



2350 W Marland Blvd Hobbs, NM 88240

Closure Report

September 16, 2019

Re: Cedar Lake Federal CA 716H

API# 30-015-40913

Case # 2RP-5301

To: Robert Hamlet

New Mexico Oil Conservation Division Energy, Minerals and Natural Resources Department
811 S. 1st Street Artesia, NM 88210

On 3/04/2019 a release occurred due to a 3/8 inch stainless steel line at the well head froze resulting in the line to come apart. An initial C-141 was sent to NMOCD and approved by NMOCD on 3/20/2019. The Cedar Lake Federal CA 716H is located east of Loco Hills in unit letter A section 7 township 17S range 31E (GPS Coordinates: 32.85425, -103.90390). A groundwater study was conducted utilizing the NMOSE and USGS sites to search for groundwater wells in the vicinity of the release site. According to the USGS and NMOSE there are no wells in township 17S range 31E. It is common knowledge that there is no groundwater in township 17S and range 31E. The village of Loco Hills water source is the double eagle water pipeline which source of water is on top of the cap-rock located east of the township and range.

The release flow path shares the path found in a previous release associated with the Cedar Lake Federal CA 737H. The release area was remediated at the same time as the Cedar Lake Federal CA 737H. Final five point bottom and wall samples were collected in conjunction with the NMOCD approved remediation plan for the Cedar Lake Federal CA 737H (2RP-4972). All samples were submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. The following points BFC 21, 23, 26, and 28 were further excavated to depths of 3 inches to 1 foot. Once laboratory results were below table one standards for releases greater than 100 feet to groundwater the release area was backfilled with clean imported caliche and contoured to the surrounding area. All excavated material was hauled to an NMOCD approved facility.

Apache Corporation has remediated the release to below table one closure standards for releases greater than 100 feet to groundwater and respectfully request that 2RP-5301 be closed.

Enclosed: C-141, groundwater data, maps, data table, laboratory results, and photos.
Submitted by;

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 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	NAB1907931810
District RP	2RP-5301
Facility ID	
Application ID	pAB1907929779

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)	NAB1907931810
Contact mailing address	2350 W. Marland BLVD Hobbs, NM 88240		

Location of Release Source

Latitude 32.85425 Longitude -103.90390
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Cedar Lake Federal CA 716H	Site Type	Oil Well
Date Release Discovered	3/4/2019	API# (if applicable)	30-015-40913

Unit Letter	Section	Township	Range	County
A	7	17S	31E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (Name: _____)

Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 30 barrels	Volume Recovered (bbls) 27 barrels
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 45 barrels	Volume Recovered (bbls) 18 barrels
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input 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 A 3/8" stainless steel line at the well head froze resulting in line to come apart.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1907931810
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Application ID	pAB1907929779

Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Greater than 25 barrels of fluid loss.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Bruce Baker notified Jim Griswold, Mike Bratcher (NMOCD) and Jim Amos (BLM) via email on 3/4/19 at 3:20 p.m.	

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> 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: <u>Bruce Baker</u>	Title: <u>Environmental Technician SR.</u>
Signature: <u>Bruce Baker</u>	Date: <u>3/11/19</u>
email: <u>larry.baker@apachecorp.com</u>	Telephone: <u>432-631-6982</u>
OCD Only Received by: <u>Ana Maria Batac</u>	
Date: <u>3/20/2019</u>	

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.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
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Printed Name: Bruce Baker Title: Environmental Tech.
Signature: Bruce Baker Date: 9-16-19
email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	
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 ODC 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 Baker Title: Environmental Tech
Signature: Bruce Baker Date: 9-16-19
email: larry.baker@apachecorp.com Telephone: 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: _____ Date: _____

Printed Name: _____ Title: _____



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

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

(quarters are smallest to largest) (NAD83 UTM in meters)

No records found.

UTM NAD83 Radius Search (in meters):

Easting (X): 602678

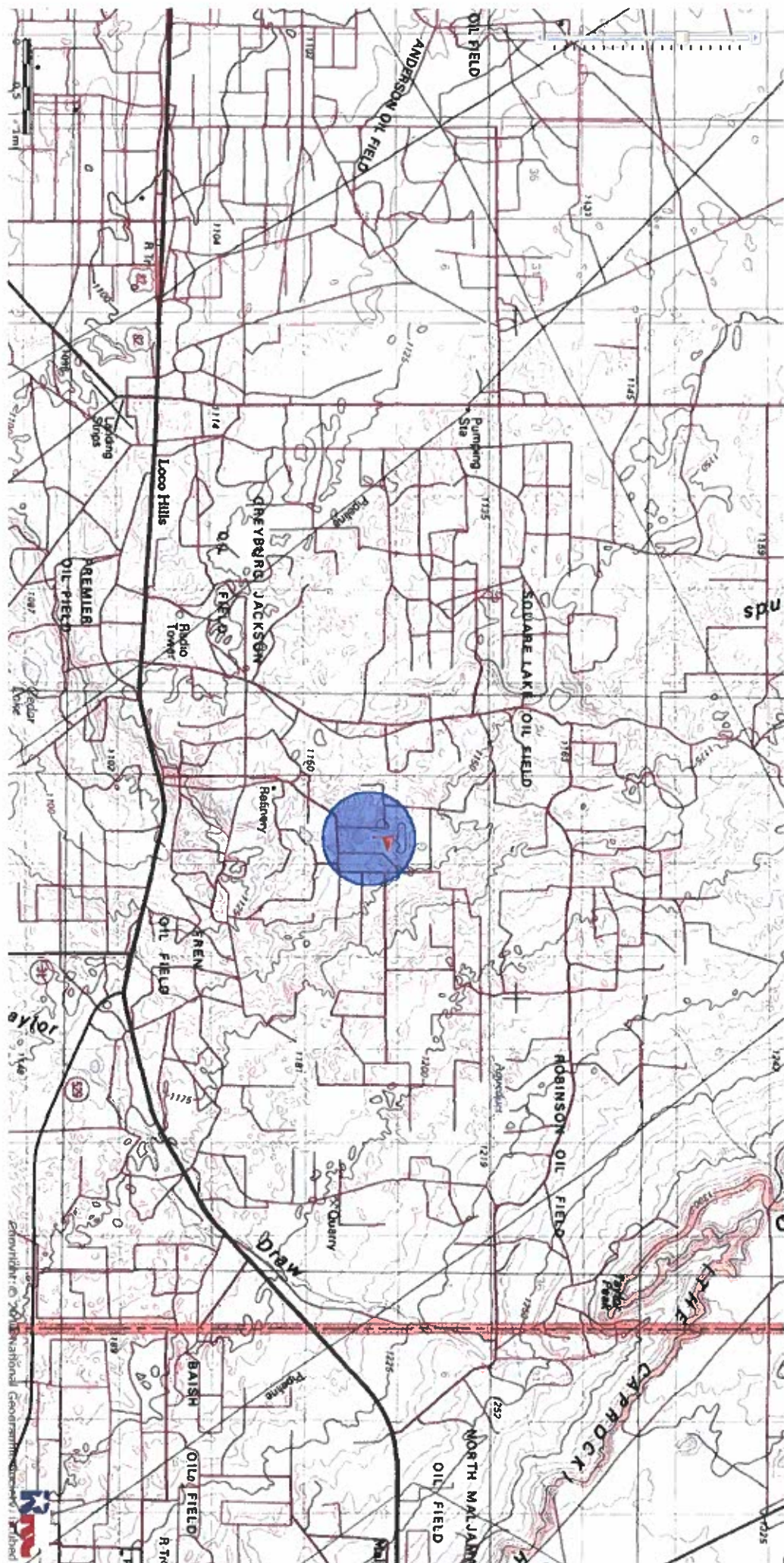
Northing (Y): 3635683

Radius: 3000

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.

