



DAVID FEATHER  
ENVIRONMENTAL SUPERVISOR  
DIRECT: (432) 818-1615  
E-MAIL: DAVID.FEATHER@APACHECORP.COM

November 11, 2019

Mr. Bradford Billings  
State of New Mexico Oil Conservation Division  
1220 South St Francis Drive  
Santa Fe, NM 87505

RE: 2RP-4080 Lee Federal 44

Mr. Billings,

In compliance with 19.15.29.15(B) NMAC and the agreement submitted by Apache Corporation on November 8, 2018, Apache Corporation is submitting information related to closure for the release occurring January 7, 2017. Apache is respectfully submitting the closure report based on studies and remediation occurring in 2019 that demonstrate the site meeting the requirements of the agency. Unless further information is requested by NMOCD, Apache Corporation considers this release closed.

If there are any questions, please feel free to contact me by telephone at 432-818-1615 or by e-mail at David.Feather@ApacheCorp.com.

Sincerely,

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

David Feather  
Environmental Supervisor  
Apache Corporation - Permian Basin Region

Attachment: Closure Report Dated November 8, 2019



2350 W Marland Blvd Hobbs, NM 88240

## **Closure Report**

November 11, 2019

Re: Lee Federal 44  
API# 30-015-40031  
Case # 2RP-4080

To: Bradford Billings  
New Mexico Oil Conservation Division Energy, Minerals and Natural Resources Department  
1220 South St. Francis Dr. Santa Fe, NM 87505

On January 7, 2017 a release occurred due to a poly line froze and ruptured resulting in the loss of fluids. An initial C-141 was submitted and approved on January 17, 2017. The Lee Federal 44 (GPS: 32.8263931, -103.88871) is located east of Loco Hills, New Mexico in unit letter B section 20 township 17S range 31E. It is public knowledge that there is no known groundwater in township 17S range 31E.

On April 12, 2019 Apache Corporation conducted delineation utilizing a backhoe at five sample points throughout the release area. Each sample point was extended to six feet below ground surface with samples collected in 1 foot intervals and field titrated for chlorides. Representative grab samples were submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. Sample point BH1R was above standards at the surface for chlorides and TPH.

On May 29, 2019 Apache Corporation excavated the area around sample point BH1R to a depth of one foot below ground surface. Final five point bottom and wall samples were collected not to exceed 200 square feet and submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. All excavated soil was hauled to a NMOCD approved facility and the site was backfilled with clean imported topsoil and contoured to the surrounding area. The site was seeded with BLM # 2.

Apache Corporation has completed remediation to below NMOCD table one standards and respectfully request that 2RP-4080 be closed.

Enclosed: C-141, Maps, Sample Data, Laboratory Results, and Photos

*Bruce Baker*

**Environmental Technician**  
larry.baker@apachecorp.com  
**Cell# 432-631-6982**  
**Off# 575-393-7106**

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

## NM OIL CONSERVATION

ARTESIA DISTRICT

Form C-141

Revised August 8, 2011

JAN 16 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

RECEIVED

## Release Notification and Corrective Action

*0AB1701950999*

Name of Company Apache Corporation <i>873</i>		Contact Bruce Baker	
Address 2350 W Marland Street, Hobbs, NM 88240		Telephone No. (432) 631-6982	
Facility Name Lee Federal 44		Facility Type Oil Well	

Surface Owner BLM Mineral Owner BLM API No. 30-015-40031

## OPERATOR

☒ Initial Report ☐ Final Report

## LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	20	17S	31E	330	FNL	1650	FEL	Eddy

Latitude 32.8263931 Longitude -103.88871

## NATURE OF RELEASE

Type of Release Produced water / Oil	Volume of Release 6 barrels of water and 4 barrels of oil	Volume Recovered 4 barrels of water and 2 barrels of oil
Source of Release flow line	Date and Hour of Occurrence 1/7/2017	Date and Hour of Discovery 1/7/2017
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Shelly Tucker (BLM) - email Mike Bratcher (NMOCD)-email	
By Whom? Bruce Baker	Date and Hour 1/9/2017 at 10:14 a.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

The poly flow line ruptured due to freezing temperatures. The well was shut in to isolate the release and a vacuum truck was dispatched to pick-up standing fluid. The line was repaired.

Describe Area Affected and Cleanup Action Taken.\*

The entire release was in the pasture south of the location.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

## OIL CONSERVATION DIVISION

Signature: <i>Bruce Baker</i>	Approved by Environmental Specialist Signed By: <i>[Signature]</i>	
Printed Name: Bruce Baker	Approval Date: 1/17/17	Expiration Date: N/A
Title: Environmental Technician	Conditions of Approval: <i>See attached</i>	
E-mail Address: larry.baker@apachecorp.com	Attached <input type="checkbox"/>	
Date: 1/16/2017 Phone: (432) 631-6982		

\* Attach Additional Sheets If Necessary

ARP-4080

**Operator/Responsible Party,**

The OCD has received the form C-141 you provided on 1/16/17 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 20P-4080 has been assigned. Please refer to this case number in all future correspondence.

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

*The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. (emphasis added)*

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 2 office in Alameda on or before 2/16/17. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted



for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold  
OCD Environmental Bureau Chief  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505  
505-476-3465  
jim.griswold@state.nm.us

**Bratcher, Mike, EMNRD**

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**From:** Baker, Larry <Larry.Baker@apachecorp.com>  
**Sent:** Monday, January 16, 2017 10:27 AM  
**To:** Bratcher, Mike, EMNRD; 'stucker@blm.gov'  
**Subject:** Lee Federal 44 Initial C-141  
**Attachments:** Lee Federal 44 initial C-141.doc

All,

Attached is the initial C-141 for the release that occurred at the above referenced site on 1/7/2017. Please let me know if you have any questions or wish to discuss. Thanks and have a good day.

