenyl-d14			31.0 %	14.7-112		1033111	MS	13-Apr-21	8270C	

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
P. O. BOX 295
FULSHEAR TX, 77441

Project: G STATE 4
Project Number: NONE GIVEN
Project Manager: BRAD FREEMAN
Fax To: NONE

Reported:
13-Apr-21 16:42

MW - 8**H210785-03 (Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride*	368		4.00	mg/L	1	1032904	GM	01-Apr-21	4500-Cl-B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<1.00		1.00	mg/L	0.1	1033005	MS	31-Mar-21	8015B	
DRO >C10-C28*	<1.00		1.00	mg/L	0.1	1033005	MS	31-Mar-21	8015B	
EXT DRO >C28-C36	<1.00		1.00	mg/L	0.1	1033005	MS	31-Mar-21	8015B	
Surrogate: 1-Chlorooctane			78.6 %	34.5-148		1033005	MS	31-Mar-21	8015B	
Surrogate: 1-Chlorooctadecane			78.4 %	46.4-149		1033005	MS	31-Mar-21	8015B	

Volatile Organic Compounds by EPA Method 8260B

Benzene*	<0.0005		0.0005	mg/L	1	1040109	MS	01-Apr-21	8260B	
Toluene*	<0.0005		0.0005	mg/L	1	1040109	MS	01-Apr-21	8260B	
Ethylbenzene*	<0.0005		0.0005	mg/L	1	1040109	MS	01-Apr-21	8260B	
Total Xylenes*	<0.0005		0.0005	mg/L	1	1040109	MS	01-Apr-21	8260B	
Total BTEX	<0.003		0.003	mg/L	1	1040109	MS	01-Apr-21	8260B	
Surrogate: Dibromofluoromethane			104 %	82.4-141		1040109	MS	01-Apr-21	8260B	
Surrogate: Toluene-d8			98.4 %	87.1-110		1040109	MS	01-Apr-21	8260B	
Surrogate: 4-Bromofluorobenzene			90.6 %	76.4-114		1040109	MS	01-Apr-21	8260B	

Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.001		0.001	mg/L	1.08	1033111	MS	13-Apr-21	8270C	
2-Methylnaphthalene*	<0.001		0.001	mg/L	1.08	1033111	MS	13-Apr-21	8270C	
1-Methylnaphthalene	<0.0005		0.0005	mg/L	1.08	1033111	MS	13-Apr-21	8270C	
Acenaphthylene*	<0.001		0.001	mg/L	1.08	1033111	MS	13-Apr-21	8270C	
Acenaphthene*	<0.001		0.001	mg/L	1.08	1033111	MS	13-Apr-21	8270C	
Fluorene*	<0.001		0.001	mg/L	1.08	1033111	MS	13-Apr-21	8270C	
Phenanthrene*	<0.001		0.001	mg/L	1.08	1033111	MS	13-Apr-21	8270C	
Anthracene*	<0.001		0.001	mg/L	1.08	1033111	MS	13-Apr-21	8270C	
Carbazole*	<0.001		0.001	mg/L	1.08	1033111	MS	13-Apr-21	8270C	
Fluoranthene*	<0.001		0.001	mg/L	1.08	1033111	MS	13-Apr-21	8270C	

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
P. O. BOX 295
FULSHEAR TX, 77441

Project: G STATE 4
Project Number: NONE GIVEN
Project Manager: BRAD FREEMAN
Fax To: NONE

Reported:
13-Apr-21 16:42

MW - 8**H210785-03 (Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Polynuclear Aromatic Compounds by GC/MS**

