

Trinity Oilfield Services & Rentals, LLC

Environmental Site Summary & Deferment Request



Company: Apache Corporation Address: 2530 W. Marland St., Hobbs, NM 88240 Telephone #: (575) 393-7106
 Site Name: State Land Lease 15 NMOCD Reference#: 1RP-5580
 Surface Owner: State of New Mexico Mineral Owner: State of New Mexico
 Unit Letter: N (SE/SW) Section: 16 Township: 21S Range: 37E County: Lea GPS Coordinates: 32.47274 N -103.16856 W
 Date/Time of Release: 6/19/2019 Type of Release: ☐ Crude Oil ☒ Produced Water
 Volume(s) Released: 20 bbls Volume(s) Recovered: 15 bbls

Closure Criteria for Impacted Soil (mg/kg; See Appendix C, "Closure Criteria Justification"):

Benzene: 10 BTEX: 50 GRO+DRO: 1,000 TPH: ☐ 100 Chloride: ☐ 600
☒ 2,500 ☒ 10,000
☐ 20,000

Background Information:

On June 19, 2019, Apache Corporation discovered a release at the State Land Lease 15 tank battery. A section of a water load line failed due to corrosion, resulting in the release of approximately 20 barrels (bbls) of produced water. The spill was limited to the caliche pad surrounding the tank battery and did not impact the adjacent pasture. During initial response activities, the load line was repaired, and a vacuum truck was utilized to recover approximately 15 bbls of free-standing liquid.

The release was immediately reported to the New Mexico Oil Conservation Division's (NMOCD) Hobbs District Office. The NMOCD "Release Notification & Corrective Action" form (C-141) is provided as Appendix A. A "Site Location Map" is provided as Figure 1.

Summary of Field Activities:

On September 13, 2019, delineation of the release site commenced. A hydrovac was utilized to locate buried pipelines, and a hand auger was used to advance a series of boreholes (SP-1 through SP-3) in the affected area to investigate the extent of impacted soil. The auger holes were advanced to total depths ranging from 2 feet (SP-3) to 10 feet (SP-2) below ground surface (bgs). Soil samples were collected at 2-foot vertical intervals, and ten (10) confirmation samples (SP-2 @ 2', SP-2 @ 4', SP-2 @ 6', SP-2 @ 8', SP-2 @ 10', and SP-3 @ 2') were submitted to Cardinal Laboratories in Hobbs, New Mexico, for analysis of benzene, toluene, ethylbenzene, and total xylene (BTEX) and total petroleum hydrocarbons (TPH) using Environmental Protection Agency (EPA) Methods SW 846-8021B and SW 846-8015 Mod, respectively.

Laboratory analytical results indicated benzene concentrations ranged from less than the laboratory method detection limit (MDL) in soil samples SP-2 @ 8', SP-2 @ 10', and SP-3 @ 2' to 1.72 mg/kg in sample SP-2 @ 2'. BTEX concentrations ranged from less than the laboratory MDL in samples SP-2 @ 10' and SP-3 @ 2' to 27.3 mg/kg in sample SP-2 @ 2'. Sum total concentrations of Gas Range Organics and Diesel Range Organics (GRO + DRO) ranged from less than the laboratory MDL in sample SP-2 @ 10' to 8,261 mg/kg in sample SP-2 @ 2'. TPH concentrations ranged from less than the laboratory MDL in sample SP-2 @ 10' to 10,051 mg/kg in sample SP-2 @ 2'.

On September 18, 2019, excavation of impacted soil commenced. A chloride field-test kit and olfactory/visual senses were utilized to determine the horizontal extent of impacted soil and to guide the excavation. From September 18 through October 16, 2019, excavated soil was stockpiled on-site on 6-mil plastic, pending final disposition.

From September 18 through October 4, 2019, approximately 228 cubic yards of impacted soil was transported to Sundance Services, Inc. (NMOCD Permit #NM-01-0003), for disposal.

Trinity Oilfield Services & Rentals, LLC

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Summary of Field Activities (cont.)

On October 4, 2019, ten (10) 5-point composite soil samples (B-3 @ 1', B-4 @ 1', B-5 @ 1', B-6 @ 1', B-7 @ 1', B-8 @ 1', B-9 @ 1', B-10 @ 1', W-5 @ 1', and W-6 @ 1') were collected from the bottom and sidewalls of the excavation and field-screened with a chloride test kit. Confirmation samples were submitted to the laboratory for analysis of BTEX and TPH concentrations. The samples were also analyzed for chloride concentrations using EPA Method 4500-Cl B. Laboratory analytical results indicated benzene and BTEX constituent concentrations were less than the appropriate laboratory MDL in all submitted samples. GRO+DRO concentrations ranged from 62.0 mg/kg in sample B-8 @ 1' to 1,906 mg/kg in sample B-7 @ 1'. TPH concentrations ranged from 105 mg/kg in sample B-8 @ 1' to 3,050 mg/kg in sample B-9 @ 1'. Chloride concentrations ranged from 16.0 mg/kg in sample B-8 @ 1' to 128 mg/kg in sample B-10 @ 1'.

On October 7, 2019, four (4) 5-point composite soil samples (B-11 @ 1', B-12 @ 1', B-13 @ 1', and W-7 @ 1') were collected from the bottom and sidewall of the excavation and field-screened with a chloride test kit. Based on the results of the field-screens, the excavation was advanced to approximately 3 feet bgs in the area represented by soil sample B-11 @ 1', and six (6) confirmation samples (B-11 @ 1', B-11 @ 2', B-11 @ 3', B-12 @ 1', B-13 @ 1', and W-7 @ 1') were submitted to the laboratory for analysis of BTEX, TPH, BTEX, and chloride concentrations. Laboratory analytical results indicated benzene and BTEX constituent concentrations were less than the appropriate laboratory MDL in all submitted samples. GRO+DRO concentrations ranged from less than the laboratory MDL in sample B-13 @ 1' to 220 mg/kg in sample B-12 @ 1'. TPH concentrations ranged from less than the laboratory MDL in sample B-13 @ 1' to 365 mg/kg in sample B-12 @ 1'. Chloride concentrations ranged from 80.0 mg/kg in samples B-13 @ 1' and W-7 @ 1' to 640 mg/kg in sample B-11 @ 1'.

On October 16, 2019, three (3) delineation trenches (B-2, B-4, and B-10) were advanced in the bottom of the excavation to further investigate the vertical extent of impacted soil in the areas represented by samples B-2 @ 1', B-4 @ 1', and B-10 @ 1'. The delineation trenches were advanced in 2-foot vertical intervals to total depths ranging from 10 feet (B-4 and B-10) to 11 feet bgs (B-2). Soil samples were field-screened with a chloride test kit, and fifteen (15) confirmation samples (B-2 @ 3', B-2 @ 5', B-2 @ 7', B-2 @ 9', B-2 @ 11', B-4 @ 2', B-4 @ 4', B-4 @ 6', B-4 @ 8', B-4 @ 10', B-10 @ 2', B-10 @ 4', B-10 @ 6', B-10 @ 8', B-10 @ 10') were submitted to the laboratory for analysis of BTEX, TPH, and chloride concentrations. Laboratory analytical results indicated benzene concentrations were less than the laboratory MDL in all submitted samples, with the exceptions of samples B-2 @ 9' and B-10 @ 6', which exhibited benzene concentrations of 0.207 mg/kg and 0.575 mg/kg, respectively. BTEX concentrations ranged from less than the laboratory MDL in samples B-2 @ 3', B-4 @ 2', B-4 @ 4', B-4 @ 6', B-4 @ 8', B-4 @ 10', B-10 @ 2', B-10 @ 8', and B-10 @ 10' to 39.6 mg/kg in sample B-2 @ 9'. GRO+DRO concentrations ranged from less than the laboratory MDL in samples B-4 @ 4', B-4 @ 6', B-4 @ 8', and B-4 @ 10' to 8,157 mg/kg in sample B-10 @ 6'. TPH concentrations ranged from less than the laboratory MDL in samples B-4 @ 4', B-4 @ 6', B-4 @ 8', and B-4 @ 10' to 10,187 mg/kg in sample B-10 @ 6'. Chloride concentrations ranged from 16.0 mg/kg in sample B-10 @ 10' to 1,620 mg/kg in sample B-2 @ 3'.

Based on these laboratory analytical results, vertical delineation of the areas represented by trenches B-2, B-4, and B-10 was achieved.

The surface area of the final excavation measures approximately 3,960 square feet, with excavation depths ranging from 1 to 3 feet bgs.

Locations of the auger holes, delineation trenches, and soil samples are depicted in Figure 2, "Sample Location Map". Photographs of the excavation are provided in Appendix B. Laboratory analytical results are summarized in Table 1, and chloride field-screen data is summarized in Table 2. Laboratory analytical reports are provided in Appendix D.

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**Deferment Request:**

Soil samples collected from the impacted area were analyzed by an NMOCD-approved laboratory, and chloride and BTEX constituent concentrations were below the Closure Criteria listed in Table I of Section 19.15.29.12 of the New Mexico Administrative Code (NMAC) for a site where depth to groundwater is 51-100 feet bgs (see Appendix C, "Closure Criteria Justification", for more information).

The GRO+DRO and TPH contamination in the areas represented by auger hole SP-2 and trenches B-2 and B-10 has been vertically delineated. Additional delineation and excavation in the areas represented by soil samples B-7 and B-9 is hindered by the presence of numerous pipes and appurtenances. Pursuant to Section 19.15.29.12.C(2) NMAC, since the impacted zone is in an area which would require a "major facility deconstruction", Apache hereby requests approval to defer further delineation and remediation until such time that the State Land Lease 15 tank battery is decommissioned and removed.

Enclosures:

Figure 1: Site Location Map

Figure 2: Sample Location Map

Table 1: Concentrations of Benzene, BTEX, TPH & Chloride in Soil

Table 2: Field Screens

Appendix A: Release Notification & Corrective Action (Form C-141)