12/11/18 1 24 PM

WATER COLUMN/ AVERAGE
DEPTH TO WATER



Cedar Lake Fed. 716 Wall Samples

Comp Pt.	CL-	Benzene	Toluene	Ethylbenz ene	Total Xylenes	Total BTEX	GRO	DRO	EXT. DRO	Date
WC 12	800	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	6/13/2019
WC 13	2200	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	6/13/2019
WC 14	976	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	63.7	15.1	6/13/2019
WC 16	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	6/13/2019
WC 17	1180	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	6/13/2019

Cedar Lake Fed. 716 Bottom Samples

Comp Pt.	Depth	CL-	Benzene	Toluene	Ethylbenz ene	Total Xylenes	Total BTEX	GRO	DRO	EXT. DRO	Date
BFC 21	6"	4960	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	2480	869	6/11/2019
BFC 21	1'		<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	6/19/2019
BFC 22	6"	3440	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	115	50.8	6/11/2019
BFC 23	6"	64	<0.050	<0.050	0.168	0.603	0.771	19.3	1400	260	6/11/2019
BFC 23	1'		<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	6/19/2019
BFC 24	6"	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	43	<10.0	6/11/2019
BFC 25	6"	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	513	103	6/11/2019
BFC 26	6"	96	<0.050	<0.050	<0.050	<0.150	<0.300	51	16,400	4520	6/11/2019
BFC 26	1'		<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	6/19/2019
B28	Surface	22000	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	3190	966	7/16/2019
B28	3"	3000	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	7/22/2019
B29	Surface	15400	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	775	406	7/16/2019

Wall samples



Bottom Samples





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

June 17, 2019

JEFFREY BROOM

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: CEDAR LAKE FED CA 737H

Enclosed are the results of analyses for samples received by the laboratory on 06/11/19 16:10.

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

Analytical Results For:

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

Received: 06/11/2019
Reported: 06/17/2019
Project Name: CEDAR LAKE FED CA 737H
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 06/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BFC # 1 @ 1.6" (H902025-01)

BTX 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	06/14/2019	ND	1.94	97.2	2.00	1.12	
Toluene*	<0.050	0.050	06/14/2019	ND	1.91	95.7	2.00	0.282	
Ethylbenzene*	<0.050	0.050	06/14/2019	ND	1.86	92.8	2.00	1.71	
Total Xylenes*	<0.150	0.150	06/14/2019	ND	5.67	94.5	6.00	0.151	
Total BTX	<0.300	0.300	06/14/2019	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	32.0	16.0	06/13/2019	ND	384	96.0	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	06/12/2019	ND	194	96.8	200	0.811	
DRO >C10-C28*	<10.0	10.0	06/12/2019	ND	186	93.2	200	1.81	
EXT DRO >C28-C36	<10.0	10.0	06/12/2019	ND					

Surrogate: 1-Chlorooctane 103 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 06/11/2019
Reported: 06/17/2019
Project Name: CEDAR LAKE FED CA 737H
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 06/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BFC # 8 (H902025-02)

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	06/14/2019	ND	1.94	97.2	2.00	1.12	
Toluene*	<0.050	0.050	06/14/2019	ND	1.91	95.7	2.00	0.282	
Ethylbenzene*	<0.050	0.050	06/14/2019	ND	1.86	92.8	2.00	1.71	
Total Xylenes*	<0.150	0.150	06/14/2019	ND	5.67	94.5	6.00	0.151	
Total BTEX	<0.300	0.300	06/14/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 106 % 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	06/13/2019	ND	384	96.0	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	06/12/2019	ND	194	96.8	200	0.811	
DRO >C10-C28*	759	10.0	06/12/2019	ND	186	93.2	200	1.81	
EXT DRO >C28-C36	137	10.0	06/12/2019	ND					

Surrogate: 1-Chlorooctane 100 % 41-142

Surrogate: 1-Chlorooctadecane 128 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 06/11/2019
 Reported: 06/17/2019
 Project Name: CEDAR LAKE FED CA 737H
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/11/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BFC # 9 (H902025-03)

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	06/14/2019	ND	1.94	97.2	2.00	1.12	
Toluene*	<0.050	0.050	06/14/2019	ND	1.91	95.7	2.00	0.282	
Ethylbenzene*	<0.050	0.050	06/14/2019	ND	1.86	92.8	2.00	1.71	
Total Xylenes*	<0.150	0.150	06/14/2019	ND	5.67	94.5	6.00	0.151	
Total BTEX	<0.300	0.300	06/14/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 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	32.0	16.0	06/13/2019	ND	384	96.0	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	06/12/2019	ND	194	96.8	200	0.811	
DRO >C10-C28*	108	10.0	06/12/2019	ND	186	93.2	200	1.81	
EXT DRO >C28-C36	27.0	10.0	06/12/2019	ND					

Surrogate: 1-Chlorooctane 93.3 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 06/11/2019
 Reported: 06/17/2019
 Project Name: CEDAR LAKE FED CA 737H
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/11/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BFC # 10 (H902025-04)

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	06/14/2019	ND	1.94	97.2	2.00	1.12	
Toluene*	<0.050	0.050	06/14/2019	ND	1.91	95.7	2.00	0.282	
Ethylbenzene*	<0.050	0.050	06/14/2019	ND	1.86	92.8	2.00	1.71	
Total Xylenes*	<0.150	0.150	06/14/2019	ND	5.67	94.5	6.00	0.151	
Total BTEX	<0.300	0.300	06/14/2019	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	32.0	16.0	06/13/2019	ND	384	96.0	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	06/12/2019	ND	194	96.8	200	0.811	
DRO >C10-C28*	<10.0	10.0	06/12/2019	ND	186	93.2	200	1.81	
EXT DRO >C28-C36	<10.0	10.0	06/12/2019	ND					

Surrogate: 1-Chlorooctane 98.6 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 06/11/2019
Reported: 06/17/2019
Project Name: CEDAR LAKE FED CA 737H
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 06/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BFC # 11 (H902025-05)

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	06/14/2019	ND	1.94	97.2	2.00	1.12	
Toluene*	<0.050	0.050	06/14/2019	ND	1.91	95.7	2.00	0.282	
Ethylbenzene*	<0.050	0.050	06/14/2019	ND	1.86	92.8	2.00	1.71	
Total Xylenes*	<0.150	0.150	06/14/2019	ND	5.67	94.5	6.00	0.151	
Total BTEX	<0.300	0.300	06/14/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 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	80.0	16.0	06/13/2019	ND	384	96.0	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	06/12/2019	ND	194	96.8	200	0.811	
DRO >C10-C28*	<10.0	10.0	06/12/2019	ND	186	93.2	200	1.81	
EXT DRO >C28-C36	<10.0	10.0	06/12/2019	ND					