Bruce Baker  
Apache Corporation  
Environmental Technician  
Northwest District  
Email: [larry.baker@apachecorp.com](mailto:larry.baker@apachecorp.com)  
Mobile: 432-631-6982

Form C-141

Page 3

State of New Mexico  
Oil Conservation Division

Incident ID	
District RP	
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>None</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 ½-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

State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	
District RP	
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 BakerTitle: Senior Environmental TechnicianSignature: Bruce Baker Date: 11/8/2019Email: Larry.Baker@apachecorp.comTelephone: 432.631.6982**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_



Form C-141

Page 6

State of New Mexico  
Oil Conservation Division

Incident ID	nAB1701950999
District RP	2RP-4080
Facility ID	
Application ID	

## Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

**Closure Report Attachment Checklist:** Each of the following items must be included in the closure report.

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate OCD District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Bruce BakerTitle: Senior Environmental TechnicianSignature: Bruce Baker Date: 11/8/2019Email: Larry.Baker@apachecorp.comTelephone: 432.631.6982**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Bradford Billings Date: 07/20/2021Printed Name: Bradford BillingsTitle: Envi.Spec.A







## Lee Federal 44 Delineation Points

Labs in Red  
Field in Black

Map ID	Sample Date	Sample ID	Depth	Chloride	Benzene	Toulene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates
BH1R	4/12/2019	BH1R	5	2200	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	5130	1650	32.826137
			1'	549									-103.888514
			2'	512	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	104	37.2	
			3'	81									
			4'	262									
			5'	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
			6'	29									
BH2R	4/12/2019	BH2R	5	81									32.826008
			1'	260									-103.888558
			2'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	188	89.8	
			3'	291									
			4'	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
			5'	274									
			6'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
BH3R	4/12/2019	BH3R	5	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.825917
			1'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	-103.888687
			2'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
			3'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
			4'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
			5'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
			6'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
BH4R	4/15/2019	BH4R	5	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.825825
			1'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	-103.888849
			2'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
			3'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
			4'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
			5'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
			6'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
BH5R	4/15/2019	BH5R	5	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.825753
			1'	287									-103.889012
			2'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
			3'	439									
			4'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
			5'	431									
			6'	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	



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

April 17, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: LEE FEDERAL #044

Enclosed are the results of analyses for samples received by the laboratory on 04/12/19 16:35.

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](http://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,

Caley D. Keene

Lab Director/Quality Manager



---

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

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April 22, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: LEE FEDERAL #044

Enclosed are the results of analyses for samples received by the laboratory on 04/12/19 16:35.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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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 • 181 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: 04/12/2019  
 Reported: 04/17/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/12/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: BH 1R SURFACE (H901365-01)**

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	04/16/2019	ND	2.12	106	2.00	0.356	
Toluene*	<0.050	0.050	04/16/2019	ND	2.26	113	2.00	0.640	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.26	113	2.00	0.214	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.52	109	6.00	0.243	
Total BTEX	<0.300	0.300	04/16/2019	ND					

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

Chloride, SM4508CI-8

mg/kg

Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2200	16.0	04/16/2019	ND	400	100	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*	<50.0	50.0	04/16/2019	ND	207	103	200	0.562	
DRO >C10-C28*	5130	50.0	04/16/2019	ND	194	97.1	200	0.589	
EXT DRO >C28-C36	1650	50.0	04/16/2019	ND					

Surrogate: 1-Chlorooctane 103 % 41-142

Surrogate: 1-Chlorooctadecane 285 % 37.6-147

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\* = Accredited Analyte

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Page 2 of 6



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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: 04/12/2019  
 Reported: 04/17/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/12/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

Sample ID: BH 1R 2' (H901365-02)

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	04/16/2019	ND	2.12	106	2.00	0.356	
Toluene*	<0.050	0.050	04/16/2019	ND	2.26	113	2.00	0.640	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.26	113	2.00	0.214	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.52	109	6.00	0.243	
Total BTEX	<0.300	0.300	04/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 113 % 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	04/16/2019	ND	400	100	400	0.00	

TPH 8015M

mg/kg

Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/16/2019	ND	207	103	200	0.562	
DRO >C10-C28*	104	10.0	04/16/2019	ND	194	97.1	200	0.589	
EXT DRO >C28-C36	37.2	10.0	04/16/2019	ND					

Surrogate: 1-Chlorooctane 104 % 41-142

Surrogate: 1-Chlorooctadecane 106 % 37.6-147

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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: 04/12/2019  
 Reported: 04/17/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/12/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

Sample ID: BH 1R 5' (H901365-03)

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	04/16/2019	ND	2.12	106	2.00	0.356	
Toluene*	<0.050	0.050	04/16/2019	ND	2.26	113	2.00	0.640	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.26	113	2.00	0.214	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.52	109	6.00	0.243	
Total BTEX	<0.300	0.300	04/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 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	48.0	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M

mg/kg

Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/16/2019	ND	207	103	200	0.562	
DRO >C10-C28*	<10.0	10.0	04/16/2019	ND	194	97.1	200	0.589	
EXT DRO >C28-C36	<10.0	10.0	04/16/2019	ND					

Surrogate: 1-Chlorooctane 96.8 % 41-142

Surrogate: 1-Chlorooctadecane 92.0 % 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.
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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101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