Pyrene*	<0.001	0.001	mg/L	1.08	1033111	MS	13-Apr-21	8270C
Benzo[a]anthracene*	<0.001	0.001	mg/L	1.08	1033111	MS	13-Apr-21	8270C
Chrysene*	<0.001	0.001	mg/L	1.08	1033111	MS	13-Apr-21	8270C
Benzo[b]flouranthene*	<0.001	0.001	mg/L	1.08	1033111	MS	13-Apr-21	8270C
Benzo[k]flouranthene*	<0.001	0.001	mg/L	1.08	1033111	MS	13-Apr-21	8270C
Benzo[a]pyrene*	<0.0002	0.0002	mg/L	1.08	1033111	MS	13-Apr-21	8270C
Indeno[1,2,3-cd]pyrene*	<0.001	0.001	mg/L	1.08	1033111	MS	13-Apr-21	8270C
Dibenz[a,h]anthracene*	<0.001	0.001	mg/L	1.08	1033111	MS	13-Apr-21	8270C
Benzo[g,h,i]perylene*	<0.001	0.001	mg/L	1.08	1033111	MS	13-Apr-21	8270C
Surrogate: Nitrobenzene-d5		40.6 %	20.3-96.6	1033111	MS	13-Apr-21	8270C	
Surrogate: 2-Fluorobiphenyl		40.7 %	18.9-97.9	1033111	MS	13-Apr-21	8270C	
Surrogate: Terphenyl-d14		39.3 %	14.7-112	1033111	MS	13-Apr-21	8270C	

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
P. O. BOX 295
FULSHEAR TX, 77441

Project: G STATE 4
Project Number: NONE GIVEN
Project Manager: BRAD FREEMAN
Fax To: NONE

Reported:
13-Apr-21 16:42

MW - 3**H210785-04 (Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride*	252		4.00	mg/L	1	1032904	GM	01-Apr-21	4500-Cl-B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<1.00		1.00	mg/L	0.1	1033005	MS	31-Mar-21	8015B	
DRO >C10-C28*	<1.00		1.00	mg/L	0.1	1033005	MS	31-Mar-21	8015B	
EXT DRO >C28-C36	<1.00		1.00	mg/L	0.1	1033005	MS	31-Mar-21	8015B	
Surrogate: 1-Chlorooctane			81.5 %	34.5-148		1033005	MS	31-Mar-21	8015B	
Surrogate: 1-Chlorooctadecane			81.0 %	46.4-149		1033005	MS	31-Mar-21	8015B	

Volatile Organic Compounds by EPA Method 8260B

Benzene*	<0.0005		0.0005	mg/L	1	1040109	MS	01-Apr-21	8260B	
Toluene*	<0.0005		0.0005	mg/L	1	1040109	MS	01-Apr-21	8260B	
Ethylbenzene*	<0.0005		0.0005	mg/L	1	1040109	MS	01-Apr-21	8260B	
Total Xylenes*	<0.0005		0.0005	mg/L	1	1040109	MS	01-Apr-21	8260B	
Total BTEX	<0.003		0.003	mg/L	1	1040109	MS	01-Apr-21	8260B	
Surrogate: Dibromofluoromethane			104 %	82.4-141		1040109	MS	01-Apr-21	8260B	
Surrogate: Toluene-d8			98.0 %	87.1-110		1040109	MS	01-Apr-21	8260B	
Surrogate: 4-Bromofluorobenzene			92.5 %	76.4-114		1040109	MS	01-Apr-21	8260B	

Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
2-Methylnaphthalene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
1-Methylnaphthalene	<0.0005		0.0005	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Acenaphthylene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Acenaphthene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Fluorene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Phenanthrene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Anthracene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Carbazole*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Fluoranthene*	<0.001		0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
P. O. BOX 295
FULSHEAR TX, 77441

Project: G STATE 4
Project Number: NONE GIVEN
Project Manager: BRAD FREEMAN
Fax To: NONE

Reported:
13-Apr-21 16:42

MW - 3**H210785-04 (Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Polynuclear Aromatic Compounds by GC/MS**

Pyrene*	<0.001	0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Benzo[a]anthracene*	<0.001	0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Chrysene*	<0.001	0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Benzo[b]fluoranthene*	<0.001	0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Benzo[k]fluoranthene*	<0.001	0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Benzo[a]pyrene*	<0.0002	0.0002	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Indeno[1,2,3-cd]pyrene*	<0.001	0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Dibenz[a,h]anthracene*	<0.001	0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Benzo[g,h,i]perylene*	<0.001	0.001	mg/L	1.03	1033111	MS	13-Apr-21	8270C	
Surrogate: Nitrobenzene-d5		36.1 %	20.3-96.6		1033111	MS	13-Apr-21	8270C	
Surrogate: 2-Fluorobiphenyl		36.1 %	18.9-97.9		1033111	MS	13-Apr-21	8270C	
Surrogate: Terphenyl-d14		32.7 %	14.7-112		1033111	MS	13-Apr-21	8270C	

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Analytical Results For:

GEO MONITORING SERVICES
P. O. BOX 295
FULSHEAR TX, 77441

Project: G STATE 4
Project Number: NONE GIVEN
Project Manager: BRAD FREEMAN
Fax To: NONE

Reported:
13-Apr-21 16:42

MW - 4**H210785-05 (Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride*	340		4.00	mg/L	1	1032904	GM	01-Apr-21	4500-Cl-B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<1.00		1.00	mg/L	0.1	1033005	MS	31-Mar-21	8015B	
DRO >C10-C28*	1.20		1.00	mg/L	0.1	1033005	MS	31-Mar-21	8015B	
EXT DRO >C28-C36	<1.00		1.00	mg/L	0.1	1033005	MS	31-Mar-21	8015B	
Surrogate: 1-Chlorooctane			83.9 %	34.5-148		1033005	MS	31-Mar-21	8015B	
Surrogate: 1-Chlorooctadecane			84.1 %	46.4-149		1033005	MS	31-Mar-21	8015B	

Volatile Organic Compounds by EPA Method 8260B

Benzene*	0.002		0.0005	mg/L	1	1040109	MS	01-Apr-21	8260B	
Toluene*	<0.0005		0.0005	mg/L	1	1040109	MS	01-Apr-21	8260B	
Ethylbenzene*	<0.0005		0.0005	mg/L	1	1040109	MS	01-Apr-21	8260B	
Total Xylenes*	0.002		0.0005	mg/L	1	1040109	MS	01-Apr-21	8260B	
Total BTEX	0.004		0.003	mg/L	1	1040109	MS	01-Apr-21	8260B	
Surrogate: Dibromofluoromethane			102 %	82.4-141		1040109	MS	01-Apr-21	8260B	
Surrogate: Toluene-d8			98.3 %	87.1-110		1040109	MS	01-Apr-21	8260B	
Surrogate: 4-Bromofluorobenzene			95.5 %	76.4-114		1040109	MS	01-Apr-21	8260B	

Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.001		0.001	mg/L	1.04	1033111	MS	13-Apr-21	8270C	
2-Methylnaphthalene*	<0.001		0.001	mg/L	1.04	1033111	MS	13-Apr-21	8270C	
1-Methylnaphthalene	<0.0005		0.0005	mg/L	1.04	1033111	MS	13-Apr-21	8270C	
Acenaphthylene*	<0.001		0.001	mg/L	1.04	1033111	MS	13-Apr-21	8270C	
Acenaphthene*	<0.001		0.001	mg/L	1.04	1033111	MS	13-Apr-21	8270C	
Fluorene*	<0.001		0.001	mg/L	1.04	1033111	MS	13-Apr-21	8270C	
Phenanthrene*	<0.001		0.001	mg/L	1.04	1033111	MS	13-Apr-21	8270C	
Anthracene*	<0.001		0.001	mg/L	1.04	1033111	MS	13-Apr-21	8270C	
Carbazole*	<0.001		0.001	mg/L	1.04	1033111	MS	13-Apr-21	8270C	
Fluoranthene*	<0.001		0.001	mg/L	1.04	1033111	MS	13-Apr-21	8270C	

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
P. O. BOX 295
FULSHEAR TX, 77441

Project: G STATE 4
Project Number: NONE GIVEN
Project Manager: BRAD FREEMAN
Fax To: NONE

Reported:
13-Apr-21 16:42

MW - 4**H210785-05 (Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Polynuclear Aromatic Compounds by GC/MS**

Pyrene*	<0.001	0.001	mg/L	1.04	1033111	MS	13-Apr-21	8270C	
Benzo[a]anthracene*	<0.001	0.001	mg/L	1.04	1033111	MS	13-Apr-21	8270C	
Chrysene*	<0.001	0.001	mg/L	1.04	1033111	MS	13-Apr-21	8270C	
Benzo[b]fluoranthene*	<0.001	0.001	mg/L	1.04	1033111	MS	13-Apr-21	8270C	
Benzo[k]fluoranthene*	<0.001	0.001	mg/L	1.04	1033111	MS	13-Apr-21	8270C	
Benzo[a]pyrene*	<0.0002	0.0002	mg/L	1.04	1033111	MS	13-Apr-21	8270C	
Indeno[1,2,3-cd]pyrene*	<0.001	0.001	mg/L	1.04	1033111	MS	13-Apr-21	8270C	
Dibenz[a,h]anthracene*	<0.001	0.001	mg/L	1.04	1033111	MS	13-Apr-21	8270C	
Benzo[g,h,i]perylene*	<0.001	0.001	mg/L	1.04	1033111	MS	13-Apr-21	8270C	
Surrogate: Nitrobenzene-d5		19.8 %	20.3-96.6		1033111	MS	13-Apr-21	8270C	S-04
Surrogate: 2-Fluorobiphenyl		16.9 %	18.9-97.9		1033111	MS	13-Apr-21	8270C	S-04
Surrogate: Terphenyl-d14		15.7 %	14.7-112		1033111	MS	13-Apr-21	8270C	