Surrogate: 1-Chlorooctane 90.4 % 41-142

Surrogate: 1-Chlorooctadecane 91.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 06/11/2019
Reported: 06/17/2019
Project Name: CEDAR LAKE FED CA 737H
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 06/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BFC # 12 (H902025-06)

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	06/14/2019	ND	1.94	97.2	2.00	1.12	
Toluene*	<0.050	0.050	06/14/2019	ND	1.91	95.7	2.00	0.282	
Ethylbenzene*	<0.050	0.050	06/14/2019	ND	1.86	92.8	2.00	1.71	
Total Xylenes*	<0.150	0.150	06/14/2019	ND	5.67	94.5	6.00	0.151	
Total BTEX	<0.300	0.300	06/14/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 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	208	16.0	06/13/2019	ND	384	96.0	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	06/12/2019	ND	194	96.8	200	0.811	
DRO >C10-C28*	<10.0	10.0	06/12/2019	ND	186	93.2	200	1.81	
EXT DRO >C28-C36	<10.0	10.0	06/12/2019	ND					

Surrogate: 1-Chlorooctane 97.2 % 41-142

Surrogate: 1-Chlorooctadecane 99.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 06/11/2019
Reported: 06/17/2019
Project Name: CEDAR LAKE FED CA 737H
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 06/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BFC # 13 (H902025-07)

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	06/14/2019	ND	1.94	97.2	2.00	1.12	
Toluene*	<0.050	0.050	06/14/2019	ND	1.91	95.7	2.00	0.282	
Ethylbenzene*	<0.050	0.050	06/14/2019	ND	1.86	92.8	2.00	1.71	
Total Xylenes*	<0.150	0.150	06/14/2019	ND	5.67	94.5	6.00	0.151	
Total BTEX	<0.300	0.300	06/14/2019	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	112	16.0	06/13/2019	ND	400	100	400	0.00	QR-03

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	06/13/2019	ND	226	113	200	2.62	
DRO >C10-C28*	12.2	10.0	06/13/2019	ND	197	98.6	200	2.45	
EXT DRO >C28-C36	<10.0	10.0	06/13/2019	ND					

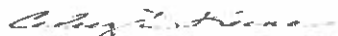
Surrogate: 1-Chlorooctane 91.5 % 41-142

Surrogate: 1-Chlorooctadecane 96.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 06/11/2019
Reported: 06/17/2019
Project Name: CEDAR LAKE FED CA 737H
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 06/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BFC # 14 (H902025-08)

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	06/14/2019	ND	2.37	119	2.00	2.69	
Toluene*	<0.050	0.050	06/14/2019	ND	2.38	119	2.00	1.04	
Ethylbenzene*	<0.050	0.050	06/14/2019	ND	2.22	111	2.00	2.28	
Total Xylenes*	<0.150	0.150	06/14/2019	ND	6.66	111	6.00	1.85	
Total BTEX	<0.300	0.300	06/14/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 104 % 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	1010	16.0	06/13/2019	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	06/13/2019	ND	226	113	200	2.62	
DRO >C10-C28*	581	10.0	06/13/2019	ND	197	98.6	200	2.45	
EXT DRO >C28-C36	36.9	10.0	06/13/2019	ND					

Surrogate: 1-Chlorooctane 94.6 % 41-142

Surrogate: 1-Chlorooctadecane 108 % 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: 06/11/2019
Reported: 06/17/2019
Project Name: CEDAR LAKE FED CA 737H
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 06/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BFC # 15 (H902025-09)

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	06/15/2019	ND	2.37	119	2.00	2.69	
Toluene*	<0.050	0.050	06/15/2019	ND	2.38	119	2.00	1.04	
Ethylbenzene*	<0.050	0.050	06/15/2019	ND	2.22	111	2.00	2.28	
Total Xylenes*	<0.150	0.150	06/15/2019	ND	6.66	111	6.00	1.85	
Total BTEX	<0.300	0.300	06/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 105 % 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	2240	16.0	06/13/2019	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	06/13/2019	ND	226	113	200	2.62	
DRO >C10-C28*	<10.0	10.0	06/13/2019	ND	197	98.6	200	2.45	
EXT DRO >C28-C36	<10.0	10.0	06/13/2019	ND					

Surrogate: 1-Chlorooctane 91.0 % 41-142

Surrogate: 1-Chlorooctadecane 92.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 06/11/2019
Reported: 06/17/2019
Project Name: CEDAR LAKE FED CA 737H
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 06/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BFC # 16 (H902025-10)

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	06/15/2019	ND	2.37	119	2.00	2.69	
Toluene*	<0.050	0.050	06/15/2019	ND	2.38	119	2.00	1.04	
Ethylbenzene*	<0.050	0.050	06/15/2019	ND	2.22	111	2.00	2.28	
Total Xylenes*	<0.150	0.150	06/15/2019	ND	6.66	111	6.00	1.85	
Total BTX	<0.300	0.300	06/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 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	64.0	16.0	06/13/2019	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	06/12/2019	ND	194	96.8	200	0.317	
DRO >C10-C28*	1120	10.0	06/12/2019	ND	185	92.6	200	8.38	QM-07
EXT DRO >C28-C36	257	10.0	06/12/2019	ND					

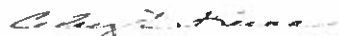
Surrogate: 1-Chlorooctane 90.7 % 41-142

Surrogate: 1-Chlorooctadecane 143 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 06/11/2019
Reported: 06/17/2019
Project Name: CEDAR LAKE FED CA 737H
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 06/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BFC # 17 (H902025-11)

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	06/15/2019	ND	2.37	119	2.00	2.69	
Toluene*	<0.050	0.050	06/15/2019	ND	2.38	119	2.00	1.04	
Ethylbenzene*	<0.050	0.050	06/15/2019	ND	2.22	111	2.00	2.28	
Total Xylenes*	<0.150	0.150	06/15/2019	ND	6.66	111	6.00	1.85	
Total BTEX	<0.300	0.300	06/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 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	752	16.0	06/13/2019	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	06/12/2019	ND	194	96.8	200	0.317	
DRO >C10-C28*	724	10.0	06/12/2019	ND	185	92.6	200	8.38	
EXT DRO >C28-C36	191	10.0	06/12/2019	ND					

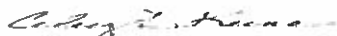
Surrogate: 1-Chlorooctane 89.1 % 41-142

Surrogate: 1-Chlorooctadecane 126 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 06/11/2019
Reported: 06/17/2019
Project Name: CEDAR LAKE FED CA 737H
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 06/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BFC # 18 (H902025-12)

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	06/15/2019	ND	2.37	119	2.00	2.69	
Toluene*	<0.050	0.050	06/15/2019	ND	2.38	119	2.00	1.04	
Ethylbenzene*	<0.050	0.050	06/15/2019	ND	2.22	111	2.00	2.28	
Total Xylenes*	<0.150	0.150	06/15/2019	ND	6.66	111	6.00	1.85	
Total BTEX	<0.300	0.300	06/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 104 % 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	736	16.0	06/13/2019	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	06/12/2019	ND	194	96.8	200	0.317	
DRO >C10-C28*	52.5	10.0	06/12/2019	ND	185	92.6	200	8.38	
EXT DRO >C28-C36	<10.0	10.0	06/12/2019	ND					