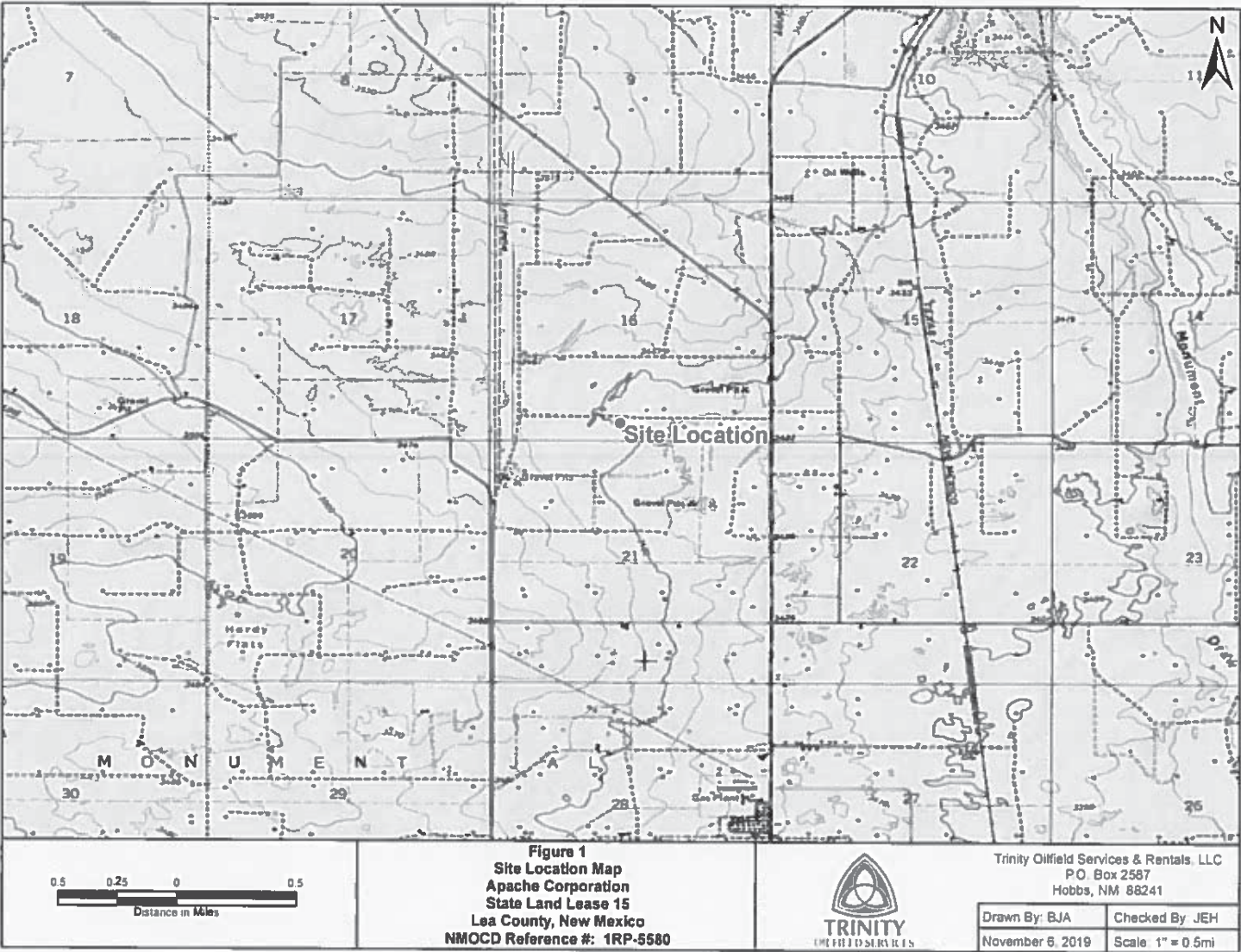
Appendix B: Photographs

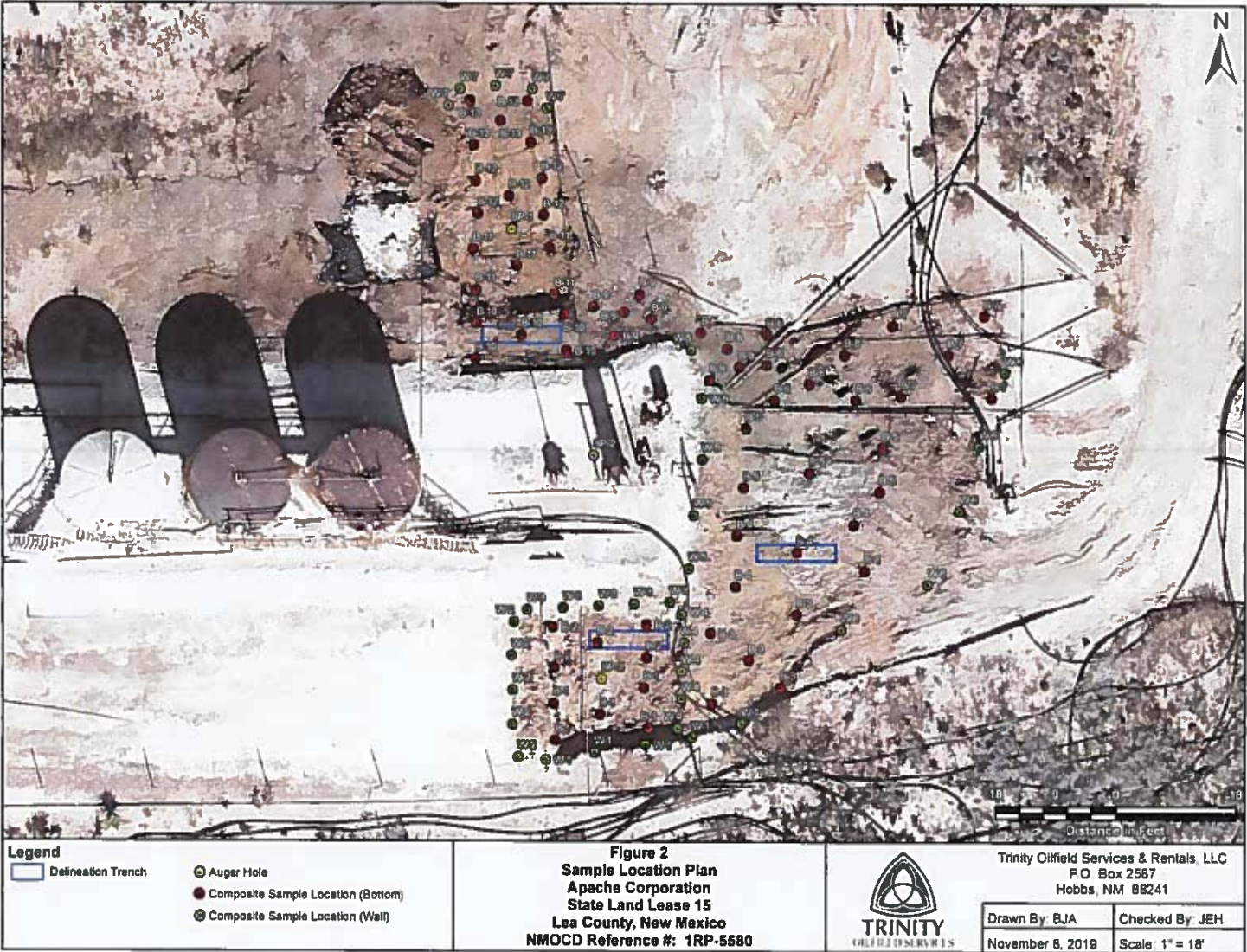
Appendix C: Closure Criteria Justification

Appendix D: Laboratory Analytical Results

 11/8/2019
Ben J. Arguijo
Project Manager

Figures





Tables

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL

APACHE CORPORATION
STATE LAND LEASE 15
LEA COUNTY, NEW MEXICO
NMOCD REFERENCE #: 1RP-5580



SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	EPA SW-846 Method 8021B					EPA SW-846 Method 8015M					4500-CI B
				BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL-BENZENE (mg/kg)	TOTAL XYLENES (mg/kg)	TOTAL BTEX (mg/kg)	GRO C6-C12 (mg/kg)	DRO C12-C28 (mg/kg)	GRO+ DRO (mg/kg)	MRO C28-C35 (mg/kg)	TPH C6-C35 (mg/kg)	
NMOCD Closure Limits (mg/kg)				10	NE	NE	NE	50	NE	NE	1,000	NE	2,500	10,000
SP-2 @ 2'	2'	9/13/2019	In-Situ	1.72	10.7	8.75	6.11	27.3	721	7,540	8,281	1,790	10,051	-
SP-2 @ 4'	4'	9/13/2019	In-Situ	0.297	0.170	1.67	0.471	2.61	20.5	275	296	11.4	307	-
SP-2 @ 6'	6'	9/13/2019	In-Situ	1.51	0.178	3.26	1.03	5.97	80.3	1,050	1,130	190	1,320	-
SP-2 @ 8'	8'	9/13/2019	In-Situ	<0.050	<0.050	0.093	0.195	0.288	<10.0	285	285	19.4	304	-
SP-2 @ 10'	10'	9/13/2019	In-Situ	<0.050	<0.050	0.082	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	-
SP-3 @ 2'	2'	9/13/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	355	355	171	526	-
B-3 @ 1'	1'	10/4/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	168	168	113.0	281	48.0
B-4 @ 1'	1'	10/4/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	108	108	85.5	194	48.0
B-5 @ 1'	1'	10/4/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	329	329	233	562	48.0
B-6 @ 1'	1'	10/4/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	14.6	505	520	393	913	32.0
B-7 @ 1'	1'	10/4/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	15.7	1,890	1,906	1,010	2,916	48.0
B-8 @ 1'	1'	10/4/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	62.0	62.0	43.3	105	16.0
B-9 @ 1'	1'	10/4/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	1,880	1,880	1,170	3,050	32.0
B-10 @ 1'	1'	10/4/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	192	192	146	338	128
W-5 @ 1'	1'	10/4/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	87.3	87.3	54.1	141	96.0
W-6 @ 1'	1'	10/4/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	127	127	89.9	217	112
B-11 @ 1'	1'	10/7/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	63.9	63.9	24.9	88.8	640
B-11 @ 2'	2'	10/7/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	174	174	78.9	253	320
B-11 @ 3'	3'	10/7/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	13.0	13.0	<10.0	13.0	96.0
B-12 @ 1'	1'	10/7/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	220	220	145	365	208
B-13 @ 1'	1'	10/7/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
W-7	1'	10/7/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	148	148	153	301	80.0
B-2 @ 3'	3'	10/16/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	305	305	202	507	1,620
B-2 @ 5'	5'	10/16/2019	In-Situ	<0.050	0.055	<0.050	1.12	1.17	48.3	379	427	64.9	492	256
B-2 @ 7'	7'	10/16/2019	In-Situ	<0.200	<0.200	2.80	6.87	9.67	434	1,580	2,014	107	2,121	112
B-2 @ 9'	9'	10/16/2019	In-Situ	0.207	<0.200	10.8	28.5	39.6	607	1,770	2,377	218	2,595	112
B-2 @ 11'	11'	10/16/2019	In-Situ	<0.050	<0.050	1.52	3.83	5.35	102	518	620	102	722	48.0
B-4 @ 2'	2'	10/16/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	59.7	59.7	33.1	92.8	128
B-4 @ 4'	4'	10/16/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
B-4 @ 6'	6'	10/16/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256
B-4 @ 8'	8'	10/16/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
B-4 @ 10'	10'	10/16/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0

NE = Not Established

- = Not Analyzed

Concentrations in BOLD exceed the NMOCD Closure Limit

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL

APACHE CORPORATION
STATE LAND LEASE 15
LEA COUNTY, NEW MEXICO
NMOCD REFERENCE #: 1RP-5580



SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	EPA SW-846 Method 8021B					EPA SW-846 Method 8015M					4500-Cl B
				BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL-BENZENE (mg/kg)	TOTAL XYLENES (mg/kg)	TOTAL BTEX (mg/kg)	GRO C6-C12 (mg/kg)	DRO C12-C28 (mg/kg)	GRO+ DRO (mg/kg)	MRO C28-C35 (mg/kg)	TPH C6-C35 (mg/kg)	CHLORIDE (mg/kg)
NMOCD Closure Limits (mg/kg)				10	NE	NE	NE	50	NE	NE	1,000	NE	2,500	10,000
B-10 @ 2'	2'	10/16/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	168	168	102	270	160
B-10 @ 4'	4'	10/16/2019	In-Situ	<0.050	<0.050	0.060	<0.150	0.060	<10.0	211	211	89.4	300	80.0
B-10 @ 6'	6'	10/16/2019	In-Situ	0.575	0.366	2.51	3.17	6.62	297	7,860	8,157	2,030	10,187	512
B-10 @ 8'	8'	10/16/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	378	378	116	494	304
B-10 @ 10'	10'	10/16/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	20.8	20.8	13.6	34.4	16.0

NE = Not Established

- = Not Analyzed

Concentrations in BOLD exceed the NMOCD Closure Limit

**TABLE 2
FIELD TESTS**

**APACHE CORPORATION
STATE LAND LEASE 15
LEA COUNTY, NEW MEXICO
NMOCD REFERENCE #: 1RP-5580**



SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	HACH QUANTAB
				CHLORIDE (mg/Kg)
NMOCD Closure Limit (mg/kg)				10,000
W-1 @ 1'	1'	9/17/2019	In-Situ	1,049
B-3 @ 1'	1'	10/4/2019	In-Situ	599
B-4 @ 1'	1'	10/4/2019	In-Situ	509
B-5 @ 1'	1'	10/4/2019	In-Situ	569
B-6 @ 1'	1'	10/4/2019	In-Situ	299
B-7 @ 1'	1'	10/4/2019	In-Situ	239
B-8 @ 1'	1'	10/4/2019	In-Situ	509
B-9 @ 1'	1'	10/4/2019	In-Situ	359
B-10 @ 1'	1'	10/4/2019	In-Situ	569
W-5 @ 1'	1'	10/4/2019	In-Situ	539
W-6 @ 1'	1'	10/4/2019	In-Situ	359
B-11 @ 1'	1'	10/7/2019	Excavated	989
B-11 @ 2'	2'	10/7/2019	Excavated	839
B-11 @ 3'	3'	10/7/2019	In-Situ	599
B-12 @ 1'	1'	10/7/2019	In-Situ	599
B-13 @ 1'	1'	10/7/2019	In-Situ	389
W-7 @ 1'	1'	10/7/2019	In-Situ	329
B-2 @ 3'	3'	10/16/2019	In-Situ	599
B-2 @ 5'	5'	10/16/2019	In-Situ	299
B-2 @ 7'	7'	10/16/2019	In-Situ	149
B-2 @ 9'	9'	10/16/2019	In-Situ	149
B-2 @ 11'	11'	10/16/2019	In-Situ	119
B-4 @ 2'	2'	10/16/2019	In-Situ	119
B-4 @ 4'	4'	10/16/2019	In-Situ	269
B-4 @ 6'	6'	10/16/2019	In-Situ	179
B-4 @ 8'	8'	10/16/2019	In-Situ	239
B-4 @ 10'	10'	10/16/2019	In-Situ	119
B-10 @ 2'	2'	10/16/2019	In-Situ	239
B-10 @ 4'	4'	10/16/2019	In-Situ	89
B-10 @ 6'	6'	10/16/2019	In-Situ	419
B-10 @ 8'	8'	10/16/2019	In-Situ	209
B-10 @ 10'	10'	10/16/2019	In-Situ	89