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Analytical Results For:

GEO MONITORING SERVICES
P. O. BOX 295
FULSHEAR TX, 77441

Project: G STATE 4
Project Number: NONE GIVEN
Project Manager: BRAD FREEMAN
Fax To: NONE

Reported:
13-Apr-21 16:42

Inorganic Compounds - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD Limit	Notes
Batch 1032904 - General Prep - Wet Chem								
Blank (1032904-BLK1)				Prepared & Analyzed: 29-Mar-21				
Chloride	ND	4.00	mg/L					
LCS (1032904-BS1)				Prepared & Analyzed: 29-Mar-21				
Chloride	104	4.00	mg/L	100	104	80-120		
LCS Dup (1032904-BSD1)				Prepared & Analyzed: 29-Mar-21				
Chloride	100	4.00	mg/L	100	100	80-120	3.92	20

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Analytical Results For:

GEO MONITORING SERVICES
P. O. BOX 295
FULSHEAR TX, 77441

Project: G STATE 4
Project Number: NONE GIVEN
Project Manager: BRAD FREEMAN
Fax To: NONE

Reported:
13-Apr-21 16:42

Petroleum Hydrocarbons by GC FID - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1033005 - General Prep - Organics**Blank (1033005-BLK1)**

Prepared: 30-Mar-21 Analyzed: 31-Mar-21

GRO C6-C10	ND	1.00	mg/L							
DRO >C10-C28	ND	1.00	mg/L							
EXT DRO >C28-C36	ND	1.00	mg/L							
Surrogate: 1-Chlorooctane	3.60		mg/L	5.00		72.0	34.5-148			
Surrogate: 1-Chlorooctadecane	3.74		mg/L	5.00		74.9	46.4-149			

LCS (1033005-BS1)

Prepared: 30-Mar-21 Analyzed: 31-Mar-21

GRO C6-C10	49.6	1.00	mg/L	50.0		99.3	73.2-116			
DRO >C10-C28	52.1	1.00	mg/L	50.0		104	81.3-121			
Surrogate: 1-Chlorooctane	4.40		mg/L	5.00		88.0	34.5-148			
Surrogate: 1-Chlorooctadecane	4.53		mg/L	5.00		90.6	46.4-149			

LCS Dup (1033005-BS1)

Prepared: 30-Mar-21 Analyzed: 31-Mar-21

GRO C6-C10	50.1	1.00	mg/L	50.0		100	73.2-116	0.928	4.68	
DRO >C10-C28	52.6	1.00	mg/L	50.0		105	81.3-121	0.919	9.19	
Surrogate: 1-Chlorooctane	4.52		mg/L	5.00		90.3	34.5-148			
Surrogate: 1-Chlorooctadecane	4.62		mg/L	5.00		92.4	46.4-149			

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Analytical Results For:

GEO MONITORING SERVICES
P. O. BOX 295
FULSHEAR TX, 77441

Project: G STATE 4
Project Number: NONE GIVEN
Project Manager: BRAD FREEMAN
Fax To: NONE

Reported:
13-Apr-21 16:42

Volatile Organic Compounds by EPA Method 8260B - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1040109 - Volatiles**Blank (1040109-BLK1)**

Prepared & Analyzed: 01-Apr-21

Benzene	ND	0.0005	mg/L							
Toluene	ND	0.0005	mg/L							
Ethylbenzene	ND	0.0005	mg/L							
Total Xylenes	ND	0.0005	mg/L							
Total BTEX	ND	0.003	mg/L							
Surrogate: Dibromofluoromethane	0.0257		mg/L	0.0250		103	82.4-141			
Surrogate: Toluene-d8	0.0240		mg/L	0.0250		96.2	87.1-110			
Surrogate: 4-Bromofluorobenzene	0.0234		mg/L	0.0250		93.6	76.4-114			