<b>Company Name:</b> Apache Corporation <b>Project Manager:</b> Bruce Baker <b>Address:</b> Apache <b>City:</b> _____ <b>State:</b> _____ <b>Zip:</b> _____ <b>Phone #:</b> _____ <b>Fax #:</b> _____ <b>Project #:</b> _____ <b>Project Owner:</b> _____ <b>Project Name:</b> Lee Federal 044 <b>Project Location:</b> _____ <b>Sampler Name:</b> Bruce Baker <small>FOR LAB USE ONLY</small>		<b>BILL TO</b> <b>P.O. #:</b> _____ <b>Company:</b> _____ <b>Attn:</b> _____ <b>Address:</b> _____ <b>City:</b> _____ <b>State:</b> _____ <b>Zip:</b> _____ <b>Phone #:</b> _____ <b>Fax #:</b> _____	
<b>Lab I.D.</b> H20365 1 BHJR SURFACE 2 BHJR 2' 3 BHJR 5'	<b>Sample I.D.</b> (G)RAB OR (C)OMP # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER ACID/BASE ICE / COOL OTHER	<b>MATRIX</b> DATE 4/23/91 TIME 11:10 11:20	<b>PRESERV</b> CL BTEX TPH Ext
<b>Requisitioned By:</b> [Signature] <b>Received By:</b> [Signature] <b>Date:</b> 4-12-19 <b>Time:</b> 12:35 <b>Time:</b> _____		<b>Sample Condition</b> Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Checked By: [Signature] (Initials)	
<b>Delivered By: (Circle One)</b> Sampler - UPS - Bus - Other: 1382 #97 YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		<b>REMARKS:</b> Nm	





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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: 04/12/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/12/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: BH 2 R 2' (H901366-01)****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	04/16/2019	ND	2.12	106	2.00	0.356	
Toluene*	<0.050	0.050	04/16/2019	ND	2.25	113	2.00	0.640	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.25	113	2.00	0.214	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.52	109	6.00	0.243	
Total BTEX	<0.300	0.300	04/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 119 % 73.3-129

**Chloride, 5M4500Cl-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	04/16/2019	ND	400	100	400	0.00	

**TPH 8015M**

mg/kg

Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/16/2019	ND	207	103	200	0.562	
DRO >C10-C28*	188	10.0	04/16/2019	ND	194	97.1	200	0.589	
EXT DRO >C28-C36	89.8	10.0	04/16/2019	ND					

Surrogate: 1-Chlorooctane 93.4 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

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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: 04/12/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/12/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: 8H 2 R 4' (H901366-02)****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	04/16/2019	ND	2.12	106	2.00	0.356	
Toluene*	<0.050	0.050	04/16/2019	ND	2.26	113	2.00	0.640	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.26	113	2.00	0.214	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.52	109	6.00	0.243	
Total BTEX	<0.300	0.300	04/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 113 % 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	04/16/2019	ND	400	100	400	0.00	

**TPH 8015M**

mg/kg

Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/16/2019	ND	199	99.5	200	0.0542	
DRO >C10-C28*	<10.0	10.0	04/16/2019	ND	205	102	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	04/16/2019	ND					

Surrogate: 1-Chlorooctane 86.5 % 41-142

Surrogate: 1-Chlorooctadecane 88.2 % 37.6-147

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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: 04/12/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/12/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: BH 2 R 6' (H901366-03)**

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	04/16/2019	ND	2.12	106	2.00	0.356	
Toluene*	<0.050	0.050	04/16/2019	ND	2.26	113	2.00	0.640	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.26	113	2.00	0.214	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.52	109	6.00	0.243	
Total BTEX	<0.300	0.300	04/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 112 % 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	04/16/2019	ND	400	100	400	0.00	

TPH 8015M

mg/kg

Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/16/2019	ND	199	99.5	200	0.0542	
DRO >C10-C28*	<10.0	10.0	04/16/2019	ND	205	102	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	04/16/2019	ND					

Surrogate: 1-Chlorooctane 87.2 % 41-142

Surrogate: 1-Chlorooctadecane 90.5 % 37.6-147

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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: 04/12/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/12/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: BH 3 R SURFACE (H901366-04)****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	04/16/2019	ND	2.12	106	2.00	0.356	
Toluene*	<0.050	0.050	04/16/2019	ND	2.26	113	2.00	0.640	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.26	113	2.00	0.214	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.52	109	6.00	0.243	
Total BTEX	<0.300	0.300	04/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 109 % 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	04/16/2019	ND	400	100	400	0.00	

**TPH 8015M**

mg/kg

Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/16/2019	ND	199	99.5	200	0.0542	
DRO >C10-C28*	<10.0	10.0	04/16/2019	ND	205	102	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	04/16/2019	ND					

Surrogate: 1-Chlorooctane 80.2 % 41-142

Surrogate: 1-Chlorooctadecane 81.5 % 37.6-147

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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: 04/12/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/12/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

Sample ID: BH 3 R 1' (H901366-05)

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	04/16/2019	ND	2.12	106	2.00	0.356	
Toluene*	<0.050	0.050	04/16/2019	ND	2.26	113	2.00	0.640	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.26	113	2.00	0.214	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.52	109	6.00	0.243	
Total BTEX	<0.300	0.300	04/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 108 % 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	04/16/2019	ND	400	100	400	0.00	

TPH 8015M

mg/kg

Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/16/2019	ND	199	99.5	200	0.0542	
DRO >C10-C28*	<10.0	10.0	04/16/2019	ND	205	102	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	04/16/2019	ND					

Surrogate: 1-Chlorooctane 84.2 % 41-142

Surrogate: 1-Chlorooctadecane 85.8 % 37 6-147

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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: 04/12/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/12/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: BH 3 R 2' (H901366-06)****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	04/16/2019	ND	1.89	94.7	2.00	2.66	
Toluene*	<0.050	0.050	04/16/2019	ND	2.05	103	2.00	3.89	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.03	102	2.00	5.16	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.21	103	6.00	5.86	
Total BTEX	<0.300	0.300	04/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 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	32.0	16.0	04/16/2019	ND	400	100	400	0.00	

**TPH 8015M**

mg/kg

Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/16/2019	ND	199	99.5	200	0.0542	
DRO >C10-C28*	<10.0	10.0	04/16/2019	ND	205	102	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	04/16/2019	ND					

Surrogate: 1-Chlorooctane 86.5 % 41-142

Surrogate: 1-Chlorooctadecane 87.8 % 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: 04/12/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/12/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

Sample ID: BH 3 R 3' (H901366-07)