Appendices

Appendix A
Release Notification &
Corrective Action (Form C-141)

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural
Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NDHR1917859000
District RP	1RP-5580
Facility ID	
Application ID	pDHR1917858803

Release Notification

Responsible Party

Responsible Party: Apache Corporation	OGRID 873
Contact Name: Bruce Baker	Contact Telephone: (432) 631-6982
Contact email: Larry.Baker@apachecorp.com	Incident # (assigned by OCD) NDHR1917859000
Contact Mailing Address: 2350 W. Marland Blvd, Hobbs, NM 88240	

Location of Release Source

Latitude: W 32.47274 Longitude: N -103.16856

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: State Land Lease 15	Site Type: Well
Date Release Discovered: June 19, 2019	API # 3002506631 (Nearest Well)

Unit Letter	Section	Township	Range	County
N	16	21S	37E	LEA

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (Name: Not Applicable)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input type="checkbox"/> Crude Oil	Volume Released	Volume Recovered
<input checked="" type="checkbox"/> Produced Water	Volume Released (20 bbls)	Volume Recovered (15 bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Corrosion on water load line

Form C-141

State of New Mexico
Oil Conservation Division

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Incident ID	NDHR1917859000
District RP	1RP-5580
Facility ID	
Application ID	pDHR1917858803

Was this a major release as defined by 19.15.29.7(A) NMAC?

☐ Yes ☒ No

If YES, for what reason(s) does the responsible party consider this a major release?

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Via email given to NM OCD by Bruce Baker, Senior Environmental Technician, Apache Corporation

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

- ☒ The source of the release has been stopped.
- ☒ The impacted area has been secured to protect human health and the environment.
- ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Jeff Broom

Title: Environmental Technician

Signature:  Date: 06/19/2019

Email: Jeffrey.Broom@apachecorp.com

Telephone: (432) 664-4677

OCD Only

Received by: Dylan Rose-Coss Date: 06/27/2019

Form C-141

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State of New Mexico
Oil Conservation Division

Incident ID	nDHR1917859000
District RP	1RP-5580
Facility ID	
Application ID	

Site Assessment/Characterization*This information must be provided to the appropriate district office no later than 90 days after the release discovery date.*

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>70</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: *Each of the following items must be included in the report.*

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within 1/2-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Form C-141

Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nDHR1917859000
District RP	1RP-5580
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Bruce Baker Title: Environmental Tech sr.
Signature: Bruce Baker Date: 11-11-11
email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: Cristina Eads Date: 002/17/2020

Form C-141

Page 5

State of New Mexico
Oil Conservation Division

Incident ID	nDHR1917859000
District RP	1RP-5580
Facility ID	
Application ID	

Remediation Plan**Remediation Plan Checklist:** Each of the following items must be included in the plan.

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: Each of the following items must be confirmed as part of any request for deferral of remediation.

- ☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☒ Extents of contamination must be fully delineated.
- ☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Bruce Baker Title: Environmental Tech. SR.
Signature: Bruce Baker Date: 11-11-19
email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD OnlyReceived by: Cristina Eads Date: 02/17/2020

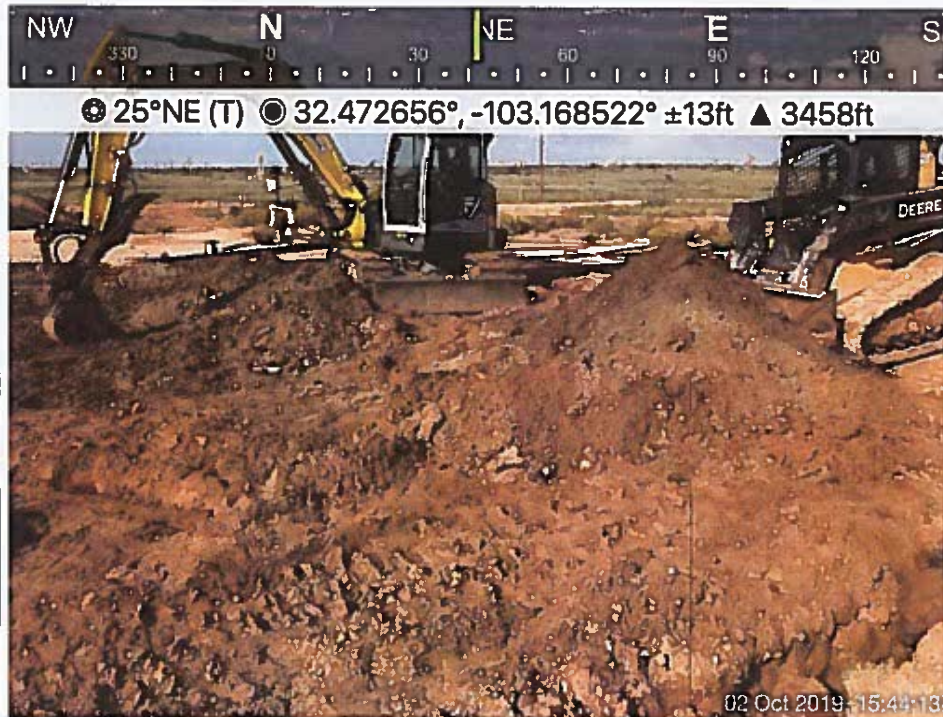
☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☒ Deferral Approved

Signature: Cristina Eads Date: 02/17/2020

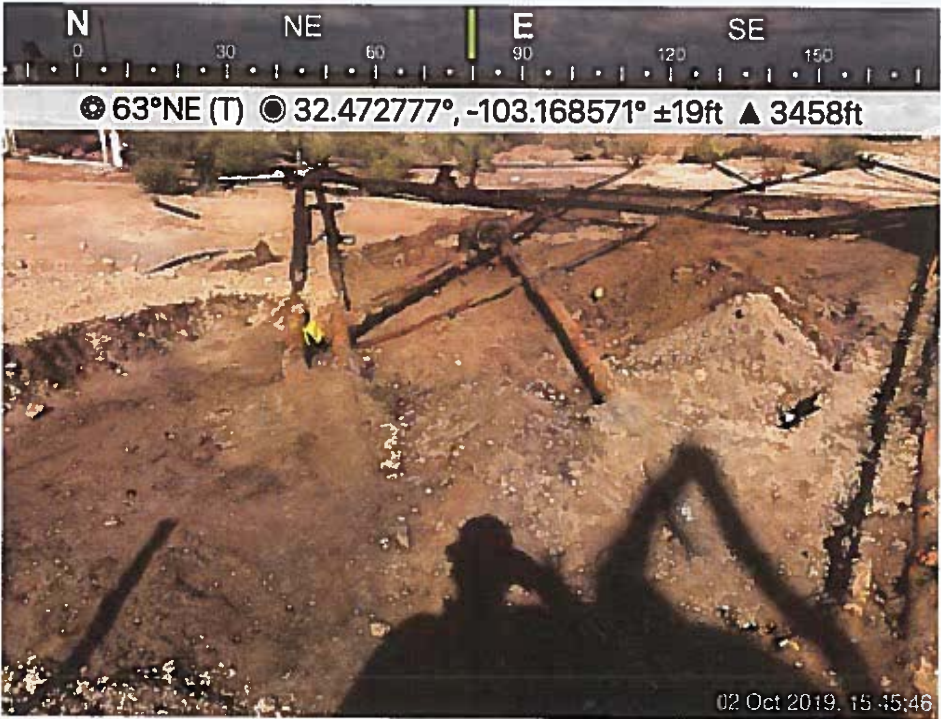
Appendix B

Photographs

Apache Corporation – State Land Lease 15
Unit Letter "N" (SE/SW), Section 16, Township 21S, Range 37E



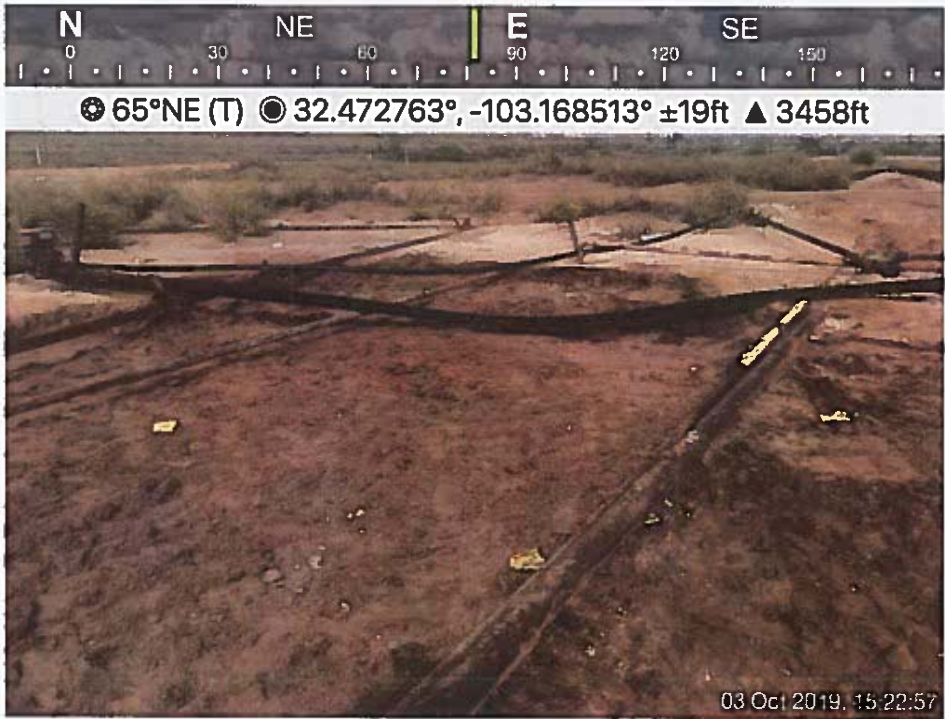
Apache Corporation – State Land Lease 15
Unit Letter "N" (SE/SW), Section 16, Township 21S, Range 37E



Apache Corporation – State Land Lease 15
Unit Letter "N" (SE/SW), Section 16, Township 21S, Range 37E



Apache Corporation – State Land Lease 15
Unit Letter "N" (SE/SW), Section 16, Township 21S, Range 37E



Apache Corporation – State Land Lease 15
Unit Letter "N" (SE/SW), Section 16, Township 21S, Range 37E



Apache Corporation – State Land Lease 15
Unit Letter "N" (SE/SW), Section 16, Township 21S, Range 37E



Apache Corporation – State Land Lease 15
Unit Letter "N" (SE/SW), Section 16, Township 21S, Range 37E



Apache Corporation – State Land Lease 15
Unit Letter "N" (SE/SW), Section 16, Township 21S, Range 37E