Surrogate: 1-Chlorooctane 84.6 % 41-142

Surrogate: 1-Chlorooctadecane 90.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 06/11/2019
 Reported: 06/17/2019
 Project Name: CEDAR LAKE FED CA 737H
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/11/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BFC # 19 (H902025-13)

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	06/15/2019	ND	2.37	119	2.00	2.69	
Toluene*	<0.050	0.050	06/15/2019	ND	2.38	119	2.00	1.04	
Ethylbenzene*	<0.050	0.050	06/15/2019	ND	2.22	111	2.00	2.28	
Total Xylenes*	<0.150	0.150	06/15/2019	ND	6.66	111	6.00	1.85	
Total BTEX	<0.300	0.300	06/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 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	1760	16.0	06/13/2019	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	06/12/2019	ND	194	96.8	200	0.317	
DRO >C10-C28*	152	10.0	06/12/2019	ND	185	92.6	200	8.38	
EXT DRO >C28-C36	92.0	10.0	06/12/2019	ND					

Surrogate: 1-Chlorooctane 92.3 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 06/11/2019
Reported: 06/17/2019
Project Name: CEDAR LAKE FED CA 737H
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 06/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BFC # 20 (H902025-14)

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	06/15/2019	ND	2.37	119	2.00	2.69	
Toluene*	<0.050	0.050	06/15/2019	ND	2.38	119	2.00	1.04	
Ethylbenzene*	<0.050	0.050	06/15/2019	ND	2.22	111	2.00	2.28	
Total Xylenes*	<0.150	0.150	06/15/2019	ND	6.66	111	6.00	1.85	
Total BTEX	<0.300	0.300	06/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 107 % 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	272	16.0	06/13/2019	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	06/12/2019	ND	194	96.8	200	0.317	
DRO >C10-C28*	52.0	10.0	06/12/2019	ND	185	92.6	200	8.38	
EXT DRO >C28-C36	<10.0	10.0	06/12/2019	ND					

Surrogate: 1-Chlorooctane 94.4 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 06/11/2019
 Reported: 06/17/2019
 Project Name: CEDAR LAKE FED CA 737H
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/11/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BFC # 21 (H902025-15)

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	06/15/2019	ND	2.37	119	2.00	2.69	
Toluene*	<0.050	0.050	06/15/2019	ND	2.38	119	2.00	1.04	
Ethylbenzene*	<0.050	0.050	06/15/2019	ND	2.22	111	2.00	2.28	
Total Xylenes*	<0.150	0.150	06/15/2019	ND	6.66	111	6.00	1.85	
Total BTX	<0.300	0.300	06/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 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	4960	16.0	06/13/2019	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	06/12/2019	ND	194	96.8	200	0.317	
DRO >C10-C28*	2480	10.0	06/12/2019	ND	185	92.6	200	8.38	
EXT DRO >C28-C36	869	10.0	06/12/2019	ND					

Surrogate: 1-Chlorooctane		90.8 %		41-142					
Surrogate: 1-Chlorooctadecane		188 %		37.6-147					

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 06/11/2019
 Reported: 06/17/2019
 Project Name: CEDAR LAKE FED CA 737H
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/11/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BFC # 22 (H902025-16)

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	06/15/2019	ND	2.37	119	2.00	2.69	
Toluene*	<0.050	0.050	06/15/2019	ND	2.38	119	2.00	1.04	
Ethylbenzene*	<0.050	0.050	06/15/2019	ND	2.22	111	2.00	2.28	
Total Xylenes*	<0.150	0.150	06/15/2019	ND	6.66	111	6.00	1.85	
Total BTEX	<0.300	0.300	06/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 105 % 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	3440	16.0	06/13/2019	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	06/12/2019	ND	194	96.8	200	0.317	
DRO >C10-C28*	115	10.0	06/12/2019	ND	185	92.6	200	8.38	
EXT DRO >C28-C36	50.8	10.0	06/12/2019	ND					

Surrogate: 1-Chlorooctane 97.5 % 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: 06/11/2019
Reported: 06/17/2019
Project Name: CEDAR LAKE FED CA 737H
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 06/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BFC # 23 (H902025-17)

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	06/15/2019	ND	2.37	119	2.00	2.69	
Toluene*	<0.050	0.050	06/15/2019	ND	2.38	119	2.00	1.04	
Ethylbenzene*	0.168	0.050	06/15/2019	ND	2.22	111	2.00	2.28	
Total Xylenes*	0.603	0.150	06/15/2019	ND	6.66	111	6.00	1.85	
Total BTEX	0.771	0.300	06/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 119 % 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	64.0	16.0	06/13/2019	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*	19.3	10.0	06/13/2019	ND	194	96.8	200	0.317	
DRO >C10-C28*	1400	10.0	06/13/2019	ND	185	92.6	200	8.38	
EXT DRO >C28-C36	260	10.0	06/13/2019	ND					

Surrogate: 1-Chlorooctane 109 % 41-142

Surrogate: 1-Chlorooctadecane 161 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 06/11/2019
 Reported: 06/17/2019
 Project Name: CEDAR LAKE FED CA 737H
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/11/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BFC # 24 (H902025-18)

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	06/15/2019	ND	2.37	119	2.00	2.69	
Toluene*	<0.050	0.050	06/15/2019	ND	2.38	119	2.00	1.04	
Ethylbenzene*	<0.050	0.050	06/15/2019	ND	2.22	111	2.00	2.28	
Total Xylenes*	<0.150	0.150	06/15/2019	ND	6.66	111	6.00	1.85	
Total BTEX	<0.300	0.300	06/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 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	64.0	16.0	06/13/2019	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	06/13/2019	ND	194	96.8	200	0.317	
DRO >C10-C28*	43.0	10.0	06/13/2019	ND	185	92.6	200	8.38	
EXT DRO >C28-C36	<10.0	10.0	06/13/2019	ND					

Surrogate: 1-Chlorooctane 101 % 41-142

Surrogate: 1-Chlorooctadecane 106 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 06/11/2019
 Reported: 06/17/2019
 Project Name: CEDAR LAKE FED CA 737H
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/11/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BFC # 25 (H902025-19)

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	06/15/2019	ND	2.37	119	2.00	2.69	
Toluene*	<0.050	0.050	06/15/2019	ND	2.38	119	2.00	1.04	
Ethylbenzene*	<0.050	0.050	06/15/2019	ND	2.22	111	2.00	2.28	
Total Xylenes*	<0.150	0.150	06/15/2019	ND	6.66	111	6.00	1.85	
Total BTEX	<0.300	0.300	06/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 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	32.0	16.0	06/13/2019	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	06/13/2019	ND	194	96.8	200	0.317	
DRO >C10-C28*	513	10.0	06/13/2019	ND	185	92.6	200	8.38	
EXT DRO >C28-C36	103	10.0	06/13/2019	ND					

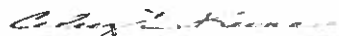
Surrogate: 1-Chlorooctane 104 % 41-142

Surrogate: 1-Chlorooctadecane 126 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	06/11/2019	Sampling Date:	06/11/2019
Reported:	06/17/2019	Sampling Type:	Soil
Project Name:	CEDAR LAKE FED CA 737H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BFC # 26 (H902025-20)