BTEX 80218

mg/kg

Analyzed By: nas

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/16/2019	ND	1.89	94.7	2.00	2.66	
Toluene*	<0.050	0.050	04/16/2019	ND	2.05	103	2.00	3.89	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.03	102	2.00	5.16	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.21	103	6.00	5.86	
Total BTEX	<0.300	0.300	04/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 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	32.0	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M

mg/kg

Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/16/2019	ND	199	99.5	200	0.0542	
DRO >C10-C28*	<10.0	10.0	04/16/2019	ND	205	102	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	04/16/2019	ND					

Surrogate: 1-Chlorooctane 83.2 % 41-142

Surrogate: 1-Chlorodecane 84.8 % 37.6-147

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\* = Accredited Analyte

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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: 04/12/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/12/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

Sample ID: BH 3 R 4' (H901366-08)

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	04/16/2019	ND	1.89	94.7	2.00	2.66	
Toluene*	<0.050	0.050	04/16/2019	ND	2.05	103	2.00	3.89	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.03	102	2.00	5.16	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.21	103	6.00	5.86	
Total BTEX	<0.300	0.300	04/16/2019	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	32.0	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M

mg/kg

Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRD C6-C10*	<10.0	10.0	04/16/2019	ND	199	99.5	200	0.0542	
DRO >C10-C28*	<10.0	10.0	04/16/2019	ND	205	102	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	04/16/2019	ND					

Surrogate: 1-Chlorooctane 84.5 % 41-142

Surrogate: 1-Chlorooctadecane 87.3 % 37.6-147

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\*=Accredited Analyte

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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: 04/12/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/12/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: BH 3 R 5' (H901366-09)**

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	04/16/2019	ND	1.89	94.7	2.00	2.66	
Toluene*	<0.050	0.050	04/16/2019	ND	2.05	103	2.00	3.89	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.03	102	2.00	5.16	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.21	103	6.00	5.86	
Total BTEX	<0.300	0.300	04/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 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	04/16/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/16/2019	ND	199	99.5	200	0.0542	
DRO >C10-C28*	<10.0	10.0	04/16/2019	ND	205	102	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	04/16/2019	ND					

Surrogate: 1-Chlorooctane 86.1 % 41-142

Surrogate: 1-Chlorooctadecane 86.7 % 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: 04/12/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/12/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: BH 3 R 6' (H901366-10)****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	04/16/2019	ND	1.89	94.7	2.00	2.66	
Toluene*	<0.050	0.050	04/16/2019	ND	2.05	103	2.00	3.89	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.03	102	2.00	5.16	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.21	103	6.00	5.86	
Total BTEX	<0.300	0.300	04/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 99.1 % 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	04/16/2019	ND	400	100	400	0.00	

**TPH 8015M**

mg/kg

Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/16/2019	ND	199	99.5	200	0.0542	
DRO >C10-C28*	<10.0	10.0	04/16/2019	ND	205	102	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	04/16/2019	ND					

Surrogate: 1-Chlorooctane 88.3 % 41-142

Surrogate: 1-Chlorooctadecane 88.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**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 SM4500C-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



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

<b>Company Name:</b> APACHE CORP <b>Project Manager:</b> GRACE BAKER <b>Address:</b> <b>City:</b> <b>State:</b> <b>Zip:</b> <b>Phone #:</b> <b>Fax #:</b> <b>Project #:</b> <b>Project Owner:</b> <b>Project Name:</b> LEE FEDERAL 044 <b>Project Location:</b> <b>Sampler Name:</b> Brown, Jeff <small>FOR LAB USE ONLY</small>		<b>P.O. #:</b> <b>Company:</b> <b>Attn:</b> <b>Address:</b> <b>City:</b> <b>State:</b> <b>Zip:</b> <b>Phone #:</b> <b>Fax #:</b>	
<b>Lab I.D.</b> <b>Sample I.D.</b> H9034-                      BH2R 2'                      (G)RAB OR (C)OMP BH2R 4'                      # CONTAINERS BH2R 6'                      GROUNDWATER BH3R SUREACE                      WASTEWATER BH3R 1'                      SOIL BH3R 2'                      OIL BH3R 3'                      SLUDGE BH3R 4'                      OTHER BH3R 5'                      ACID/BASE BH3R 6'                      ICE / COOL OTHER		<b>BILL TO</b> <b>ANALYSIS REQUEST</b> <b>DATE</b> <b>TIME</b> 4/12/14                      1420 1410 1400 1350 1340 1330 1315	
<b>Relinquished By:</b> Jeff Brown <b>Time:</b> 16:35 <b>Date:</b> 4/12/14 <b>Received By:</b> [Signature] <b>Time:</b> <b>Date:</b>		<b>Sample Condition:</b> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> <b>Checked By:</b> [Signature] <b>Time:</b> 13:30 <b>Date:</b> 4/12/14	
<b>Delivered By:</b> (Circle One) Sampler - UPS - Bus - Other:		<b>REMARKS:</b> CL BTEX EXT. TPH	



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April 22, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: LEE FEDERAL #044

Enclosed are the results of analyses for samples received by the laboratory on 04/15/19 13:48.

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.htm](http://www.tceq.texas.gov/field/qa/lab_accred_certif.htm).