Appendix C

Closure Criteria Justification

**TABLE 3
CLOSURE CRITERIA JUSTIFICATION**

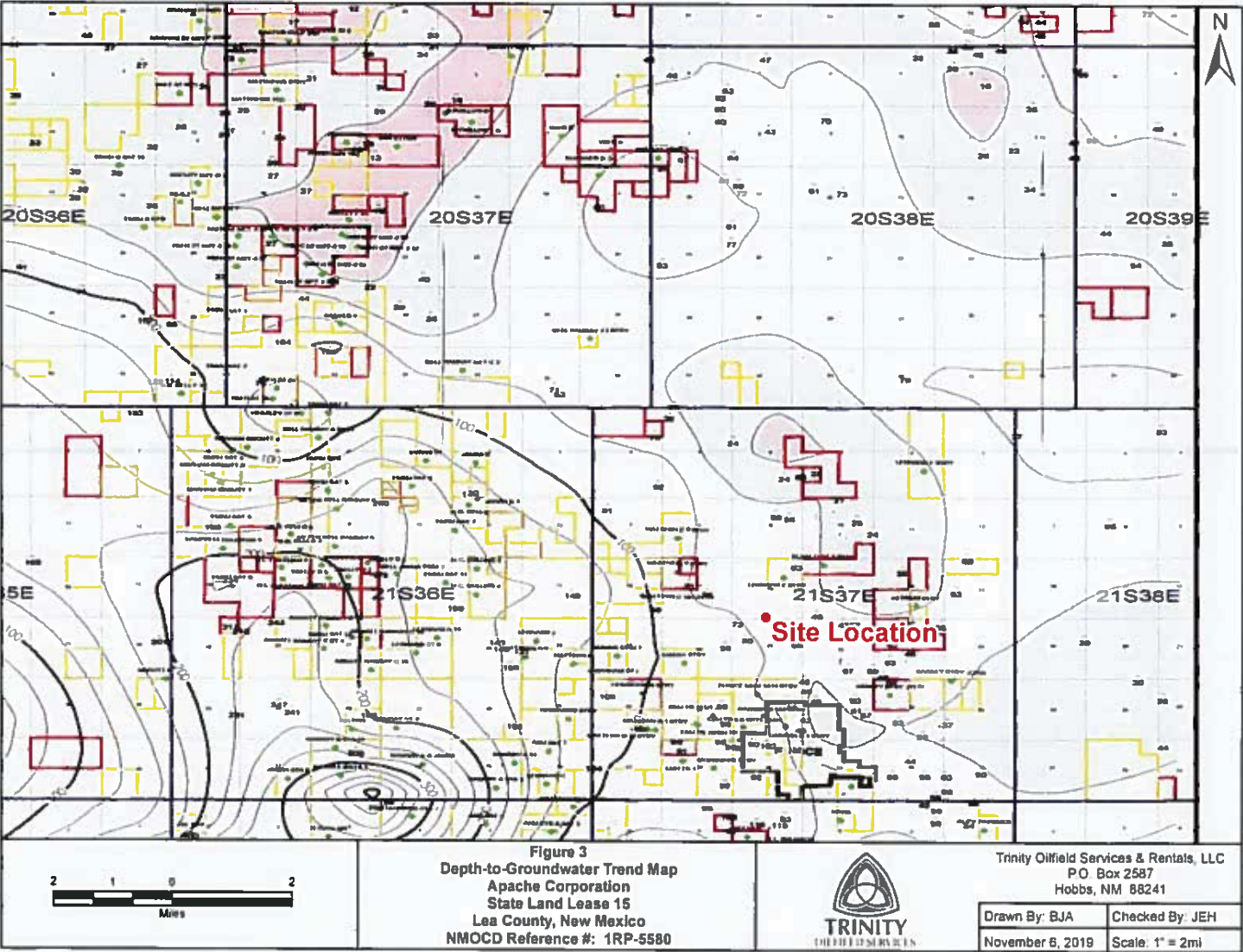
**APACHE CORPORATION
STATE LAND LEASE 15
LEA COUNTY, NEW MEXICO
NMOCD REFERENCE #: 1RP-5580**

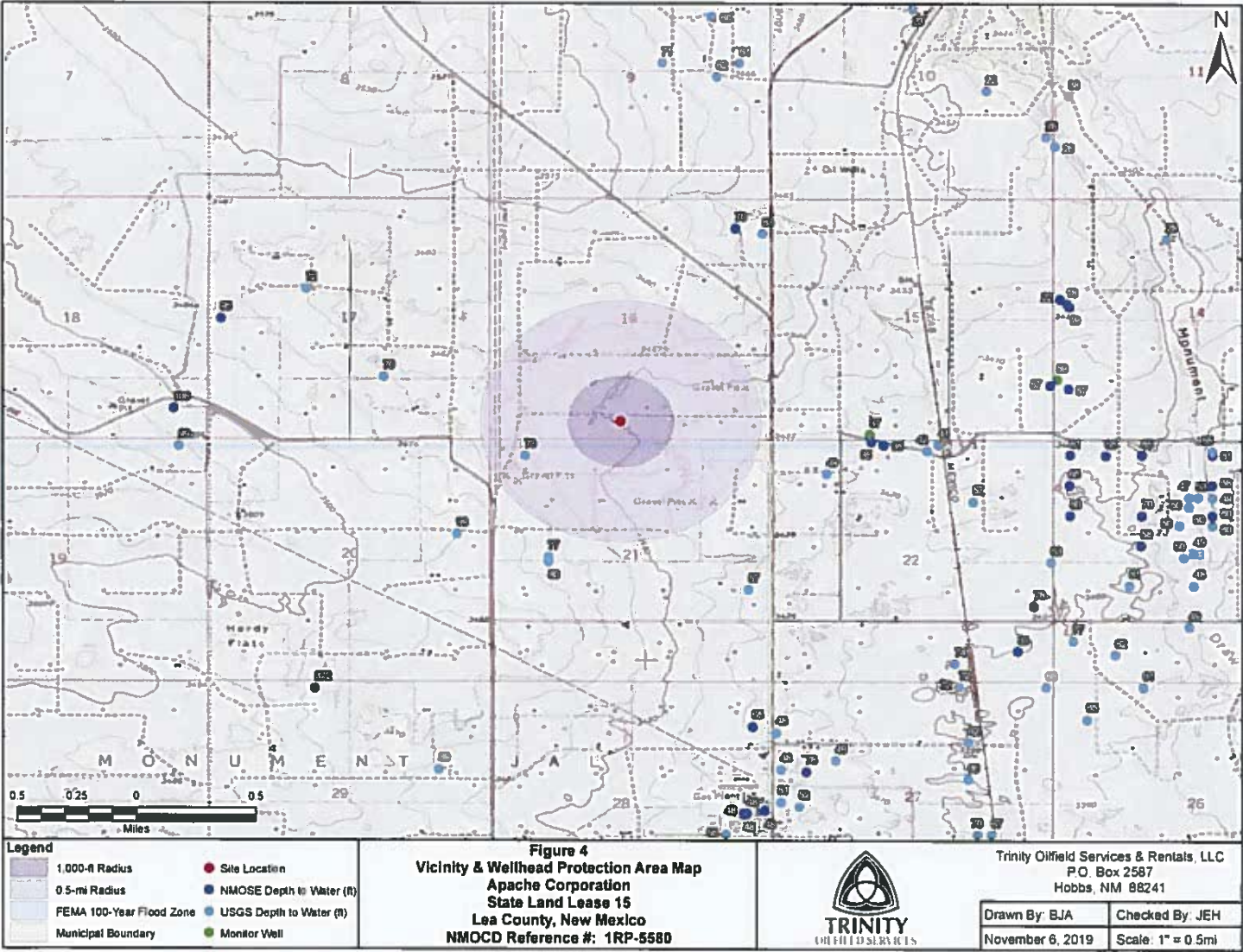


Groundwater, Water Wells & Other Water Sources	
Depth to groundwater (ft)?	70
Horizontal distance (ft) from all water sources within 0.5 miles?	1,940
Within 500' of a spring or a private, domestic fresh water well used by less than 5 households for domestic or stock watering purposes?	No
Within 1000' of any fresh water well or spring?	No
Surface Water	
Horizontal distance (ft) to nearest significant watercourse?	>1,000
Within 300' of any continuously flowing watercourse or any other significant watercourse?	No
Within 200' of any lakebed, sinkhole or playa lake?	No
Human-Occupied, Environmental & Other Areas	
Within incorporated municipal boundaries or within a defined municipal fresh water well field?	No
Within 300' of an occupied permanent residence, school, hospital, institution or church?	No
Within 300' of a wetland?	No
Within the area overlying a subsurface mine?	No
Within an unstable area?	No
Within a 100-year floodplain?	No

Closure Criteria (mg/kg)*				
Benzene	BTEX	GRO + DRO	TPH	Chloride
10	50	1,000	2,500	10,000

*Numerical limits or natural background level, whichever is greater







New Mexico Office of the State Engineer Water Column/Average Depth to Water

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 672107.58

Northing (Y): 3594320.21

Radius: 804.67
(0.5 miles)

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

11/6/19 2:18 PM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the
POD suffix indicates the
POD has been replaced
& no longer serves a
water right file.)

(R=POD has
been replaced,
O=orphaned,
C=the file is
closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 6	Q 4	Q 1	Q 3	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 00729 POD1	CP	LE		4	1	3	15	21S	37E		673259	3594711*	1215	8015		
CP 01141 POD3	CP	LE					15	21S	37E		673520	3594272	1413	40		
CP 01141 POD2	CP	LE					15	21S	37E		673543	3594250	1436	40		
CP 00554	CP	LE		2	2	16	21S	37E			672744	3595610*	1438	80	70	10
CP 01575 POD1	CP	LE		1	2	1	22	21S	37E		673544	3594204	1441	40	35	5
CP 01141 POD4	CP	LE					15	21S	37E		673556	3594239	1450	45		
CP 00731 POD1	CP	LE		2	1	22	21S	37E			673577	3594015*	1500	8130		
CP 01575 POD2	CP	LE		2	2	1	22	21S	37E		673615	3594181	1514	35	35	0

Average Depth to Water: 46 feet

Minimum Depth: 35 feet

Maximum Depth: 70 feet

Record Count: 8

UTM NAD83 Radius Search (in meters):

Easting (X): 672107.58

Northing (Y): 3594320.21

Radius: 1610
(1 mile)

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

11/6/19 2:18 PM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER

Appendix D

Laboratory Analytical Reports



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

September 16, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: STATE LAND LEASE 15

Enclosed are the results of analyses for samples received by the laboratory on 09/13/19 15:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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 "Coley D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received: 09/13/2019
 Reported: 09/16/2019
 Project Name: STATE LAND LEASE 15
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 09/13/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SP-2 @ 2 - 32.472733 (H903170-01)**BTEX 80218****mg/kg****Analyzed By: SF**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	1.72	0.500	09/16/2019	ND	1.84	92.0	2.00	6.79	
Toluene*	10.7	0.500	09/16/2019	ND	1.89	94.4	2.00	4.62	
Ethylbenzene*	8.75	0.500	09/16/2019	ND	1.94	96.9	2.00	4.64	
Total Xylenes*	6.11	1.50	09/16/2019	ND	5.87	97.9	6.00	5.18	
Total BTEX	27.3	3.00	09/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 94.0 % 73.3-129

TPH 8015M**mg/kg****Analyzed By: MS****S-06**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	721	100	09/14/2019	ND	198	98.8	200	5.98	
DRO >C10-C28*	7540	100	09/14/2019	ND	201	100	200	7.76	
EXT DRO >C28-C36	1790	100	09/14/2019	ND					

Surrogate: 1-Chlorooctane 106 % 41-142

Surrogate: 1-Chlorooctadecane 262 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received: 09/13/2019
 Reported: 09/16/2019
 Project Name: STATE LAND LEASE 15
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 09/13/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SP-2 @ 4 - 103.168650 (H903170-02)

BTEX 8021B			mg/kg		Analyzed By: BF				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	0.297	0.050	09/16/2019	ND	1.84	92.0	2.00	6.79		
Toluene*	0.170	0.050	09/16/2019	ND	1.89	94.4	2.00	4.62		
Ethylbenzene*	1.67	0.050	09/16/2019	ND	1.94	96.9	2.00	4.64		
Total Xylenes*	0.471	0.150	09/16/2019	ND	5.87	97.9	6.00	5.18		
Total BTEX	2.61	0.300	09/16/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 142 % 73.3-129

TPH 8015M			mg/kg				Analyzed By: MS		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	20.5	10.0	09/16/2019	ND	198	98.8	200	5.98	
DRO >C10-C28*	275	10.0	09/16/2019	ND	201	100	200	7.76	
EXT DRO >C28-C36	11.4	10.0	09/16/2019	ND					

Surrogate: 1-Chlorooctane 88.1 % 41-142

Surrogate: 1-Chlorooctadecane 96.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received: 09/13/2019
 Reported: 09/16/2019
 Project Name: STATE LAND LEASE 15
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 09/13/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SP-2 @ 6 (H903170-03)