LCS (1040109-BS1)

Prepared & Analyzed: 01-Apr-21

Benzene	0.019	0.0005	mg/L	0.0200		94.2	85.9-114			
Toluene	0.019	0.0005	mg/L	0.0200		93.8	78.8-121			
Ethylbenzene	0.019	0.0005	mg/L	0.0200		95.2	81.8-127			
m+p - Xylene	0.038	0.001	mg/L	0.0400		95.9	72.4-134			
Total Xylenes	0.057	0.0005	mg/L	0.0600		95.1	74.3-134			
o-Xylene	0.019	0.0005	mg/L	0.0200		93.5	76.2-135			
Surrogate: Dibromofluoromethane	0.0259		mg/L	0.0250		104	82.4-141			
Surrogate: Toluene-d8	0.0239		mg/L	0.0250		95.5	87.1-110			
Surrogate: 4-Bromofluorobenzene	0.0238		mg/L	0.0250		95.4	76.4-114			

LCS Dup (1040109-BS1)

Prepared & Analyzed: 01-Apr-21

Benzene	0.019	0.0005	mg/L	0.0200		93.1	85.9-114	1.23	4.14	
Toluene	0.018	0.0005	mg/L	0.0200		90.8	78.8-121	3.25	5.73	
Ethylbenzene	0.018	0.0005	mg/L	0.0200		92.2	81.8-127	3.09	4.95	
m+p - Xylene	0.037	0.001	mg/L	0.0400		93.1	72.4-134	2.94	5.81	
o-Xylene	0.018	0.0005	mg/L	0.0200		91.1	76.2-135	2.60	6.32	
Total Xylenes	0.055	0.0005	mg/L	0.0600		92.4	74.3-134	2.83	5.84	
Surrogate: Dibromofluoromethane	0.0266		mg/L	0.0250		106	82.4-141			
Surrogate: Toluene-d8	0.0242		mg/L	0.0250		97.0	87.1-110			
Surrogate: 4-Bromofluorobenzene	0.0240		mg/L	0.0250		96.2	76.4-114			

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

GEO MONITORING SERVICES
P. O. BOX 295
FULSHEAR TX, 77441

Project: G STATE 4
Project Number: NONE GIVEN
Project Manager: BRAD FREEMAN
Fax To: NONE

Reported:
13-Apr-21 16:42

Polynuclear Aromatic Compounds by GC/MS - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1033111 - SW846-3510**Blank (1033111-BLK1)**

Prepared: 31-Mar-21 Analyzed: 13-Apr-21

Naphthalene	ND	0.001	mg/L							
2-Methylnaphthalene	ND	0.001	mg/L							
1-Methylnaphthalene	ND	0.0005	mg/L							
Acenaphthylene	ND	0.001	mg/L							
Acenaphthene	ND	0.001	mg/L							
Fluorene	ND	0.001	mg/L							
Phenanthrene	ND	0.001	mg/L							
Anthracene	ND	0.001	mg/L							
Carbazole	ND	0.001	mg/L							
Fluoranthene	ND	0.001	mg/L							
Pyrene	ND	0.001	mg/L							
Benzo[a]anthracene	ND	0.001	mg/L							
Chrysene	ND	0.001	mg/L							
Benzo[b]fluoranthene	ND	0.001	mg/L							
Benzo[k]fluoranthene	ND	0.001	mg/L							
Benzo[a]pyrene	ND	0.0002	mg/L							
Indeno[1,2,3-cd]pyrene	ND	0.001	mg/L							
Dibenz[a,h]anthracene	ND	0.001	mg/L							
Benzo[g,h,i]perylene	ND	0.001	mg/L							
Surrogate: Nitrobenzene-d5	0.0383		mg/L	0.0500		76.5	20.3-96.6			
Surrogate: 2-Fluorobiphenyl	0.0431		mg/L	0.0500		86.2	18.9-97.9			
Surrogate: Terphenyl-d14	0.0295		mg/L	0.0500		59.0	14.7-112			

LCS (1033111-BS1)