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) 393-2324 • 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: 04/15/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/15/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: BH4R SURFACE (H901374-01)****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	04/16/2019	ND	1.89	94.7	2.00	2.66	
Toluene*	<0.050	0.050	04/16/2019	ND	2.05	103	2.00	3.89	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.03	102	2.00	5.16	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.21	103	6.00	5.86	
Total BTEX	<0.300	0.300	04/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 99.6 % 73.3-129

**Chloride, SM4300Cl-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	04/16/2019	ND	400	100	400	0.00	

**TPH 8015M**

mg/kg

Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/17/2019	ND	199	99.5	200	0.0542	
DRO >C10-C28*	<10.0	10.0	04/17/2019	ND	205	102	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	04/17/2019	ND					

Surrogate: 1-Chlorooctane 93.4 % 41-142

Surrogate: 1-Chlorooctadecane 90.3 % 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: 04/15/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/15/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: BH4R 1' (H901374-02)**

BTX 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	04/16/2019	ND	1.89	94.7	2.00	2.66		
Toluene*	<0.050	0.050	04/16/2019	ND	2.05	103	2.00	3.89		
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.03	102	2.00	5.16		
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.21	103	6.00	5.86		
Total BTX	<0.300	0.300	04/16/2019	ND						

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

Chloride, SM4590CI-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	04/16/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	04/16/2019	ND	199	99.5	200	0.0542		
DRO >C10-C28*	<10.0	10.0	04/16/2019	ND	205	102	200	2.72		
EXT DRO >C28-C36	<10.0	10.0	04/16/2019	ND						

Surrogate: 1-Chlorooctane 81.6 % 41-142

Surrogate: 1-Chlorooctadecane 83.1 % 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: 04/15/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/15/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

Sample ID: BH4R 2' (H901374-03)

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	04/16/2019	ND	1.89	94.7	2.00	2.66	
Toluene*	<0.050	0.050	04/16/2019	ND	2.05	103	2.00	3.89	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.03	102	2.00	5.16	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.21	103	6.00	5.86	
Total BTEX	<0.300	0.300	04/16/2019	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	32.0	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M

mg/kg

Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/16/2019	ND	199	99.5	200	0.0542	
DRO >C10-C28*	<10.0	10.0	04/16/2019	ND	205	102	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	04/16/2019	ND					

Surrogate: 1-Chlorooctane 82.8 % 41-142

Surrogate: 1-Chlorooctadecane 83.7 % 37.6-147

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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: 04/15/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/15/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: BH4R 3' (H901374-04)**

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	04/16/2019	ND	1.89	94.7	2.00	2.66	
Toluene*	<0.050	0.050	04/16/2019	ND	2.05	103	2.00	3.89	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.03	102	2.00	5.16	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.21	103	6.00	5.86	
Total BTEX	<0.300	0.300	04/16/2019	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	32.0	16.0	04/16/2019	ND	416	104	400	3.77	
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	04/16/2019	ND	199	99.5	200	0.0542	
DRO >C10-C28*	<10.0	10.0	04/16/2019	ND	205	102	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	04/16/2019	ND					

Surrogate: 1-Chlorooctane 84.3 % 41-142

Surrogate: 1-Chlorooctadecane 84.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

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

Received: 04/15/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/15/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: BH4R 4' (H901374-05)**

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	04/16/2019	ND	1.89	94.7	2.00	2.66	
Toluene*	<0.050	0.050	04/16/2019	ND	2.05	103	2.00	3.89	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.03	102	2.00	5.16	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.21	103	6.00	5.86	
Total BTEX	<0.300	0.300	04/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 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	16.0	16.0	04/16/2019	ND	416	104	400	3.77	

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	04/16/2019	ND	199	99.5	200	0.0542	
DRO >C10-C28*	<10.0	10.0	04/16/2019	ND	205	102	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	04/16/2019	ND					

Surrogate: 1-Chlorooctane 78.8 % 41-142

Surrogate: 1-Chlorooctadecane 79.9 % 37 6-147

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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: 04/15/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/15/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: BH4R 5' (H901374-06)**

STEX 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	04/16/2019	ND	1.89	94.7	2.00	2.66	
Toluene*	<0.050	0.050	04/16/2019	ND	2.05	103	2.00	3.89	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.03	102	2.00	5.16	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.21	103	6.00	5.86	
Total BTEX	<0.300	0.300	04/16/2019	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	04/16/2019	ND	416	104	400	3.77			
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	04/16/2019	ND	199	99.5	200	0.0542	
DRO >C10-C28*	<10.0	10.0	04/16/2019	ND	205	102	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	04/16/2019	ND					

Surrogate: 1-Chlorooctane 84.4 % 41-142

Surrogate: 1-Chlorooctadecane 84.7 % 37.6-147

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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: 04/15/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/15/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

Sample ID: BH4R 6' (H901374-07)

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	04/16/2019	ND	1.89	94.7	2.00	2.66		
Toluene*	<0.050	0.050	04/16/2019	ND	2.05	103	2.00	3.89		
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.03	102	2.00	5.16		
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.21	103	6.00	5.86		
Total BTEX	<0.300	0.300	04/16/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 99.3 % 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	04/16/2019	ND	416	104	400	3.77		
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	04/16/2019	ND	199	99.5	200	0.0542		
DRO >C10-C28*	<10.0	10.0	04/16/2019	ND	205	102	200	2.72		
EXT DRO >C28-C36	<10.0	10.0	04/16/2019	ND						

Surrogate: 1-Chlorooctane 80.3 % 41-142

Surrogate: 1-Chlorooctadecane 80.9 % 37.6-147

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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: 04/15/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/15/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: BH5R SURFACE (H901374-08)**

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	04/16/2019	ND	1.89	94.7	2.00	2.66	
Toluene*	<0.050	0.050	04/16/2019	ND	2.05	103	2.00	3.89	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.03	102	2.00	5.16	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.21	103	6.00	5.86	
Total BTEX	<0.300	0.300	04/16/2019	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	32.0	16.0	04/16/2019	ND	416	104	400	3.77	
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	04/16/2019	ND	199	99.5	200	0.0542	
DRO >C10-C28*	<10.0	10.0	04/16/2019	ND	205	102	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	04/16/2019	ND					

Surrogate: 1-Chlorooctane 76.8 % 41-142

Surrogate: 1-Chlorooctadecane 76.5 % 37.6-147

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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: 04/15/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/15/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

Sample ID: BHSR 2' (H901374-09)