BTX 8021B		mg/kg	Analyzed By: CK				S-04		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	1.51	0.050	09/16/2019	ND	2.14	107	2.00	2.36	
Toluene*	0.178	0.050	09/16/2019	ND	1.96	98.0	2.00	4.79	
Ethylbenzene*	3.26	0.050	09/16/2019	ND	2.42	121	2.00	17.2	
Total Xylenes*	1.03	0.150	09/16/2019	ND	6.01	100	6.00	1.48	
Total BTX	5.97	0.300	09/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 141 % 73.3-129

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	80.3	10.0	09/16/2019	ND	198	98.8	200	5.98	
DRO >C10-C28*	1050	10.0	09/16/2019	ND	201	100	200	7.76	
EXT DRO >C28-C36	190	10.0	09/16/2019	ND					

Surrogate: 1-Chlorooctane 92.0 % 41-142

Surrogate: 1-Chlorooctadecane 106 % 37.6-147

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

Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received: 09/13/2019
 Reported: 09/16/2019
 Project Name: STATE LAND LEASE 15
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 09/13/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SP-2 @ 8 (H903170-04)

BTEX 80218		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/16/2019	ND	2.14	107	2.00	2.36	
Toluene*	<0.050	0.050	09/16/2019	ND	1.96	98.0	2.00	4.79	
Ethylbenzene*	0.093	0.050	09/16/2019	ND	2.42	121	2.00	17.2	
Total Xylenes*	0.195	0.150	09/16/2019	ND	6.01	100	6.00	1.48	
Total BTEX	<0.300	0.300	09/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 107 % 73.3-129

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	09/14/2019	ND	198	98.8	200	5.98	
DRO >C10-C28*	285	10.0	09/14/2019	ND	201	100	200	7.76	
EXT DRO >C28-C36	19.4	10.0	09/14/2019	ND					

Surrogate: 1-Chlorooctane 96.3 % 41-142

Surrogate: 1-Chlorooctadecane 108 % 37.6-147

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received: 09/13/2019
 Reported: 09/16/2019
 Project Name: STATE LAND LEASE 15
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 09/13/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SP-2 @ 10 (H903170-05)

BTEx 8021B

mg/kg

Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/16/2019	ND	2.14	107	2.00	2.36	
Toluene*	<0.050	0.050	09/16/2019	ND	1.96	98.0	2.00	4.79	
Ethylbenzene*	0.082	0.050	09/16/2019	ND	2.42	121	2.00	17.2	
Total Xylenes*	<0.150	0.150	09/16/2019	ND	6.01	100	6.00	1.48	
Total BTEX	<0.300	0.300	09/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 103 % 73.3-129

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	09/14/2019	ND	198	98.8	200	5.98	
DRO >C10-C28*	<10.0	10.0	09/14/2019	ND	201	100	200	7.76	
EXT DRO >C28-C36	<10.0	10.0	09/14/2019	ND					

Surrogate: 1-Chlorooctane 97.3 % 41-142

Surrogate: 1-Chlorooctadecane 107 % 37.6-147

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:

APACHE CORP - HOBBS
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received: 09/13/2019
 Reported: 09/16/2019
 Project Name: STATE LAND LEASE 15
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 09/13/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SP-3 @ 2 32.472663 - 103.168602 (H903170-06)**BTEX 8021B mg/kg Analyzed By: CK**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/16/2019	ND	2.14	107	2.00	2.36	
Toluene*	<0.050	0.050	09/16/2019	ND	1.96	98.0	2.00	4.79	
Ethylbenzene*	<0.050	0.050	09/16/2019	ND	2.42	121	2.00	17.2	
Total Xylenes*	<0.150	0.150	09/16/2019	ND	6.01	100	6.00	1.48	
Total BTEX	<0.300	0.300	09/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 96.6 % 73.3-129

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	09/16/2019	ND	198	98.8	200	5.98	
DRO >C10-C28*	355	10.0	09/16/2019	ND	201	100	200	7.76	
EXT DRO >C28-C36	171	10.0	09/16/2019	ND					

Surrogate: 1-Chlorooctane 91.9 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Page 9 of 9

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Please do not write or stamp outside of the outlined area. The performance of some tests may require centrifugation of sample which requires storage work space to become available at the time blood samples are obtained.

Relinquished By: <i>[Signature]</i>	Date: 7/3/19	Received By: <i>Jodi Benson</i>	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #:
	Time: 7:50		Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: Email to Bruce and Jeff <i>RUSH!!</i>
	Time:		
Delivered By: (Circle One) +4 correction	Sample Condition Cool / Intact Yes / No	CHECKED BY: <i>[Signature]</i>	
Sampler - UPS - Bus - Other: 4.4% 4.5% #97			

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

October 10, 2019

JEFFREY BROOM

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: STATE LAND LEASE 15

Enclosed are the results of analyses for samples received by the laboratory on 10/04/19 16:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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,

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/04/2019
Reported: 10/10/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/04/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B 3 @ 1' 32.472647 - 103.168564 (H903392-01)**BTEX 8021B****mg/kg****Analyzed By: BF**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/07/2019	ND	2.25	113	2.00	0.131	
Toluene*	<0.050	0.050	10/07/2019	ND	1.96	98.2	2.00	0.844	
Ethylbenzene*	<0.050	0.050	10/07/2019	ND	1.98	99.1	2.00	0.661	
Total Xylenes*	<0.150	0.150	10/07/2019	ND	6.06	101	6.00	0.0505	
Total BTEX	<0.300	0.300	10/07/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 98.7 % 73.3-129

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	10/07/2019	ND	432	108	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	10/07/2019	ND	201	101	200	11.7	
DRO >C10-C28*	168	10.0	10/07/2019	ND	196	98.0	200	6.25	
EXT DRO >C28-C36	113	10.0	10/07/2019	ND					

Surrogate: 1-Chlorooctane 77.7 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/04/2019
Reported: 10/10/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/04/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B 4 @ 1' 32.472683 - 103.168637 (H903392-02)**BTEX 80218****mg/kg****Analyzed By: BF**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/07/2019	ND	2.25	113	2.00	0.131	
Toluene*	<0.050	0.050	10/07/2019	ND	1.96	98.2	2.00	0.844	
Ethylbenzene*	<0.050	0.050	10/07/2019	ND	1.98	99.1	2.00	0.661	
Total Xylenes*	<0.150	0.150	10/07/2019	ND	6.06	101	6.00	0.0505	
Total BTEX	<0.300	0.300	10/07/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 95.9 % 73.3-129

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	10/07/2019	ND	432	108	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	10/07/2019	ND	201	101	200	11.7	
DRO >C10-C28*	108	10.0	10/07/2019	ND	196	98.0	200	6.25	
EXT DRO >C28-C36	85.5	10.0	10/07/2019	ND					

Surrogate: 1-Chlorooctane 81.2 % 41-142

Surrogate: 1-Chlorooctadecane 95.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/04/2019
Reported: 10/10/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/04/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B 5 @ 1' 32.472717 - 103.168551 (H903392-03)**BTEX 8021B****mg/kg****Analyzed By: BF**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/07/2019	ND	2.25	113	2.00	0.131	
Toluene*	<0.050	0.050	10/07/2019	ND	1.96	98.2	2.00	0.844	
Ethylbenzene*	<0.050	0.050	10/07/2019	ND	1.98	99.1	2.00	0.661	
Total Xylenes*	<0.150	0.150	10/07/2019	ND	6.06	101	6.00	0.0505	
Total BTEX	<0.300	0.300	10/07/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 102 % 73.3-129

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	10/07/2019	ND	432	108	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	10/08/2019	ND	201	101	200	11.7	
DRO >C10-C28*	329	10.0	10/08/2019	ND	196	98.0	200	6.25	
EXT DRO >C28-C36	233	10.0	10/08/2019	ND					

Surrogate: 1-Chlorooctane 95.4 % 41-142

Surrogate: 1-Chlorooctadecane 126 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/04/2019
Reported: 10/10/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/04/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B 6 @ 1' 32.472784 - 103.168577 (H903392-04)**BTEX 8021B****mg/kg****Analyzed By: BF**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/07/2019	ND	2.25	113	2.00	0.131	
Toluene*	<0.050	0.050	10/07/2019	ND	1.96	98.2	2.00	0.844	
Ethylbenzene*	<0.050	0.050	10/07/2019	ND	1.98	99.1	2.00	0.661	
Total Xylenes*	<0.150	0.150	10/07/2019	ND	6.06	101	6.00	0.0505	
Total BTEX	<0.300	0.300	10/07/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 99.4 % 73.3-129

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	10/07/2019	ND	432	108	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*	14.8	10.0	10/08/2019	ND	201	101	200	11.7	
DRO >C10-C28*	505	10.0	10/08/2019	ND	196	98.0	200	6.25	
EXT DRO >C28-C36	393	10.0	10/08/2019	ND					

Surrogate: 1-Chlorooctane 99.9 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 37.6-147

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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/04/2019
Reported: 10/10/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/04/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B 7 @ 1' 32.472820 - 103.168489 (H903392-05)**BTEX 8021B mg/kg Analyzed By: BF**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/07/2019	ND	2.25	113	2.00	0.131	
Toluene*	<0.050	0.050	10/07/2019	ND	1.96	98.2	2.00	0.844	
Ethylbenzene*	<0.050	0.050	10/07/2019	ND	1.98	99.1	2.00	0.661	
Total Xylenes*	<0.150	0.150	10/07/2019	ND	6.06	101	6.00	0.0505	
Total BTEX	<0.300	0.300	10/07/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 99.4 % 73.3-129

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	10/07/2019	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS**S-04**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	15.7	10.0	10/08/2019	ND	201	101	200	11.7	
DRO >C10-C28*	1890	10.0	10/08/2019	ND	196	98.0	200	6.25	
EXT DRO >C28-C36	1010	10.0	10/08/2019	ND					

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 154 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/04/2019
Reported: 10/10/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/04/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B 8 @ 1' 32.472739 - 103.168420 (H903392-06)**BTEX 8021B mg/kg Analyzed By: BF**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/07/2019	ND	2.25	113	2.00	0.131	
Toluene*	<0.050	0.050	10/07/2019	ND	1.96	98.2	2.00	0.844	
Ethylbenzene*	<0.050	0.050	10/07/2019	ND	1.98	99.1	2.00	0.661	
Total Xylenes*	<0.150	0.150	10/07/2019	ND	6.06	101	6.00	0.0505	
Total BTEX	<0.300	0.300	10/07/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 96.4 % 73.3-129

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	10/07/2019	ND	432	108	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	10/07/2019	ND	201	101	200	11.7	
DRO >C10-C28*	62.0	10.0	10/07/2019	ND	196	98.0	200	6.25	
EXT DRO >C28-C36	43.3	10.0	10/07/2019	ND					

Surrogate: 1-Chlorooctane 84.4 % 41-142

Surrogate: 1-Chlorooctadecane 92.8 % 37.6-147

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/04/2019
Reported: 10/10/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/04/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B 9 @ 1' 32.472717 - 103.168569 (H903392-07)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/07/2019	ND	2.25	113	2.00	0.131	
Toluene*	<0.050	0.050	10/07/2019	ND	1.96	98.2	2.00	0.844	
Ethylbenzene*	<0.050	0.050	10/07/2019	ND	1.98	99.1	2.00	0.661	
Total Xylenes*	<0.150	0.150	10/07/2019	ND	6.06	101	6.00	0.0505	
Total BTEX	<0.300	0.300	10/07/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 94.3 % 73.3-129

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	10/07/2019	ND	432	108	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	10/08/2019	ND	201	101	200	11.7	
DRO >C10-C28*	1880	10.0	10/08/2019	ND	196	98.0	200	6.25	
EXT DRO >C28-C36	1170	10.0	10/08/2019	ND					

S-04

Surrogate: 1-Chlorooctane 101 % 41-142

Surrogate: 1-Chlorooctadecane 157 % 37.6-147

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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:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/04/2019
Reported: 10/10/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/04/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B 10 @ 1' 32.472819 - 103.168663 (H903392-08)**BTEX 80218****mg/kg****Analyzed By: BF**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/07/2019	ND	2.25	113	2.00	0.131	
Toluene*	<0.050	0.050	10/07/2019	ND	1.96	98.2	2.00	0.844	
Ethylbenzene*	<0.050	0.050	10/07/2019	ND	1.98	99.1	2.00	0.661	
Total Xylenes*	<0.150	0.150	10/07/2019	ND	6.06	101	6.00	0.0505	
Total BTEX	<0.300	0.300	10/07/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 96.8 % 73.3-129