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	06/15/2019	ND	2.37	119	2.00	2.69	
Toluene*	<0.050	0.050	06/15/2019	ND	2.38	119	2.00	1.04	
Ethylbenzene*	<0.050	0.050	06/15/2019	ND	2.22	111	2.00	2.28	
Total Xylenes*	<0.150	0.150	06/15/2019	ND	6.66	111	6.00	1.85	
Total BTEX	<0.300	0.300	06/15/2019	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	96.0	16.0	06/13/2019	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*	51.0	50.0	06/13/2019	ND	194	96.8	200	0.317		
DRO >C10-C28*	16400	50.0	06/13/2019	ND	185	92.6	200	8.38		
EXT DRO >C28-C36	4520	50.0	06/13/2019	ND						

Surrogate: 1-Chlorooctane 524 % 41-142

Surrogate: 1-Chlorooctadecane 1170 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

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

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Celey D. Keene, Lab Director/Quality Manager

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

Company Name: Brown & Associates						BILL TO								ANALYSIS REQUEST																											
Project Manager: Sgt Brown						P.O. #:																																			
Address:						Company:																																			
City: Hobbs						Attn:																																			
State: NM						Zip: 88240																																			
Phone #:						Address:																																			
Fax #:						City:																																			
Project #:						State:						Zip:																													
Project Location: Federal Lake Sediment #737H						Phone #:																																			
Sample Name:						Fax #:																																			
FOR LAB USE ONLY						MATRIX						PRESERV						SAMPLING																							
						(G)RAB OR (C)OMP.																																			
						# CONTAINERS																																			
						GROUNDWATER																																			
						WASTEWATER																																			
						SOIL																																			
						OIL																																			
						SLUDGE																																			
						OTHER :																																			
						ACID/BASE:																																			
						ICE / COOL																																			
						OTHER :																																			
						DATE						TIME																													
Lab I.D. H902025						Sample I.D.																																			
1 BFL1016"						C 1						1						6/14 9:50AM						CL						S&TTPH						BTEY					
2 BFC #8						C 1						1						2:22PM						1																	
3 BFE #9						C 1						1						2:24PM						1																	
4 BFL #10						C 1						1						2:26PM						1																	
5 BFL #11						C 1						1						2:28PM						1																	
6 BFL #12						C 1						1						2:30PM						1																	
7 BFL #13						C 1						1						2:32PM						1																	
8 BFL #14						C 1						1						2:34PM						1																	
9 BFL #15						C 1						1						2:36PM						1																	
10 BFL #16						C 1						1						2:38PM						1																	
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Relinquished By: [Signature]						Date: 6-11-19						Received By: [Signature]						Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						Add'l Phone #: _____																	
Relinquished By:						Time: 10:10						Received By:						Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						Add'l Fax #: _____																	
Delivered By: (Circle One)						Sample Condition						CHECKED BY: (Initials)																													
Sampler - UPS - Bus - Other:						Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>						Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																													
2:10 AM						70																																			



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <u>Hobbs</u>				BILL TO				ANALYSIS REQUEST					
Project Manager: <u>De Ann Rioser</u>				P.O. #:									
Address:				Company:									
City: <u>Hobbs</u>				Attn:									
State: <u>NM</u>				Address:									
Phone #:				City:									
Fax #:				State:									
Project #:				Zip:									
Project Name:				Phone #:									
Project Location: <u>Cedar Lake Vol CA #2344</u>				Fax #:									
Sample Name: <u>See Labels</u>													
FOR LAB USE ONLY													
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX		PRESERV.		SAMPLING	
				GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE	
				OTHER		ACID/BASE		ICE / COOL		OTHER			
				DATE		TIME							
<u>A902025</u>		<u>BFC #17</u>		<u>1</u>		<u>1</u>		<u>10/11</u>		<u>2:46</u>		<u>1</u>	
<u>12 BFC #18</u>		<u>1</u>		<u>1</u>		<u>1</u>		<u>2:42</u>		<u>1</u>		<u>1</u>	
<u>13 BFC #19</u>		<u>1</u>		<u>1</u>		<u>1</u>		<u>2:44</u>		<u>1</u>		<u>1</u>	
<u>14 BFC #20</u>		<u>1</u>		<u>1</u>		<u>1</u>		<u>2:46</u>		<u>1</u>		<u>1</u>	
<u>15 BFC #21</u>		<u>1</u>		<u>1</u>		<u>1</u>		<u>2:48</u>		<u>1</u>		<u>1</u>	
<u>16 BFC #22</u>		<u>1</u>		<u>1</u>		<u>1</u>		<u>2:50</u>		<u>1</u>		<u>1</u>	
<u>17 BFC #23</u>		<u>1</u>		<u>1</u>		<u>1</u>		<u>2:52</u>		<u>1</u>		<u>1</u>	
<u>18 BFC #24</u>		<u>1</u>		<u>1</u>		<u>1</u>		<u>2:54</u>		<u>1</u>		<u>1</u>	
<u>19 BFC #25</u>		<u>1</u>		<u>1</u>		<u>1</u>		<u>2:56</u>		<u>1</u>		<u>1</u>	
<u>20 BFC #26</u>		<u>1</u>		<u>1</u>		<u>1</u>		<u>2:58</u>		<u>1</u>		<u>1</u>	

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Relinquished By: <u>[Signature]</u>		Date: <u>10-11-19</u>		Received By: <u>[Signature]</u>		Date: <u>10-11-19</u>	
Relinquished By:		Date:		Received By:		Date:	
Time:		Time:		Time:		Time:	

Delivered By: (Circle One)		Sample Condition		CHECKED BY:	
Sampler - UPS - Bus - Other:		Cool <input type="checkbox"/> Intact <input checked="" type="checkbox"/>		(Initials)	
<u>2:10 #497</u>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		<u>TD</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:			



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

June 20, 2019

JEFFREY BROOM

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: CEDAR LAKE FED CA 737H

Enclosed are the results of analyses for samples received by the laboratory on 06/13/19 10:10.

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.