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	04/16/2019	ND	1.89	94.7	2.00	2.66	
Toluene*	<0.050	0.050	04/16/2019	ND	2.05	103	2.00	3.89	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.03	102	2.00	5.16	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.21	103	6.00	5.86	
Total BTEX	<0.300	0.300	04/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 99.7 % 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	16.0	16.0	04/16/2019	ND	416	104	400	3.77	

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	04/16/2019	ND	199	99.5	200	0.0542	
DRO >C10-C28*	<10.0	10.0	04/16/2019	ND	205	102	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	04/16/2019	ND					

Surrogate: 1-Chlorooctane 80.2 % 41-142

Surrogate: 1-Chlorooctadecane 80.2 % 37.6-147

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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: 04/15/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/15/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

Sample ID: BH5R 4' (H901374-10)

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	04/16/2019	ND	1.89	94.7	2.00	2.66	
Toluene*	<0.050	0.050	04/16/2019	ND	2.05	103	2.00	3.89	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.03	102	2.00	5.16	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.21	103	6.00	5.86	
Total BTEX	<0.300	0.300	04/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 98.4 % 73.3-129

Chloride, SM4300Cl-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	04/16/2019	ND	416	104	400	3.77	

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	04/16/2019	ND	199	99.5	200	0.0542	
DRO >C10-C28*	<10.0	10.0	04/16/2019	ND	205	102	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	04/16/2019	ND					

Surrogate: 1-Chlorooctane 79.8 % 41-142

Surrogate: 1-Chlorooctadecane 80.9 % 37.6-147

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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: 04/15/2019  
 Reported: 04/22/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 04/15/2019  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: BH5R 6' (H901374-11)**

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	04/16/2019	ND	1.89	94.7	2.00	2.66		
Toluene*	<0.050	0.050	04/16/2019	ND	2.05	103	2.00	3.89		
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.03	102	2.00	5.16		
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.21	103	6.00	5.86		
Total BTEX	<0.300	0.300	04/16/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 98.5 % 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	<16.0	16.0	04/16/2019	ND	416	104	400	3.77		

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	04/16/2019	ND	202	101	200	3.08		
DRO >C10-C28*	<10.0	10.0	04/16/2019	ND	189	94.4	200	5.43		
EXT DRO >C28-C36	<10.0	10.0	04/16/2019	ND						

Surrogate: 1-Chlorooctane 98.8 % 41-142

Surrogate: 1-Chlorooctadecane 93.6 % 37.6-147

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\* = Accredited Analyte

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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-8 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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\* = Accredited Analyte

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# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Page 14 of 15

Company Name: <u>APACHE CORPORATION</u>				BILL TO		ANALYSIS REQUEST																		
Project Manager: <u>BRUCE BAKER</u>				P.O. #:																				
Address:				Company:																				
City:				Attn:																				
Phone #:				Address:																				
Project #:				City:																				
Project Name: <u>LEE FEDERAL 44</u>				State:		Zip:																		
Project Location: <u>LEE FEDERAL 44</u>				Phone #:																				
Sampler Name: <u>JEFF BAUM</u>				Fax #:																				
FOR LAB USE ONLY				MATRIX		PRESERV.		SAMPLING																
Lab I.D.	Sample I.D.	GRAB OR (COMPOUND)	CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER	DATE	TIME										
<u>H9D374</u>																								
1	<u>BH4R SURFACE</u>												<u>4/15/15</u>	<u>10:00 AM</u>										
2	<u>BH4R 1'</u>													<u>10:05</u>										
3	<u>BH4R 2'</u>													<u>10:10</u>										
4	<u>BH4R 3'</u>													<u>10:15</u>										
5	<u>BH4R 4'</u>													<u>10:20</u>										
6	<u>BH4R 5'</u>													<u>10:25</u>										
7	<u>BH4R 6'</u>													<u>10:30</u>										
8	<u>BH5R SURFACE</u>													<u>11:00</u>										
9	<u>BH5R 2'</u>													<u>12:00</u>										
10	<u>BH5R 4'</u>												<u>4/15/15</u>	<u>11:20</u>										

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Relinquished By: <u>Jeff Baum</u>	Date: <u>4/15/15</u>	Received By: <u>Jodi Henson</u>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #: _____
Relinquished By: _____	Time: <u>1:48</u>	Received By: _____	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #: _____
Delivered By: (Circle One)	Date: _____	Time: _____	REMARKS: <u>Samples taken &amp; brought directly to Lab.</u>	
Sampler - UPS - Bus - Other: <u>16.42 / #97</u>	Sample Condition	CHECKED BY: <u>JH</u>		
	Cool <input type="checkbox"/> Intact <input type="checkbox"/>			
	Yes <input type="checkbox"/> No <input type="checkbox"/>			





# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Page 15 of 15

<b>Company Name:</b> <u>APACHE CORPORATION</u> <b>Project Manager:</b> <u>BRUCE BAUER</u> <b>Address:</b> <b>City:</b> _____ <b>State:</b> _____ <b>Zip:</b> _____ <b>Phone #:</b> _____ <b>Fax #:</b> _____ <b>Project #:</b> _____ <b>Project Owner:</b> _____ <b>Project Name:</b> <u>LEE FEDERAL 44</u> <b>Project Location:</b> <u>LEE FEDERAL 44</u> <b>Sampler Name:</b> <u>JEFF BROWN</u>				<b>BILL TO</b> <b>P.O. #:</b> _____ <b>Company:</b> _____ <b>Attn:</b> _____ <b>Address:</b> _____ <b>City:</b> _____ <b>State:</b> _____ <b>Zip:</b> _____ <b>Phone #:</b> _____ <b>Fax #:</b> _____		<b>ANALYSIS REQUEST</b>													
<b>FOR LAB USE ONLY</b> <b>Lab I.D.</b> <u>H9D1574</u> <u>11</u>		<b>Sample I.D.</b> <u>BH5R6</u>		<b>MATRIX</b> GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER		<b>PRESERV</b> ACID/BASE ICE / COOL OTHER		<b>SAMPLING</b> <b>DATE</b> <u>4/15/15</u> <b>TIME</b> <u>11:40</u>		<u>✓</u> <u>IPH</u> <u>EX</u> <u>✓</u> <u>BTEX</u>									