Chloride, SM4500Cl-B**mg/kg****Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	10/07/2019	ND	432	108	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	10/07/2019	ND	201	101	200	11.7	
DRO >C10-C28*	192	10.0	10/07/2019	ND	196	98.0	200	6.25	
EXT DRO >C28-C36	146	10.0	10/07/2019	ND					

Surrogate: 1-Chlorooctane 86.3 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/04/2019
Reported: 10/10/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/04/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: W 5 @ 1' 32.472816 - 103.168556 (H903392-09)

BTX 80218		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/07/2019	ND	2.25	113	2.00	0.131	
Toluene*	<0.050	0.050	10/07/2019	ND	1.96	98.2	2.00	0.844	
Ethylbenzene*	<0.050	0.050	10/07/2019	ND	1.98	99.1	2.00	0.661	
Total Xylenes*	<0.150	0.150	10/07/2019	ND	6.06	101	6.00	0.0505	
Total BTX	<0.300	0.300	10/07/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 99.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	10/07/2019	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	10/07/2019	ND	201	101	200	11.7	
DRO >C10-C28*	87.3	10.0	10/07/2019	ND	196	98.0	200	6.25	
EXT DRO >C28-C36	54.1	10.0	10/07/2019	ND					

Surrogate: 1-Chlorooctane 87.3 % 41-142

Surrogate: 1-Chlorooctadecane 96.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/04/2019
Reported: 10/10/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/04/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: W 6 @ 1' 32.472690 - 103.168405 (H903392-10)**BTEX 8021B****mg/kg****Analyzed By: BF**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/10/2019	ND	1.87	93.4	2.00	3.03	
Toluene*	<0.050	0.050	10/10/2019	ND	1.91	95.4	2.00	2.50	
Ethylbenzene*	<0.050	0.050	10/10/2019	ND	1.93	96.3	2.00	2.53	
Total Xylenes*	<0.150	0.150	10/10/2019	ND	5.76	96.1	6.00	2.79	
Total BTEX	<0.300	0.300	10/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 94.2 % 73.3-129

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	10/07/2019	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	10/07/2019	ND	201	101	200	11.7	
DRO >C10-C28*	127	10.0	10/07/2019	ND	196	98.0	200	6.25	
EXT DRO >C28-C36	89.9	10.0	10/07/2019	ND					

Surrogate: 1-Chlorooctane 83.4 % 41-142

Surrogate: 1-Chlorooctadecane 93.6 % 37.6-147

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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 black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



Company Name: <u>Acche Corporation</u>						BILL TO						ANALYSIS REQUEST														
Project Manager: <u>Jeff Bream / Bruce Baker</u>						P.O. #:																				
Address:						Company:																				
City:		State:		Zip:		Attn:																				
Phone #:		Fax #:		Address:																						
Project #:		Project Owner:				City:																				
Project Name: <u>State Land Lease 15</u>						State:						Zip:														
Project Location: <u>Eunice NM</u>						Phone #:																				
Sampler Name: <u>Daniel Risher</u>						Fax #:																				
FOR LAB USE ONLY																										
Lab I.D.		Sample I.D.				GIRAB OR (COMP. # CONTAINERS)		MATRIX				PRESERV		SAMPLING												
						GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE/COOL	OTHER:	DATE	TIME										
<u>H903392</u>																		<u>CL</u>	<u>EXT. TPH</u>	<u>BTX</u>						
<u>1 B3@1 32.472647</u>		<u>-103.168564</u>													<u>10/4/19</u>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							
<u>2 B4@1 32.472683</u>		<u>-103.168637</u>															<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							
<u>3 B5@1 32.472717</u>		<u>-103.168551</u>															<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							
<u>4 B6@1 32.472784</u>		<u>-103.168677</u>															<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							
<u>5 B7@1 32.472820</u>		<u>-103.168489</u>													<u>10/4/19</u>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							
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Relinquished By: _____ Date: <u>10-4-19</u>						Received By: _____ Date: <u>10-15</u>						Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: _____ Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #: _____ REMARKS: <u>Email to Bruce and Jeff</u>														
Delivered By: (Circle One) <u>5.4c</u> <u>#97</u>						Sample Condition Cool Intact <input type="checkbox"/> YES <input type="checkbox"/> NO						CHECKED BY: (Initials) <u>TQ</u>														
Sampler - UPS - Bus - Other: <u>Corrected 5.8c</u>																										

Page 14 of 14

[illegible]

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

October 15, 2019

JEFFREY BROOM

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: STATE LAND LEASE 15

Enclosed are the results of analyses for samples received by the laboratory on 10/07/19 16:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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,

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/07/2019
Reported: 10/15/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/07/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B 11 @ 1' 32.472748 (H903404-01)**BTEX 8021B****mg/kg****Analyzed By: BF**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/11/2019	ND	1.93	96.6	2.00	3.23	
Toluene*	<0.050	0.050	10/11/2019	ND	2.04	102	2.00	2.72	
Ethylbenzene*	<0.050	0.050	10/11/2019	ND	2.02	101	2.00	2.07	
Total Xylenes*	<0.150	0.150	10/11/2019	ND	6.14	102	6.00	1.41	
Total BTEX	<0.300	0.300	10/11/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 102 % 73.3-129

Chloride, SM4500Cl-B**mg/kg****Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	10/09/2019	ND	400	100	400	7.69	

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	10/08/2019	ND	216	108	200	2.40	
DRO >C10-C28*	63.9	10.0	10/08/2019	ND	208	104	200	1.31	
EXT DRO >C28-C36	24.9	10.0	10/08/2019	ND					

Surrogate: 1-Chlorooctane 97.9 % 41-142

Surrogate: 1-Chlorooctadecane 108 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/07/2019
Reported: 10/15/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/07/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B 11 @ 2' -103.168664 (H903404-02)

BTEX 8021B			mg/kg		Analyzed By: BF				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/11/2019	ND	1.93	96.6	2.00	3.23	
Toluene*	<0.050	0.050	10/11/2019	ND	2.04	102	2.00	2.72	
Ethylbenzene*	<0.050	0.050	10/11/2019	ND	2.02	101	2.00	2.07	
Total Xylenes*	<0.150	0.150	10/11/2019	ND	6.14	102	6.00	1.41	
Total BTEX	<0.300	0.300	10/11/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 102 % 73.3-129

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	10/09/2019	ND	400	100	400	7.69	
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	10/08/2019	ND	216	108	200	2.40	
DRO >C10-C28*	174	10.0	10/08/2019	ND	208	104	200	1.31	
EXT DRO >C28-C36	78.9	10.0	10/08/2019	ND					

Surrogate: 1-Chlorooctane 99.0 % 41-142

Surrogate: 1-Chlorooctadecane 117 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/07/2019
Reported: 10/15/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/07/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B 11 @ 3' (H903404-03)

BTEX 80218		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/11/2019	ND	1.93	96.6	2.00	3.23	
Toluene*	<0.050	0.050	10/11/2019	ND	2.04	102	2.00	2.72	
Ethylbenzene*	<0.050	0.050	10/11/2019	ND	2.02	101	2.00	2.07	
Total Xylenes*	<0.150	0.150	10/11/2019	ND	6.14	102	6.00	1.41	
Total BTEX	<0.300	0.300	10/11/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 103 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	10/09/2019	ND	400	100	400	7.69	

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	10/08/2019	ND	216	108	200	2.40	
DRO >C10-C28*	13.0	10.0	10/08/2019	ND	208	104	200	1.31	
EXT DRO >C28-C36	<10.0	10.0	10/08/2019	ND					

Surrogate: 1-Chlorooctane 100 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/07/2019
Reported: 10/15/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/07/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B 12 @ 1' 32.440247 (H903404-04)**BTEX 8021B****mg/kg****Analyzed By: BF**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/11/2019	ND	1.93	96.6	2.00	3.23	
Toluene*	<0.050	0.050	10/11/2019	ND	2.04	102	2.00	2.72	
Ethylbenzene*	<0.050	0.050	10/11/2019	ND	2.02	101	2.00	2.07	
Total Xylenes*	<0.150	0.150	10/11/2019	ND	6.14	102	6.00	1.41	
Total BTEX	<0.300	0.300	10/11/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 101 % 73.3-129

Chloride, SM4500Cl-B**mg/kg****Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	10/09/2019	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	10/08/2019	ND	216	108	200	2.40	
DRO >C10-C28*	220	10.0	10/08/2019	ND	208	104	200	1.31	
EXT DRO >C28-C36	145	10.0	10/08/2019	ND					

Surrogate: 1-Chlorooctane 97.8 % 41-142

Surrogate: 1-Chlorooctadecane 118 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/07/2019
Reported: 10/15/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/07/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B 13 @ 1' -103.191134 (H903404-05)**BTEX 80218****mg/kg****Analyzed By: BF**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/11/2019	ND	1.93	96.6	2.00	3.23	
Toluene*	<0.050	0.050	10/11/2019	ND	2.04	102	2.00	2.72	
Ethylbenzene*	<0.050	0.050	10/11/2019	ND	2.02	101	2.00	2.07	
Total Xylenes*	<0.150	0.150	10/11/2019	ND	6.14	102	6.00	1.41	
Total BTEX	<0.300	0.300	10/11/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 101 % 73.3-129**Chloride, 5M4500CI-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	10/09/2019	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	10/09/2019	ND	195	97.3	200	3.90	
DRO >C10-C28*	<10.0	10.0	10/09/2019	ND	201	100	200	2.10	
EXT DRO >C28-C36	<10.0	10.0	10/09/2019	ND					

Surrogate: 1-Chlorooctane 91.1 % 41-142**Surrogate: 1-Chlorooctadecane** 92.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/07/2019
Reported: 10/15/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/07/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: W 7 32.472832- 103.168625 (H903404-06)

BTEX 80218		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/11/2019	ND	1.93	96.6	2.00	3.23	
Toluene*	<0.050	0.050	10/11/2019	ND	2.04	102	2.00	2.72	
Ethylbenzene*	<0.050	0.050	10/11/2019	ND	2.02	101	2.00	2.07	
Total Xylenes*	<0.150	0.150	10/11/2019	ND	6.14	102	6.00	1.41	
Total BTEX	<0.300	0.300	10/11/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 98.8 % 73.3-129

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	10/09/2019	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	10/09/2019	ND	195	97.3	200	3.90	
DRO >C10-C28*	148	10.0	10/09/2019	ND	201	100	200	2.10	
EXT DRO >C28-C36	153	10.0	10/09/2019	ND					

Surrogate: 1-Chlorooctane 90.5 % 41-142

Surrogate: 1-Chlorooctadecane 98.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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



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Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Apache Corporation Project Manager: Jeff Brown / Bruce Baker Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____ Project #: _____ Project Owner: _____ Project Name: State Land Lease 15 Project Location: Finney, NM Sampler Name: David Roeder		BILL TO P.O. #: _____ Company: _____ Attn: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____		ANALYSIS REQUEST																																																																																																																								
FOR LAB USE ONLY Lab I.D. H963404		Sample I.D.		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">CIRCUIT OR (COMP. #)</th> <th rowspan="2">CONTAINERS</th> <th colspan="5">MATRIX</th> <th rowspan="2">PRESERV.</th> <th rowspan="2">SAMPLING</th> <th rowspan="2">DATE</th> <th rowspan="2">TIME</th> <th rowspan="2">CL</th> <th rowspan="2">EXT-TPH</th> <th rowspan="2">BTEX</th> </tr> <tr> <th>GROUNDWATER</th> <th>WASTEWATER</th> <th>SOIL</th> <th>SLUDGE</th> <th>OTHER:</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>B-11 @ 1</td> <td></td><td></td><td></td><td></td><td></td> <td></td> <td></td> <td>10/7/19</td> <td></td> <td></td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>2</td> <td>B-11 @ 2 -103.48661</td> <td></td><td></td><td></td><td></td><td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>3</td> <td>B-11 @ 3</td> <td></td><td></td><td></td><td></td><td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>4</td> <td>B-12 @ 1 32.440297</td> <td></td><td></td><td></td><td></td><td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>5</td> <td>B-13 @ 1 -103.141134</td> <td></td><td></td><td></td><td></td><td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>6</td> <td>W-7 32.472832 -103.48625</td> <td></td><td></td><td></td><td></td><td></td> <td></td> <td></td> <td>10/7/19</td> <td></td> <td></td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> </tbody> </table>												CIRCUIT OR (COMP. #)	CONTAINERS	MATRIX					PRESERV.	SAMPLING	DATE	TIME	CL	EXT-TPH	BTEX	GROUNDWATER	WASTEWATER	SOIL	SLUDGE	OTHER:	1	B-11 @ 1								10/7/19			✓	✓	✓	2	B-11 @ 2 -103.48661											✓	✓	✓	3	B-11 @ 3											✓	✓	✓	4	B-12 @ 1 32.440297											✓	✓	✓	5	B-13 @ 1 -103.141134											✓	✓	✓	6	W-7 32.472832 -103.48625								10/7/19			✓	✓	✓
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Relinquished By: David Roeder Relinquished By: _____ Date: 10-7-19 Time: 11:20		Received By: Jaime Aldega Received By: _____ Date: _____ Time: _____		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: _____ Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #: _____ REMARKS: Email to Bruce and Jeff Also Email to Ben@Trinity-oilfield-services.com																																																																																																																								
Delivered By: (Circle One) 4.6c Sampler - UPS - Bus - Other: Corrected 5.0c		Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No		CHECKED BY: (Initials) TO																																																																																																																								