Prepared: 31-Mar-21 Analyzed: 13-Apr-21

Naphthalene	0.007	0.001	mg/L	0.0100		73.5	18.1-117			
2-Methylnaphthalene	0.008	0.001	mg/L	0.0100		77.8	21-115			
1-Methylnaphthalene	0.008	0.0005	mg/L	0.0100		78.3	21.2-116			
Acenaphthylene	0.009	0.001	mg/L	0.0100		85.6	24.2-119			
Acenaphthene	0.008	0.001	mg/L	0.0100		84.9	21.5-122			
Fluorene	0.008	0.001	mg/L	0.0100		83.4	22.9-124			
Phenanthrene	0.008	0.001	mg/L	0.0100		77.8	25.6-128			
Anthracene	0.008	0.001	mg/L	0.0100		79.0	27-127			

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

Analytical Results For:

GEO MONITORING SERVICES
P. O. BOX 295
FULSHEAR TX, 77441

Project: G STATE 4
Project Number: NONE GIVEN
Project Manager: BRAD FREEMAN
Fax To: NONE

Reported:
13-Apr-21 16:42

Polynuclear Aromatic Compounds by GC/MS - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1033111 - SW846-3510**LCS (1033111-BS1)**

Prepared: 31-Mar-21 Analyzed: 13-Apr-21

Carbazole	0.008	0.001	mg/L	0.0100		84.2	26.4-128			
Fluoranthene	0.008	0.001	mg/L	0.0100		82.8	27.2-128			
Pyrene	0.009	0.001	mg/L	0.0100		86.0	19.1-137			
Benzo[a]anthracene	0.009	0.001	mg/L	0.0100		87.3	21.9-134			
Chrysene	0.008	0.001	mg/L	0.0100		83.2	22.2-133			
Benzo[b]fluoranthene	0.008	0.001	mg/L	0.0100		79.4	20.4-144			
Benzo[k]fluoranthene	0.008	0.001	mg/L	0.0100		80.8	21.8-139			
Benzo[a]pyrene	0.008	0.0002	mg/L	0.0100		78.7	23.6-140			
Indeno[1,2,3-cd]pyrene	0.007	0.001	mg/L	0.0100		74.5	21.8-132			
Dibenz[a,h]anthracene	0.008	0.001	mg/L	0.0100		80.9	20.3-133			
Benzo[g,h,i]perylene	0.008	0.001	mg/L	0.0100		78.6	24.8-126			
Surrogate: Nitrobenzene-d5	0.0417		mg/L	0.0500		83.5	20.3-96.6			
Surrogate: 2-Fluorobiphenyl	0.0479		mg/L	0.0500		95.9	18.9-97.9			
Surrogate: Terphenyl-d14	0.0351		mg/L	0.0500		70.2	14.7-112			

LCS Dup (1033111-BSD1)

Prepared: 31-Mar-21 Analyzed: 13-Apr-21

Naphthalene	0.007	0.001	mg/L	0.0100		74.8	18.1-117	1.75	3.46	
2-Methylnaphthalene	0.008	0.001	mg/L	0.0100		76.5	21-115	1.69	4.47	
1-Methylnaphthalene	0.008	0.0005	mg/L	0.0100		76.9	21.2-116	1.80	4.3	
Acenaphthylene	0.009	0.001	mg/L	0.0100		86.5	24.2-119	1.05	3.88	
Acenaphthene	0.008	0.001	mg/L	0.0100		83.6	21.5-122	1.54	3.77	
Fluorene	0.008	0.001	mg/L	0.0100		84.1	22.9-124	0.836	4.31	
Phenanthrene	0.008	0.001	mg/L	0.0100		80.7	25.6-128	3.66	5.04	
Anthracene	0.008	0.001	mg/L	0.0100		79.5	27-127	0.631	4.49	
Carbazole	0.009	0.001	mg/L	0.0100		85.2	26.4-128	1.18	4.78	
Fluoranthene	0.008	0.001	mg/L	0.0100		83.2	27.2-128	0.482	6.19	
Pyrene	0.009	0.001	mg/L	0.0100		87.2	19.1-137	1.39	7.75	
Benzo[a]anthracene	0.009	0.001	mg/L	0.0100		88.7	21.9-134	1.59	3.03	
Chrysene	0.009	0.001	mg/L	0.0100		85.3	22.2-133	2.49	3.42	
Benzo[b]fluoranthene	0.008	0.001	mg/L	0.0100		78.0	20.4-144	1.78	6.95	
Benzo[k]fluoranthene	0.008	0.001	mg/L	0.0100		79.8	21.8-139	1.25	8.16	
Benzo[a]pyrene	0.008	0.0002	mg/L	0.0100		78.0	23.6-140	0.893	3.27	