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<b>Relinquished By:</b> <u>Jeff Brown</u> <b>Relinquished By:</b> _____ <b>Date:</b> <u>4/15/15</u> <b>Time:</b> <u>1:48</u>		<b>Received By:</b> <u>Jodi Henson</u> <b>Received By:</b> _____ <b>Date:</b> _____ <b>Time:</b> _____		<b>Phone Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Fax Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>REMARKS:</b> _____	
<b>Delivered By: (Circle One)</b> Sampler - UPS - Bus - Other: <u>16402 / #97</u>		<b>Sample Condition</b> Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No		<b>CHECKED BY:</b> <u>[Signature]</u>	





## Lee Federal 44 Remediation

Labs in Red

Map ID	Sample Date	Sample ID	Depth	Chloride	Benzene	Toulene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates
Wall 1	5/29/2019	Wall 1 @ 1'	1'	192	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.826178, -103.888514
Wall 2	5/29/2019	Wall 2 @ 1'	1'	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.826175, -103.888452
Wall 3	5/29/2019	Wall 3 @ 1'	1'	192	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.826129, -103.888473
Wall 4	5/29/2019	Wall 4 @ 1'	1'	128	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.826127, -103.888530
FS1	5/29/2019	FS 1 @ 1'	1'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.826144, -103.888516
FS2	5/29/2019	FS 2 @ 1'	1'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.826167, -103.888476





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June 04, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: LEE FEDERAL #044

Enclosed are the results of analyses for samples received by the laboratory on 05/30/19 9:45.

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/ga/lab/accred/certif.html](http://www.tceq.texas.gov/field/ga/lab/accred/certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

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: 05/30/2019  
 Reported: 06/04/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 05/29/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WALL 1 @ 1' (H901900-01)****BTEX #0218**

mg/kg

Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/31/2019	ND	1.90	95.0	2.00	2.08	
Toluene*	<0.050	0.050	05/31/2019	ND	2.05	103	2.00	4.89	
Ethylbenzene*	<0.050	0.050	05/31/2019	ND	1.95	97.5	2.00	3.06	
Total Xylenes*	<0.150	0.150	05/31/2019	ND	5.92	98.6	6.00	2.92	
Total BTEX	<0.300	0.300	05/31/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 105 % 73.3-129

**Chloride, SM4500Cl-B**

mg/kg

Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	06/03/2019	ND	416	104	400	3.92	

**TPH #015M**

mg/kg

Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRD C6-C10*	<10.0	10.0	05/31/2019	ND	189	94.6	200	1.62	
DRO >C10-C28*	<10.0	10.0	05/31/2019	ND	195	97.5	200	1.42	
EXT DRO >C28-C36	<10.0	10.0	05/31/2019	ND					

Surrogate: 1-Chlorooctane 99.7 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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\* = Accredited Analyte

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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: 05/30/2019  
 Reported: 06/04/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 05/29/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WALL 2 @ 1' (H901900-02)****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	05/31/2019	ND	1.90	95.0	2.00	2.08	
Toluene*	<0.050	0.050	05/31/2019	ND	2.05	103	2.00	4.89	
Ethylbenzene*	<0.050	0.050	05/31/2019	ND	1.95	97.5	2.00	3.06	
Total Xylenes*	<0.150	0.150	05/31/2019	ND	5.92	98.6	6.00	2.92	
Total BTEX	<0.300	0.300	05/31/2019	ND					

**Surrogate: 4-Bromofluorobenzene (PIE)** 106 % 73.3-129**Chloride, SM4300Cl-B**

mg/kg

Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	06/03/2019	ND	416	104	400	3.92	

**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	05/31/2019	ND	189	94.6	200	0.199	
DRO >C10-C28*	<10.0	10.0	05/31/2019	ND	189	94.7	200	4.09	
EXT DRO >C28-C36	<10.0	10.0	05/31/2019	ND					

**Surrogate: 1-Chlorooctane** 92.4 % 41-142**Surrogate: 1-Chlorooctadecane** 94.2 % 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: 05/30/2019  
 Reported: 06/04/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 05/29/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WALL 3 @ 1' (H901900-03)****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	05/31/2019	ND	1.90	95.0	2.00	2.08	
Toluene*	<0.050	0.050	05/31/2019	ND	2.05	103	2.00	4.89	
Ethylbenzene*	<0.050	0.050	05/31/2019	ND	1.95	97.5	2.00	3.06	
Total Xylenes*	<0.150	0.150	05/31/2019	ND	5.92	98.6	6.00	2.92	
Total BTEX	<0.300	0.300	05/31/2019	ND					

**Surrogate: 4-Bromofluorobenzene (PIL) 106 % 73.3-129****Chloride, SM4500Cl-B****mg/kg****Analyzed By: JH**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	06/03/2019	ND	416	104	400	3.92	

**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	05/31/2019	ND	189	94.6	200	0.199	
DRO >C10-C28*	<10.0	10.0	05/31/2019	ND	189	94.7	200	4.09	
EXT DRO >C28-C36	<10.0	10.0	05/31/2019	ND					

**Surrogate: 1-Chlorooctane 91.0 % 41-142****Surrogate: 1-Chlorooctadecane 88.9 % 37.6-147**

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Page 4 of 9



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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: 05/30/2019  
 Reported: 06/04/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 05/29/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WALL 4 @ 1' (H901900-04)****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	05/31/2019	ND	1.90	95.0	2.00	2.08	
Toluene*	<0.050	0.050	05/31/2019	ND	2.05	103	2.00	4.89	
Ethylbenzene*	<0.050	0.050	05/31/2019	ND	1.95	97.5	2.00	3.06	
Total Xylenes*	<0.150	0.150	05/31/2019	ND	5.92	98.6	6.00	2.92	
Total BTEX	<0.300	0.300	05/31/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 105 % 73.3-129