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

Analytical Results For:

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

 Received: 06/13/2019
 Reported: 06/20/2019
 Project Name: CEDAR LAKE FED CA 737H
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/13/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: WC # 12 (H902055-01)

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	06/15/2019	ND	2.21	111	2.00	1.65	
Toluene*	<0.050	0.050	06/15/2019	ND	2.24	112	2.00	0.599	
Ethylbenzene*	<0.050	0.050	06/15/2019	ND	2.08	104	2.00	1.59	
Total Xylenes*	<0.150	0.150	06/15/2019	ND	6.26	104	6.00	1.43	
Total BTEX	<0.300	0.300	06/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 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	800	16.0	06/17/2019	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	06/14/2019	ND	185	92.3	200	3.85	
DRO >C10-C28*	<10.0	10.0	06/14/2019	ND	183	91.4	200	6.10	
EXT DRO >C28-C36	<10.0	10.0	06/14/2019	ND					

Surrogate: 1-Chlorooctane 82.2 % 41-142

Surrogate: 1-Chlorooctadecane 81.9 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 06/13/2019
Reported: 06/20/2019
Project Name: CEDAR LAKE FED CA 737H
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 06/13/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: WC # 13 (H902055-02)

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	06/15/2019	ND	2.21	111	2.00	1.65	
Toluene*	<0.050	0.050	06/15/2019	ND	2.24	112	2.00	0.599	
Ethylbenzene*	<0.050	0.050	06/15/2019	ND	2.08	104	2.00	1.59	
Total Xylenes*	<0.150	0.150	06/15/2019	ND	6.26	104	6.00	1.43	
Total BTEX	<0.300	0.300	06/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 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	2200	16.0	06/17/2019	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	06/14/2019	ND	185	92.3	200	3.85	
DRO >C10-C28*	<10.0	10.0	06/14/2019	ND	183	91.4	200	6.10	
EXT DRO >C28-C36	<10.0	10.0	06/14/2019	ND					

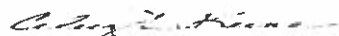
Surrogate: 1-Chlorooctane 87.6 % 41-142

Surrogate: 1-Chlorooctadecane 90.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 06/13/2019
 Reported: 06/20/2019
 Project Name: CEDAR LAKE FED CA 737H
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/13/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: WC # 14 (H902055-03)

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	06/15/2019	ND	2.21	111	2.00	1.65		
Toluene*	<0.050	0.050	06/15/2019	ND	2.24	112	2.00	0.599		
Ethylbenzene*	<0.050	0.050	06/15/2019	ND	2.08	104	2.00	1.59		
Total Xylenes*	<0.150	0.150	06/15/2019	ND	6.26	104	6.00	1.43		
Total BTEX	<0.300	0.300	06/15/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 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	976	16.0	06/17/2019	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	06/14/2019	ND	185	92.3	200	3.85	
DRO >C10-C28*	63.7	10.0	06/14/2019	ND	183	91.4	200	6.10	
EXT DRO >C28-C36	15.1	10.0	06/14/2019	ND					

Surrogate: 1-Chlorooctane 95.4 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 06/13/2019
 Reported: 06/20/2019
 Project Name: CEDAR LAKE FED CA 737H
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/13/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: WC # 15 (H902055-04)

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	06/19/2019	ND	2.21	111	2.00	1.65	
Toluene*	<0.050	0.050	06/19/2019	ND	2.24	112	2.00	0.599	
Ethylbenzene*	<0.050	0.050	06/19/2019	ND	2.08	104	2.00	1.59	
Total Xylenes*	<0.150	0.150	06/19/2019	ND	6.26	104	6.00	1.43	
Total BTEX	<0.300	0.300	06/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 106 % 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	176	16.0	06/17/2019	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	06/14/2019	ND	185	92.3	200	3.85	
DRO >C10-C28*	114	10.0	06/14/2019	ND	183	91.4	200	6.10	
EXT DRO >C28-C36	45.5	10.0	06/14/2019	ND					

Surrogate: 1-Chlorooctane 89.3 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 37.6-147

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 06/13/2019
 Reported: 06/20/2019
 Project Name: CEDAR LAKE FED CA 737H
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/13/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: WC # 16 (H902055-05)

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	06/19/2019	ND	2.21	111	2.00	1.65	
Toluene*	<0.050	0.050	06/19/2019	ND	2.24	112	2.00	0.599	
Ethylbenzene*	<0.050	0.050	06/19/2019	ND	2.08	104	2.00	1.59	
Total Xylenes*	<0.150	0.150	06/19/2019	ND	6.26	104	6.00	1.43	
Total BTEX	<0.300	0.300	06/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 106 % 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	06/17/2019	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	06/14/2019	ND	185	92.3	200	3.85	
DRO >C10-C28*	<10.0	10.0	06/14/2019	ND	183	91.4	200	6.10	
EXT DRO >C28-C36	<10.0	10.0	06/14/2019	ND					

Surrogate: 1-Chlorooctane 85.0 % 41-142

Surrogate: 1-Chlorooctadecane 86.2 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 06/13/2019
Reported: 06/20/2019
Project Name: CEDAR LAKE FED CA 737H
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 06/13/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: WC # 17 (H902055-06)

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	06/19/2019	ND	2.21	111	2.00	1.65	
Toluene*	<0.050	0.050	06/19/2019	ND	2.24	112	2.00	0.599	
Ethylbenzene*	<0.050	0.050	06/19/2019	ND	2.08	104	2.00	1.59	
Total Xylenes*	<0.150	0.150	06/19/2019	ND	6.26	104	6.00	1.43	
Total BTX	<0.300	0.300	06/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 105 % 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	1180	16.0	06/17/2019	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	06/14/2019	ND	185	92.3	200	3.85	
DRO >C10-C28*	<10.0	10.0	06/14/2019	ND	183	91.4	200	6.10	
EXT DRO >C28-C36	<10.0	10.0	06/14/2019	ND					

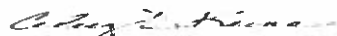
Surrogate: 1-Chlorooctane 84.7 % 41-142

Surrogate: 1-Chlorooctadecane 85.2 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 06/13/2019
 Reported: 06/20/2019
 Project Name: CEDAR LAKE FED CA 737H
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/13/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: WC # 18 (H902055-07)

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	06/19/2019	ND	2.21	111	2.00	1.65	
Toluene*	<0.050	0.050	06/19/2019	ND	2.24	112	2.00	0.599	
Ethylbenzene*	<0.050	0.050	06/19/2019	ND	2.08	104	2.00	1.59	
Total Xylenes*	<0.150	0.150	06/19/2019	ND	6.26	104	6.00	1.43	
Total BTEX	<0.300	0.300	06/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 104 % 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	7120	16.0	06/17/2019	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	06/14/2019	ND	185	92.3	200	3.85	
DRO >C10-C28*	84.6	10.0	06/14/2019	ND	183	91.4	200	6.10	
EXT DRO >C28-C36	41.8	10.0	06/14/2019	ND					

Surrogate: 1-Chlorooctane 87.2 % 41-142

Surrogate: 1-Chlorooctadecane 92.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 06/13/2019
Reported: 06/20/2019
Project Name: CEDAR LAKE FED CA 737H
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 06/13/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: WC # 19 (H902055-08)

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	06/19/2019	ND	2.21	111	2.00	1.65	
Toluene*	<0.050	0.050	06/19/2019	ND	2.24	112	2.00	0.599	
Ethylbenzene*	<0.050	0.050	06/19/2019	ND	2.08	104	2.00	1.59	
Total Xylenes*	<0.150	0.150	06/19/2019	ND	6.26	104	6.00	1.43	
Total BTEX	<0.300	0.300	06/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 107 % 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	06/17/2019	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	06/14/2019	ND	185	92.3	200	3.85	
DRO >C10-C28*	<10.0	10.0	06/14/2019	ND	183	91.4	200	6.10	
EXT DRO >C28-C36	<10.0	10.0	06/14/2019	ND					


Surrogate: 1-Chlorooctane 90.9 % 41-142

Surrogate: 1-Chlorooctadecane 91.8 % 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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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