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

October 21, 2019

JEFFREY BROOM

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: STATE LAND LEASE 15

Enclosed are the results of analyses for samples received by the laboratory on 10/16/19 16:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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 "Coley D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/16/2019
Reported: 10/21/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B - 2 @ 3 32.47670 (H903527-01)**BTEX 8021B****mg/kg****Analyzed By: BF**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/19/2019	ND	2.07	103	2.00	2.28	
Toluene*	<0.050	0.050	10/19/2019	ND	2.09	104	2.00	0.481	
Ethylbenzene*	<0.050	0.050	10/19/2019	ND	2.03	102	2.00	0.478	
Total Xylenes*	<0.150	0.150	10/19/2019	ND	6.11	102	6.00	1.21	
Total BTEX	<0.300	0.300	10/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 101 % 73.3-129**Chloride, SM4500Cl-B****mg/kg****Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1620	16.0	10/21/2019	ND	432	108	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	10/19/2019	ND	212	106	200	1.71	
DRO >C10-C28*	305	10.0	10/19/2019	ND	208	104	200	1.04	
EXT DRO >C28-C36	202	10.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 108 % 41-142**Surrogate: 1-Chlorooctadecane 136 % 37.6-147**

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Celey D. Keene, Lab Director/Quality Manager



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APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/16/2019
Reported: 10/21/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B - 2 @ 5 -103.168581 (H903527-02)

BTEX 80218			mg/kg		Analyzed By: BF			S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/19/2019	ND	2.07	103	2.00	2.28	
Toluene*	0.055	0.050	10/19/2019	ND	2.09	104	2.00	0.481	
Ethylbenzene*	<0.050	0.050	10/19/2019	ND	2.03	102	2.00	0.478	
Total Xylenes*	1.12	0.150	10/19/2019	ND	6.11	102	6.00	1.21	
Total BTEX	1.17	0.300	10/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 139 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	10/21/2019	ND	432	108	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					

Surrogate: 1-Chlorooctane 112 % 41-142

Surrogate: 1-Chlorooctadecane 112 % 37.6-147

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Fax To: (575) 393-2432

Received: 10/16/2019
Reported: 10/21/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B - 2 @ 7 (H903527-03)

BTEX 8021B			mg/kg		Analyzed By: BF				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	10/19/2019	ND	2.07	103	2.00	2.28	
Toluene*	<0.200	0.200	10/19/2019	ND	2.09	104	2.00	0.481	
Ethylbenzene*	2.80	0.200	10/19/2019	ND	2.03	102	2.00	0.478	
Total Xylenes*	6.87	0.600	10/19/2019	ND	6.11	102	6.00	1.21	
Total BTEX	9.67	1.20	10/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 123 % 73.3-129

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	10/21/2019	ND	432	108	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*	434	50.0	10/19/2019	ND	212	106	200	1.71	
DRO >C10-C28*	1580	50.0	10/19/2019	ND	208	104	200	1.04	
EXT DRO >C28-C36	107	50.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 138 % 41-142

Surrogate: 1-Chlorooctadecane 142 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/16/2019
Reported: 10/21/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B - 2 @ 9 (H903527-04)

BTX 8021B		mg/kg		Analyzed By: BF			S-04			
	Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
	Benzene*	0.207	0.200	10/19/2019	ND	2.07	103	2.00	2.28	
	Toluene*	<0.200	0.200	10/19/2019	ND	2.09	104	2.00	0.481	GC-NC
	Ethylbenzene*	10.8	0.200	10/19/2019	ND	2.03	102	2.00	0.478	
	Total Xylenes*	28.5	0.600	10/19/2019	ND	6.11	102	6.00	1.21	
	Total BTX	39.6	1.20	10/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 141 % 73.3-129

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	10/21/2019	ND	432	108	400	0.00	
TPH 8015M									
		mg/kg		Analyzed By: MS					
				S-06					

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	607	50.0	10/19/2019	ND	212	106	200	1.71	
DRO >C10-C28*	1770	50.0	10/19/2019	ND	208	104	200	1.04	
EXT DRO >C28-C36	218	50.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 150 % 41-142

Surrogate: 1-Chlorooctadecane 151 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/16/2019
Reported: 10/21/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B - 2 @ 11 (H903527-05)

BTEX 8021B			mg/kg		Analyzed By: BF			S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/20/2019	ND	2.07	103	2.00	2.28	
Toluene*	<0.050	0.050	10/20/2019	ND	2.09	104	2.00	0.481	
Ethylbenzene*	1.52	0.050	10/20/2019	ND	2.03	102	2.00	0.478	
Total Xylenes*	3.83	0.150	10/20/2019	ND	6.11	102	6.00	1.21	
Total BTEX	5.35	0.300	10/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 150 % 73.3-129

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	10/21/2019	ND	432	108	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*	102	10.0	10/18/2019	ND	208	104	200	3.40	
DRO >C10-C28*	518	10.0	10/18/2019	ND	200	100	200	4.71	QM-07
EXT DRO >C28-C36	102	10.0	10/18/2019	ND					

Surrogate: 1-Chlorooctane 103 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/16/2019
Reported: 10/21/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B - 4 @ 2 32.436157 (H903527-06)**BTEX 8021B****mg/kg****Analyzed By: BF**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/20/2019	ND	2.07	103	2.00	2.28	
Toluene*	<0.050	0.050	10/20/2019	ND	2.09	104	2.00	0.481	
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	2.03	102	2.00	0.478	
Total Xylenes*	<0.150	0.150	10/20/2019	ND	6.11	102	6.00	1.21	
Total BTEX	<0.300	0.300	10/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 102 % 73.3-129**Chloride, SM4500Cl-B****mg/kg****Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	10/21/2019	ND	432	108	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	10/18/2019	ND	208	104	200	3.40	
DRO >C10-C28*	59.7	10.0	10/18/2019	ND	200	100	200	4.71	
EXT DRO >C28-C36	33.1	10.0	10/18/2019	ND					

Surrogate: 1-Chlorooctane 102 % 41-142**Surrogate: 1-Chlorooctadecane 129 % 37.6-147****Cardinal Laboratories**

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/16/2019
Reported: 10/21/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B - 4 @ 4 -103.181344 (H903527-07)

BTEx 8021B			mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/20/2019	ND	2.07	103	2.00	2.28		
Toluene*	<0.050	0.050	10/20/2019	ND	2.09	104	2.00	0.481		
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	2.03	102	2.00	0.478		
Total Xylenes*	<0.150	0.150	10/20/2019	ND	6.11	102	6.00	1.21		
Total BTEx	<0.300	0.300	10/20/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 99.8 % 73.3-129

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	10/21/2019	ND	432	108	400	0.00		
TPH 8015M			mg/kg		Analyzed By: MS					

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	10/18/2019	ND	208	104	200	3.40		
DRO >C10-C28*	<10.0	10.0	10/18/2019	ND	200	100	200	4.71		
EXT DRO >C28-C36	<10.0	10.0	10/18/2019	ND						

Surrogate: 1-Chlorooctane 96.0 % 41-142

Surrogate: 1-Chlorooctadecane 113 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/16/2019
Reported: 10/21/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B - 4 @ 6 (H903527-08)

BTEX 8021B			mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/20/2019	ND	2.07	103	2.00	2.28		
Toluene*	<0.050	0.050	10/20/2019	ND	2.09	104	2.00	0.481		
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	2.03	102	2.00	0.478		
Total Xylenes*	<0.150	0.150	10/20/2019	ND	6.11	102	6.00	1.21		
Total BTEX	<0.300	0.300	10/20/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 102 % 73.3-129

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	10/21/2019	ND	432	108	400	0.00		
TPH 8015M			mg/kg		Analyzed By: MS					

Surrogate: 1-Chlorooctane 95.3 % 41-142

Surrogate: 1-Chlorooctadecane 114 % 37.6-147

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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/16/2019
Reported: 10/21/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B - 4 @ 8 (H903527-09)**BTEX 80218****mg/kg****Analyzed By: BF**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/20/2019	ND	2.07	103	2.00	2.28	
Toluene*	<0.050	0.050	10/20/2019	ND	2.09	104	2.00	0.481	
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	2.03	102	2.00	0.478	
Total Xylenes*	<0.150	0.150	10/20/2019	ND	6.11	102	6.00	1.21	
Total BTEX	<0.300	0.300	10/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 102 % 73.3-129

Chloride, SM4500Cl-B**mg/kg****Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	10/21/2019	ND	432	108	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	10/18/2019	ND	208	104	200	3.40	
DRO >C10-C28*	<10.0	10.0	10/18/2019	ND	200	100	200	4.71	
EXT DRO >C28-C36	<10.0	10.0	10/18/2019	ND					

Surrogate: 1-Chlorooctane 95.2 % 41-142

Surrogate: 1-Chlorooctadecane 106 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/16/2019
Reported: 10/21/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B - 4 @ 10 (H903527-10)**BTEX 80218****mg/kg****Analyzed By: BF**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/20/2019	ND	2.07	103	2.00	2.28	
Toluene*	<0.050	0.050	10/20/2019	ND	2.09	104	2.00	0.481	
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	2.03	102	2.00	0.478	
Total Xylenes*	<0.150	0.150	10/20/2019	ND	6.11	102	6.00	1.21	
Total BTEX	<0.300	0.300	10/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 100 % 73.3-129

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	10/21/2019	ND	432	108	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	10/18/2019	ND	208	104	200	3.40	
DRO >C10-C28*	<10.0	10.0	10/18/2019	ND	200	100	200	4.71	
EXT DRO >C28-C36	<10.0	10.0	10/18/2019	ND					

Surrogate: 1-Chlorooctane 93.1 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/16/2019
Reported: 10/21/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B - 10 @ 2 32.472800 (H903527-11)**BTEX 8021B****mg/kg****Analyzed By: BF**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/20/2019	ND	2.07	103	2.00	2.28	
Toluene*	<0.050	0.050	10/20/2019	ND	2.09	104	2.00	0.481	
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	2.03	102	2.00	0.478	
Total Xylenes*	<0.150	0.150	10/20/2019	ND	6.11	102	6.00	1.21	
Total BTEX	<0.300	0.300	10/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 99.5 % 73.3-129

Chloride, SM4500Cl-B**mg/kg****Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	10/21/2019	ND	432	108	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	10/19/2019	ND	208	104	200	3.40	
DRO >C10-C28*	168	10.0	10/19/2019	ND	200	100	200	4.71	
EXT DRO >C28-C36	102	10.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 93.3 % 41-142

Surrogate: 1-Chlorooctadecane 130 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/16/2019
Reported: 10/21/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B - 10 @ 4 -103.168640 (H903527-12)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/20/2019	ND	2.07	103	2.00	2.28	
Toluene*	<0.050	0.050	10/20/2019	ND	2.09	104	2.00	0.481	
Ethylbenzene*	0.060	0.050	10/20/2019	ND	2.03	102	2.00	0.478	
Total Xylenes*	<0.150	0.150	10/20/2019	ND	6.11	102	6.00	1.21	
Total BTEX	<0.300	0.300	10/20/2019	ND					

Surrogate 4-Bromofluorobenzene (PIC) 102 % 73.3-129

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	10/21/2019	ND	432	108	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					