**Chloride, SM4500Cl-B**

mg/kg

Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	06/03/2019	ND	416	104	400	3.92	

**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	05/31/2019	ND	189	94.6	200	0.199	
DRO >C10-C28*	<10.0	10.0	05/31/2019	ND	189	94.7	200	4.09	
EXT DRO >C28-C36	<10.0	10.0	05/31/2019	ND					

Surrogate: 1-Chlorooctane 95.3 % 41-142

Surrogate: 1-Chlorooctadecane 95.0 % 37.6-147

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Page 5 of 9



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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: 05/30/2019  
 Reported: 06/04/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 05/29/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

Sample ID: FS 1 @ 1' (H901900-05)

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	05/31/2019	ND	1.90	95.0	2.00	2.08	
Toluene*	<0.050	0.050	05/31/2019	ND	2.05	103	2.00	4.89	
Ethylbenzene*	<0.050	0.050	05/31/2019	ND	1.95	97.5	2.00	3.06	
Total Xylenes*	<0.150	0.150	05/31/2019	ND	5.92	98.6	6.00	2.92	
Total BTEX	<0.300	0.300	05/31/2019	ND					

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

Chloride, SM4500Cl-B

mg/kg

Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/03/2019	ND	416	104	400	3.92	

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	05/31/2019	ND	189	94.6	200	0.199	
DRO >C10-C28*	<10.0	10.0	05/31/2019	ND	189	94.7	200	4.09	
EXT DRO >C28-C36	<10.0	10.0	05/31/2019	ND					

Surrogate: 1-Chlorooctane 95.3 % 41-142

Surrogate: 1-Chlorooctadecane 96.4 % 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: 05/30/2019  
 Reported: 06/04/2019  
 Project Name: LEE FEDERAL #044  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 05/29/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FS 2 @ 1' (H901900-06)**

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	05/31/2019	ND	1.90	95.0	2.00	2.08	
Toluene*	<0.050	0.050	05/31/2019	ND	2.05	103	2.00	4.89	
Ethylbenzene*	<0.050	0.050	05/31/2019	ND	1.95	97.5	2.00	3.06	
Total Xylenes*	<0.150	0.150	05/31/2019	ND	5.92	98.6	6.00	2.92	
Total BTEX	<0.300	0.300	05/31/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 106 % 73.3-129

Chloride, SM4500Cl-B

mg/kg

Analyzed By: JM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	06/03/2019	ND	416	104	400	3.92	

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	05/31/2019	ND	189	94.6	200	0.199	
DRO >C10-C28*	<10.0	10.0	05/31/2019	ND	189	94.7	200	4.09	
EXT DRO >C28-C36	<10.0	10.0	05/31/2019	ND					

Surrogate: 1-Chlorooctane 99.6 % 41-142

Surrogate: 1-Chlorodecane 102 % 37.6-147

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\* = Accredited Analyte

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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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\*=Accredited Analyte

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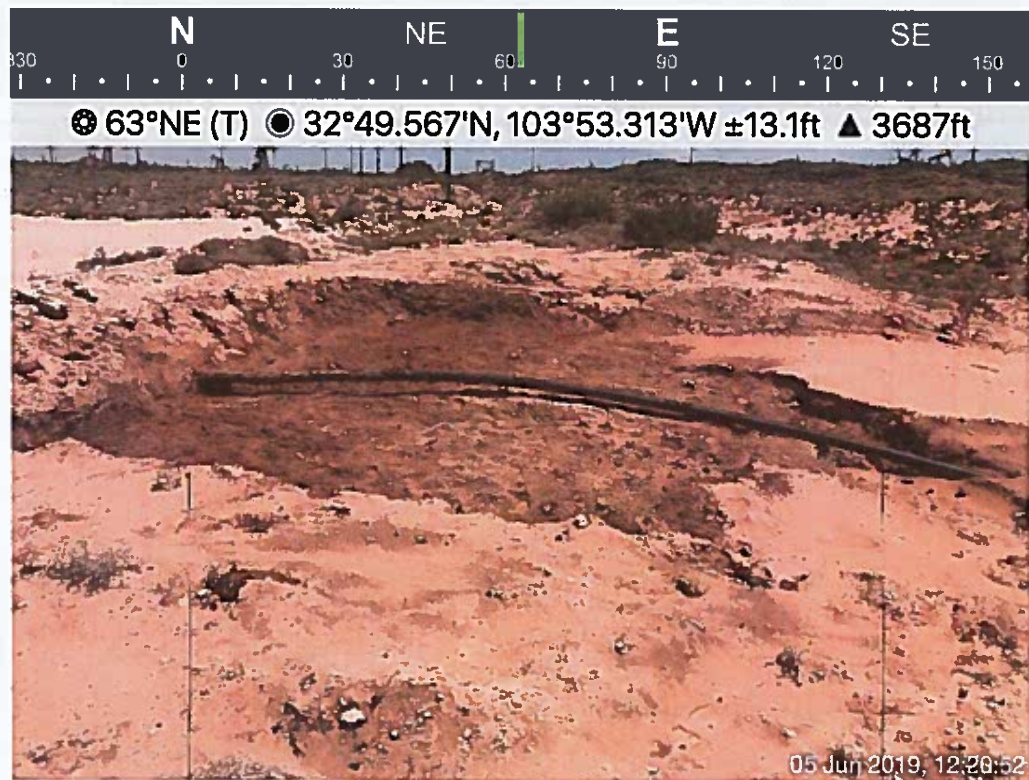
A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



ANALYSIS REQUEST

Released to Imaging: 7/20/2021 10:50:30 AM





**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
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**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS  
  
Action 2373

CONDITIONS

Operator: APACHE CORPORATION 303 Veterans Airpark Ln Midland, TX 79705	OGRID: 873
	Action Number: 2373
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bbillings	None	7/20/2021