Company Name: Apac Inc		BILL TO		ANALYSIS REQUEST	
Project Manager: Bruce Baker / Jeffery Brown		P.O. #:			
Address:		Company:			
City: Albany		Attn:			
State: NY Zip: 88840		Address:			
Phone #:		City:			
Project #:		State:		Zip:	
Project Location: Cedar Lake Rd CA 7574		Phone #:			
Sampler Name: Jae Curcio		Fax #:			

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX						PRESERV		SAMPLING	DATE	TIME	Ext TPH	BTEX
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL					
H902055	WC # 12	C	1	<input checked="" type="checkbox"/>									6/13	8:48	<input checked="" type="checkbox"/>	
	WC # 13	C	1	<input checked="" type="checkbox"/>										8:50	<input checked="" type="checkbox"/>	
	WC # 14	C	1	<input checked="" type="checkbox"/>										8:52	<input checked="" type="checkbox"/>	
	WC # 15	C	1	<input checked="" type="checkbox"/>										8:54	<input checked="" type="checkbox"/>	
	WC # 16	C	1	<input checked="" type="checkbox"/>										8:56	<input checked="" type="checkbox"/>	
	WC # 17	C	1	<input checked="" type="checkbox"/>										8:58	<input checked="" type="checkbox"/>	
	WC # 18	C	1	<input checked="" type="checkbox"/>										9:00	<input checked="" type="checkbox"/>	
	WC # 19	C	1	<input checked="" type="checkbox"/>										9:02	<input checked="" type="checkbox"/>	

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Relinquished By: Jae Curcio	Date: 6-13-19	Received By: Mauro Delaboy
Relinquished By:	Date:	Received By:
Time: 10:10		
Time:		

Delivered By: (Circle One)	Sample Condition	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:	<input type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	TD

REMARKS: **5.02 #99**

Email Results



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

June 25, 2019

JEFFREY BROOM

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: CEDAR LAKE FED CA 737H

Enclosed are the results of analyses for samples received by the laboratory on 06/19/19 16:40.

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

Analytical Results For:

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

Received: 06/19/2019
Reported: 06/25/2019
Project Name: CEDAR LAKE FED CA 737H
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 06/19/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BFC # 16 (H902123-01)

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	06/20/2019	ND	1.78	89.2	2.00	2.66	
Toluene*	<0.050	0.050	06/20/2019	ND	1.76	87.9	2.00	2.19	
Ethylbenzene*	<0.050	0.050	06/20/2019	ND	1.70	85.1	2.00	2.34	
Total Xylenes*	<0.150	0.150	06/20/2019	ND	5.20	86.6	6.00	1.41	
Total BTEX	<0.300	0.300	06/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 106 % 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	06/21/2019	ND	206	103	200	1.41	
DRO >C10-C28*	<10.0	10.0	06/21/2019	ND	176	88.2	200	6.16	
EXT DRO >C28-C36	<10.0	10.0	06/21/2019	ND					


Surrogate: 1-Chlorooctane 94.3 % 41-142

Surrogate: 1-Chlorooctadecane 95.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 06/19/2019
 Reported: 06/25/2019
 Project Name: CEDAR LAKE FED CA 737H
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/19/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BFC # 26 (H902123-02)

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	06/20/2019	ND	1.78	89.2	2.00	2.66	
Toluene*	<0.050	0.050	06/20/2019	ND	1.76	87.9	2.00	2.19	
Ethylbenzene*	<0.050	0.050	06/20/2019	ND	1.70	85.1	2.00	2.34	
Total Xylenes*	<0.150	0.150	06/20/2019	ND	5.20	86.6	6.00	1.41	
Total BTEX	<0.300	0.300	06/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 106 % 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	06/21/2019	ND	206	103	200	1.41	
DRO >C10-C28*	<10.0	10.0	06/21/2019	ND	176	88.2	200	6.16	
EXT DRO >C28-C36	<10.0	10.0	06/21/2019	ND					

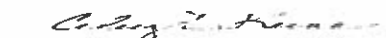
Surrogate: 1-Chlorooctane 95.9 % 41-142

Surrogate: 1-Chlorooctadecane 97.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 06/19/2019
 Reported: 06/25/2019
 Project Name: CEDAR LAKE FED CA 737H
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/19/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BFC # 23 (H902123-03)

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	06/20/2019	ND	1.78	89.2	2.00	2.66	
Toluene*	<0.050	0.050	06/20/2019	ND	1.76	87.9	2.00	2.19	
Ethylbenzene*	<0.050	0.050	06/20/2019	ND	1.70	85.1	2.00	2.34	
Total Xylenes*	<0.150	0.150	06/20/2019	ND	5.20	86.6	6.00	1.41	
Total BTEX	<0.300	0.300	06/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 108 % 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	06/21/2019	ND	206	103	200	1.41	
DRO >C10-C28*	<10.0	10.0	06/21/2019	ND	176	88.2	200	6.16	
EXT DRO >C28-C36	<10.0	10.0	06/21/2019	ND					

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 06/19/2019
 Reported: 06/25/2019
 Project Name: CEDAR LAKE FED CA 737H
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/19/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BFC # 21 (H902123-04)

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	06/20/2019	ND	1.78	89.2	2.00	2.66	
Toluene*	<0.050	0.050	06/20/2019	ND	1.76	87.9	2.00	2.19	
Ethylbenzene*	<0.050	0.050	06/20/2019	ND	1.70	85.1	2.00	2.34	
Total Xylenes*	<0.150	0.150	06/20/2019	ND	5.20	86.6	6.00	1.41	
Total BTEX	<0.300	0.300	06/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 104 % 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	06/21/2019	ND	206	103	200	1.41	
DRO >C10-C28*	<10.0	10.0	06/21/2019	ND	176	88.2	200	6.16	
EXT DRO >C28-C36	<10.0	10.0	06/21/2019	ND					

Surrogate: 1-Chlorooctane 103 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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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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

Company Name: <u>Hobbs</u> Project Manager: <u>Self Brown</u>		P.O. #: Company:	
Address: City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u>		Attn: Address:	
Phone #: Fax #:		City: State: Zip:	
Project #:		Phone #:	
Project Name:		Fax #:	
Project Location: <u>Leader Lake Field #2574</u>			
Sampler Name: <u>Self Brown</u>		FOR LAB USE ONLY	

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	EXT	TPH	BT	EX	PH	
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:								ICE / COOL
HQD2123	BEC #16	C	1							6/1/9	1:30 pm							
1	BEC #20	C	1							6/1/9	2:50 pm							
2	BEC #23	C	1							6/1/9	1:34 pm							
3	BEL #24 Q1	C	1							6/1/9	8:37 pm							
4																		

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable analyses. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or associates arising out of or related to the performance of services furnished by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: <u>Self Brown</u> Date: <u>6-19-19</u> Time: <u>16:40</u>	Received By: <u>Summa</u> Date: <u>6-19-19</u> Time: <u>16:40</u>
---	--

Delivered By: (Circle One) Sampler - UPS - Bus - Other: <u>2.86 #97</u>	Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	CHECKED BY: (Initials) <u>7.0</u>
---	--	---

REMARKS: <u>Final Results</u>

Analytical Results For:

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

Received: 07/16/2019
Reported: 07/18/2019
Project Name: CEDAR LAKE FED CA 737H
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 07/16/2019
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: B 27 (H902440-01)