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Analytical Results For:

GEO MONITORING SERVICES
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Project: G STATE 4
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Polynuclear Aromatic Compounds by GC/MS - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1033111 - SW846-3510**LCS Dup (1033111-BSD1)**

Prepared: 31-Mar-21 Analyzed: 13-Apr-21

Indeno[1,2,3-cd]pyrene	0.008	0.001	mg/L	0.0100		75.7	21.8-132	1.60	4.11	
Dibenz[a,h]anthracene	0.008	0.001	mg/L	0.0100		80.9	20.3-133	0.00	4.77	
Benzo[g,h,i]perylene	0.008	0.001	mg/L	0.0100		79.7	24.8-126	1.39	6.35	
Surrogate: Nitrobenzene-d5	0.0415		mg/L	0.0500		83.1	20.3-96.6			
Surrogate: 2-Fluorobiphenyl	0.0477		mg/L	0.0500		95.4	18.9-97.9			
Surrogate: Terphenyl-d14	0.0358		mg/L	0.0500		71.6	14.7-112			

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in cursive script, reading "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <i>Celestially Services</i>		BILL TO		ANALYSIS REQUEST																			
Project Manager: <i>Brad Freeman</i>		P.O. #: <i>PR 026262</i>																					
Address: <i>brad@openmnet</i>		Company:																					
City:		Attn:																					
State:		Address:																					
Zip:		City:																					
Phone #: <i>713-472-6141</i>		Fax #:																					
Project #:		Project Owner:																					
Project Name: <i>State 4</i>		State:		Zip:																			
Project Location:		Phone #:																					
Sample Name:		Fax #:																					
<small>FOR LAB USE ONLY</small>																							
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX		PRESERV.		SAMPLING													
						<input type="checkbox"/> GROUNDWATER <input type="checkbox"/> WASTEWATER <input type="checkbox"/> SOIL <input type="checkbox"/> OIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> OTHER :		<input type="checkbox"/> ACID/BASE: <input type="checkbox"/> ICE / COOL <input type="checkbox"/> OTHER :															
<i>#210785</i>	<i>NW-6</i>					<input checked="" type="checkbox"/>				<i>3/30/11 7:10</i>		<i>BT EX</i>											
	<i>NW-7</i>					<input checked="" type="checkbox"/>				<i>3/30/11 8:10</i>		<i>TPIL</i>											
	<i>NW-8</i>					<input checked="" type="checkbox"/>				<i>3/30/11 8:55</i>		<i>CI</i>											
	<i>NW-3</i>					<input checked="" type="checkbox"/>				<i>3/30/11 12:10</i>		<i>PAH</i>											
	<i>NW-4</i>					<input checked="" type="checkbox"/>				<i>3/30/11 1:30</i>													
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Relinquished By: <i>Brad Freeman</i>		Date: <i>3/30/11</i>		Received By: <i>Juanita Alvarez</i>		Date: <i>3/30/11</i>		Time: <i>1:345</i>		Received By:													
Relinquished By:		Date:		Received By:		Date:		Time:		Received By:													
Delivered By: (Circle One)		Observed Temp. °C <i>3.1</i>		Sample Condition <input type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		CHECKED BY: (Initials) <i>yo.</i>		Turnaround Time:		Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>		Bacteria (only) <input type="checkbox"/> Sample Condition <input type="checkbox"/>											
Sampler - UPS - Bus - Other:		Corrected Temp. °C		<input type="checkbox"/> Yes <input type="checkbox"/> No				Thermometer ID #113		Correction Factor None		Cool Intact <input type="checkbox"/> Observed Temp. °C											
												Corrected Temp. °C											

FORM 006 R 3.1 00/04/20

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

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1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 61951

CONDITIONS

Operator: HESS CORPORATION P.O. Box 840 Seminole, TX 79360	OGRID: 495
	Action Number: 61951
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bbillings	None	11/29/2021