Surrogate 1-Chlorooctane 92.4 % 41-142

Surrogate 1-Chlorooctadecane 112 % 37.6-147

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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:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/16/2019
Reported: 10/21/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B - 10 @ 6 (H903527-13)**BTEX 80218****mg/kg****Analyzed By: BF**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.575	0.100	10/20/2019	ND	2.07	103	2.00	2.28	
Toluene*	0.366	0.100	10/20/2019	ND	2.09	104	2.00	0.481	
Ethylbenzene*	2.51	0.100	10/20/2019	ND	2.03	102	2.00	0.478	
Total Xylenes*	3.17	0.300	10/20/2019	ND	6.11	102	6.00	1.21	
Total BTEX	6.62	0.600	10/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 117 % 73.3-129

Chloride, SM4500Cl-B**mg/kg****Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	10/21/2019	ND	432	108	400	0.00	

TPH 8015M**mg/kg****Analyzed By: MS****S-04**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	297	10.0	10/19/2019	ND	208	104	200	3.40	
DRO >C10-C28*	7860	10.0	10/19/2019	ND	200	100	200	4.71	
EXT DRO >C28-C36	2030	10.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 125 % 41-142

Surrogate: 1-Chlorooctadecane 382 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/16/2019
Reported: 10/21/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B - 10 @ 8 (H903527-14)

BTEX 8021B mg/kg			Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/20/2019	ND	2.02	101	2.00	0.404	
Toluene*	<0.050	0.050	10/20/2019	ND	2.09	104	2.00	0.633	
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	2.02	101	2.00	1.59	
Total Xylenes*	<0.150	0.150	10/20/2019	ND	6.06	101	6.00	1.11	
Total BTEX	<0.300	0.300	10/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 100 % 73.3-129

Chloride, SM4500Cl-B mg/kg			Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	10/21/2019	ND	432	108	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	10/18/2019	ND	208	104	200	3.40	
DRO >C10-C28*	378	10.0	10/18/2019	ND	200	100	200	4.71	
EXT DRO >C28-C36	116	10.0	10/18/2019	ND					

Surrogate: 1-Chlorooctane 93.2 % 41-142

Surrogate: 1-Chlorooctadecane 114 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

APACHE CORP - HOBBS
JEFFREY BROOM
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 10/16/2019
Reported: 10/21/2019
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 10/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B - 10 @ 10 (H903527-15)

BTX 80218		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/20/2019	ND	2.02	101	2.00	0.404	
Toluene*	<0.050	0.050	10/20/2019	ND	2.09	104	2.00	0.633	
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	2.02	101	2.00	1.59	
Total Xylenes*	<0.150	0.150	10/20/2019	ND	6.06	101	6.00	1.11	
Total BTX	<0.300	0.300	10/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIB) 99.2 % 73.3-129

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	10/21/2019	ND	432	108	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	10/18/2019	ND	208	104	200	3.40	
DRO >C10-C28*	20.8	10.0	10/18/2019	ND	200	100	200	4.71	
EXT DRO >C28-C36	13.6	10.0	10/18/2019	ND					

Surrogate: 1-Chlorooctane 86.8 % 41-142

Surrogate: 1-Chlorooctadecane 98.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
GC-NC	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
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



CARDINAL
Laboratories

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

Company Name: APAC Corporation				BILL TO				ANALYSIS REQUEST											
Project Manager: Jeff Brown / Bruce Baker				P.O. #:															
Address:				Company:															
City:		State:		Zip:		Attn:													
Phone #:		Fax #:		Address:		City:													
Project #:				Project Owner:															
Project Name: State Land Lease 15				State:				Zip:											
Project Location: Eunice, NM				Phone #:															
Sampler Name: David Ressler				Fax #:															

FOR LAB USE ONLY		LAB OR C-CONTAINERS	C-CONTAINERS	MATRIX					PRESERV.		SAMPLING		DATE	TIME	CL	EXT. TPH	BTEX	
Lab I.D.	Sample I.D.			CIRCUITRY	WATER/WATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER						
H903537	1 B-203 32-47670												10/16/19					
	2 B-205 -103-168581																	
	3 B-207																	
	4 B-209																	
	5 B-2011																	
	6 B-402 32-436157																	
	7 B-404 -103-181344																	
	8 B-406																	
	9 B-408																	
	10 B-4010												10/16/19					

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Relinquished By: 		Date: 10-16-19	Received By: 		Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Time: 10:55					Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Relinquished By:		Date:	Received By:		REMARKS: Email to Ben@Trinityoilfieldservices.com	
Time:						

Delivered By: (Circle One) 2.G.C. #197	Sample Condition Cool Intact	CHECKED BY: (Initials) TQ-
Sampler - UPS - Bus - Other: Connected B.C.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Page 19 of 19



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST


101 East Marland, Hobbs, NM 88240
(575) 393-2325 FAX (575) 393-2476

Company Name: <u>Apache corporation</u>		BILL TO		ANALYSIS REQUEST												
Project Manager: <u>Jeff Brown / Bruce Baker</u>		P.O. #:														
Address:		Company:														
City:	State:	Zip:	Attn:													
Phone #:	Fax #:	Address:														
Project #:	Project Owner:		City:													
Project Name: <u>State land Lease 15</u>			State:											Zip:		
Project Location: <u>Eunice, NM</u>			Phone #:													
Sampler Name: <u>Daniel Rasler</u>			Fax #:													
FOR LAB USE ONLY																
Lab I.D.	Sample I.D.	10/16/14	CONTAINERS	MATRIX	PRESERV.	SAMPLING										
			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/ASE	ICE / COOL	OTHER	DATE	TIME	CL	EXT-TPH	BTX
H903527	11 B-1022 32.472800											10/16/14		✓	✓	✓
	12 B-1024 -103.168640													✓	✓	✓
	13 B-1026													✓	✓	✓
	14 B-1028													✓	✓	✓
	15 B-10210											10/16/14		✓	✓	✓

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Relinquished By: <u>[Signature]</u>	Date: <u>10-16-14</u>	Received By: <u>[Signature]</u>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Relinquished By:	Date:	Received By:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #:
Delivered By: (Circle One) <u>2.6c</u> <u>#97</u>	Sample Condition	CHECKED BY: (Initials)	REMARKS: <u>Email to Ben@TrinitOilfieldServices.com</u>
Sampler - UPS - Bus - Other: <u>Connected 3.0c</u>	Cool <input type="checkbox"/> Yes <input type="checkbox"/> No Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	<u>TO</u>	



<p>Legend</p> <p>□ Delineation Trench</p> <p>⊙ Auger Hole</p> <p>● Composite Sample Location (Bottom)</p> <p>● Composite Sample Location (Wall)</p>	<p align="center">Figure 2</p> <p align="center">Sample Location Plan</p> <p align="center">Apache Corporation</p> <p align="center">State Land Lease 15</p> <p align="center">Lea County, New Mexico</p> <p align="center">NMOCD Reference #: 1RP-5580</p>	<div align="center">  <p>TRINITY OILFIELD SERVICES & RENTALS, LLC</p> </div> <p align="right">Trinity Oilfield Services & Rentals, LLC P.O. Box 2587 Hobbs, NM 88241</p> <table border="1"> <tr> <td>Drawn By: BJA</td> <td>Checked By: JEH</td> </tr> <tr> <td>November 8, 2019</td> <td>Scale: 1" = 18'</td> </tr> </table>	Drawn By: BJA	Checked By: JEH	November 8, 2019	Scale: 1" = 18'
Drawn By: BJA	Checked By: JEH					
November 8, 2019	Scale: 1" = 18'					



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

February 19, 2020

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: STATE LAND LEASE 15

Enclosed are the results of analyses for samples received by the laboratory on 02/17/20 16:23.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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,

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received:	02/17/2020	Sampling Date:	02/17/2020
Reported:	02/19/2020	Sampling Type:	Soil
Project Name:	STATE LAND LEASE 15	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EUNICE, NM		

Sample ID: HORIZONTAL B - 7 32.47284-103.16842 (H000486-01)

BTEX 80218		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/18/2020	ND	1.97	98.6	2.00	3.82	
Toluene*	<0.050	0.050	02/18/2020	ND	2.00	99.9	2.00	3.58	
Ethylbenzene*	<0.050	0.050	02/18/2020	ND	2.01	100	2.00	3.62	
Total Xylenes*	<0.150	0.150	02/18/2020	ND	5.83	97.2	6.00	3.39	
Total BTEX	<0.300	0.300	02/18/2020	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 100 % 73.3-129

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	02/19/2020	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	02/18/2020	ND	212	106	200	1.10	
DRO >C10-C28*	<10.0	10.0	02/18/2020	ND	230	115	200	3.71	
EXT DRO >C28-C36	<10.0	10.0	02/18/2020	ND					

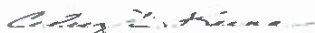
Surrogate: 1-Chlorooctane 91.4 % 41-142

Surrogate: 1-Chlorooctadecane 95.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received: 02/17/2020
Reported: 02/19/2020
Project Name: STATE LAND LEASE 15
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 02/17/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: HORIZONTAL B - 9 32.47291-103.16862 (H000486-02)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/18/2020	ND	1.97	98.6	2.00	3.82	
Toluene*	<0.050	0.050	02/18/2020	ND	2.00	99.9	2.00	3.58	
Ethylbenzene*	<0.050	0.050	02/18/2020	ND	2.01	100	2.00	3.62	
Total Xylenes*	<0.150	0.150	02/18/2020	ND	5.83	97.2	6.00	3.39	
Total BTEX	<0.300	0.300	02/18/2020	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 98.3 % 73.3-129

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	02/19/2020	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	02/19/2020	ND	212	106	200	1.10	
DRO >C10-C28*	266	10.0	02/19/2020	ND	230	115	200	3.71	
EXT DRO >C28-C36	273	10.0	02/19/2020	ND					

Surrogate: 1-Chlorooctane 92.7 % 41-142

Surrogate: 1-Chlorooctadecane 109 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

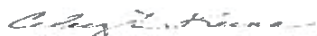
Notes and Definitions

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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Celey D. Keene, Lab Director/Quality Manager



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Agache Corporation</u>		P.O. #:		BILL TO								ANALYSIS REQUEST													
Project Manager: <u>Bruce Baker</u>		City:		State:		Zip:		Company:		Attn:		Address:		City:		State:		Zip:		Phone #:		Fax #:			
Project #: <u>State Land 15</u>		Project Owner:		City:		State:		Zip:		Phone #:		Fax #:		City:		State:		Zip:		Phone #:		Fax #:			
Project Location: <u>State Land 15</u>		Project Owner:		City:		State:		Zip:		Phone #:		Fax #:		City:		State:		Zip:		Phone #:		Fax #:			
Sampler Name: <u>Jeff Brown</u>		Project Owner:		City:		State:		Zip:		Phone #:		Fax #:		City:		State:		Zip:		Phone #:		Fax #:			
FOR LAB USE ONLY		Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX		PRESERV.		SAMPLING		DATE		TIME		CL		BTEx		EXT. TPH	
H000486		Horizontal B-7		32.47284, -103.16842		✓		✓		GROUNDWATER		ACID/BASE		✓		✓		✓		✓		✓		✓	
		Horizontal B-5		32.47241, -103.16862		✓		✓		WASTEWATER		ICE / COOL		✓		✓		✓		✓		✓		✓	
										SOIL		OTHER :													
										OIL		OTHER :													
										SLUDGE		OTHER :													
										OTHER :		OTHER :													

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Relinquished By: Jeff Brown Date: 4/17/20 Received By: [Signature] Verbal Result: ☐ Yes ☐ No Add'l Phone #:

Relinquished By: Jeff Brown Date: 4/17/20 Received By: [Signature] All Results are emailed. Please provide Email address:

Time: 1623

Delivered By: (Circle One) Observed Temp. °C 5.1 Sample Condition Cool Intact ☒ Yes ☐ No Bacteria (only) Sample Condition Cool Intact ☐ Yes ☐ No

Sampler - UPS - Bus - Other: Corrected Temp. °C 5.1 CHECKED BY: (Initials) h3 Turnaround Time: Standard ☒ Standard ☐ Rush 113 Bacteria (only) Sample Condition Cool Intact ☐ Yes ☐ No

Thermometer ID # 113 Correction Factor 0.00 ☐ Yes ☐ No Corrected Temp. °C 5.1