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	07/17/2019	ND	2.07	104	2.00	0.586	
Toluene*	<0.050	0.050	07/17/2019	ND	2.08	104	2.00	0.242	
Ethylbenzene*	<0.050	0.050	07/17/2019	ND	1.96	98.2	2.00	0.230	
Total Xylenes*	<0.150	0.150	07/17/2019	ND	5.95	99.1	6.00	0.0747	
Total BTEX	<0.300	0.300	07/17/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.8 % 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	10000	16.0	07/17/2019	ND	416	104	400	7.41	

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	07/16/2019	ND	190	95.1	200	0.351	
DRO >C10-C28*	1190	10.0	07/16/2019	ND	189	94.6	200	4.27	
EXT DRO >C28-C36	248	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 76.2 % 41-142

Surrogate: 1-Chlorooctadecane 113 % 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: 07/16/2019
 Reported: 07/18/2019
 Project Name: CEDAR LAKE FED CA 737H
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 07/16/2019
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Tamara Oldaker

Sample ID: B 28 (H902440-02)

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	07/17/2019	ND	2.07	104	2.00	0.586	
Toluene*	<0.050	0.050	07/17/2019	ND	2.08	104	2.00	0.242	
Ethylbenzene*	<0.050	0.050	07/17/2019	ND	1.96	98.2	2.00	0.230	
Total Xylenes*	<0.150	0.150	07/17/2019	ND	5.95	99.1	6.00	0.0747	
Total BTEX	<0.300	0.300	07/17/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 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	22000	16.0	07/17/2019	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	07/16/2019	ND	190	95.1	200	0.351	
DRO >C10-C28*	3190	50.0	07/16/2019	ND	189	94.6	200	4.27	
EXT DRO >C28-C36	966	50.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 97.8 % 41-142

Surrogate: 1-Chlorooctadecane 208 % 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: 07/16/2019
 Reported: 07/18/2019
 Project Name: CEDAR LAKE FED CA 737H
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 07/16/2019
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Tamara Oldaker

Sample ID: B 29 (H902440-03)

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	07/17/2019	ND	2.07	104	2.00	0.586	
Toluene*	<0.050	0.050	07/17/2019	ND	2.08	104	2.00	0.242	
Ethylbenzene*	<0.050	0.050	07/17/2019	ND	1.96	98.2	2.00	0.230	
Total Xylenes*	<0.150	0.150	07/17/2019	ND	5.95	99.1	6.00	0.0747	
Total BTEX	<0.300	0.300	07/17/2019	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	15400	16.0	07/17/2019	ND	416	104	400	7.41		

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	07/17/2019	ND	190	94.8	200	1.40	
DRO >C10-C28*	775	10.0	07/17/2019	ND	191	95.4	200	2.82	
EXT DRO >C28-C36	406	10.0	07/17/2019	ND					

Surrogate: 1-Chlorooctane 78.0 % 41-142

Surrogate: 1-Chlorooctadecane 108 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

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.
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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Celey D. Keene, Lab Director/Quality Manager

CARDINAL
Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: APACHE CANADIAN		P.O. #:		BILL TO		ANALYSIS REQUEST			
Project Manager: BRUCE BAKER		Company:							
Address:		City:		State:		Zip:			
City:		State:		Attn:					
Phone #:		Fax #:		Address:					
Project #:		Project Owner:		City:					
Project Name: CEDAR LAKE 737H		State:		Zip:					
Project Location: CEDAR LAKE 737H		Phone #:							
Sampler Name: Jeff Brown		Fax #:							
FOR LAB USE ONLY									
Lab I.D. Sample I.D.		(G)RAB OR (C)OMP.		MATRIX		PRESERV.		SAMPLING	
		# CONTAINERS							
<div style="display: flex; justify-content: space-between;"> <div> HQ02440 1 Q 27 2 B 28 3 B 25 </div> <div> 7-16-15 0838 7-16-15 0833 7-16-15 0834 </div> </div>		GROUNDWATER		DATE		TIME			
		WASTEWATER							
		SOIL							
		OIL							
		SLUDGE							
		OTHER :							
		ACID/BASE :							
		ICE / COOL							
		OTHER :							

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Relinquished By: **Jeff Brown** Date: **7-16-15** Received By: **Bruce Baker** Time: **14:25**

Relinquished By: _____ Date: _____ Received By: _____ Time: _____

Delivered By: (Circle One) **8.6c** **H97** Sample Condition: ☒ Cool ☐ Intact ☐ Yes ☐ No ☐ Yes ☐ No ☐ No ☐ No

Sampler - UPS - Bus - Other: **Consolidated 9.0c** CHECKED BY: **70.** (Initials)

REMARKS: **EMAIL RESULTS TO BRUCE AND Jeff. Thanks, Jeff**



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

July 23, 2019

JEFFREY BROOM

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: CEDAR LAKE FED CA 737H

Enclosed are the results of analyses for samples received by the laboratory on 07/22/19 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,

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

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

Received: 07/22/2019
Reported: 07/23/2019
Project Name: CEDAR LAKE FED CA 737H
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 07/22/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: B #28 @ 3" (H902516-01)

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	07/23/2019	ND	2.10	105	2.00	1.96	
Toluene*	<0.050	0.050	07/23/2019	ND	2.18	109	2.00	3.34	
Ethylbenzene*	<0.050	0.050	07/23/2019	ND	2.04	102	2.00	2.70	
Total Xylenes*	<0.150	0.150	07/23/2019	ND	6.20	103	6.00	3.03	
Total BTEX	<0.300	0.300	07/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 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	3000	16.0	07/23/2019	ND	432	108	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	07/23/2019	ND	190	95.2	200	1.01	
DRO >C10-C28*	<10.0	10.0	07/23/2019	ND	182	91.2	200	2.94	
EXT DRO >C28-C36	<10.0	10.0	07/23/2019	ND					

Surrogate: 1-Chlorooctane 88.6 % 41-142

Surrogate: 1-Chlorooctadecane 91.0 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 07/22/2019
 Reported: 07/23/2019
 Project Name: CEDAR LAKE FED CA 737H
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 07/22/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: B #27 @ 3" (H902516-02)

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	07/23/2019	ND	2.10	105	2.00	1.96		
Toluene*	<0.050	0.050	07/23/2019	ND	2.18	109	2.00	3.34		
Ethylbenzene*	<0.050	0.050	07/23/2019	ND	2.04	102	2.00	2.70		
Total Xylenes*	<0.150	0.150	07/23/2019	ND	6.20	103	6.00	3.03		
Total BTEX	<0.300	0.300	07/23/2019	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	2880	16.0	07/23/2019	ND	416	104	400	3.77	QM-07	

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	07/23/2019	ND	190	95.2	200	1.01	
DRO >C10-C28*	<10.0	10.0	07/23/2019	ND	182	91.2	200	2.94	
EXT DRO >C28-C36	<10.0	10.0	07/23/2019	ND					

Surrogate: 1-Chlorooctane 96.3 % 41-142

Surrogate: 1-Chlorooctadecane 98.0 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

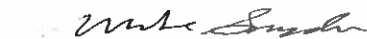
Notes and Definitions

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 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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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

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

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CEDAR LAKE PHOTO PAGE



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CEDAR LAKE PHOTO PAGE

