



September 17, 2020

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

RE: 2RP-862 NFE # 8

Mr. Billings,

In compliance with 19.15.29.15(B) NMAC and the agreement submitted by Apache Corporation on November 8, 2018, Apache Corporation is submitting information related to closure for the release occurring June 30, 2011. Apache is respectfully submitting the closure report based on remediation and studies occurring in 2020 that demonstrate the site meeting the requirements of the agency. Unless further information is requested by NMOCD, Apache Corporation considers this release closed.

If there are any questions, please feel free to contact me by telephone at 432-631-6982 or by e-mail at larry.baker@apachecorp.com

Sincerely,

A handwritten signature in black ink that reads "Larry Baker".

Larry Baker
Environmental Technician SR.
Apache Corporation

Attachment: Closure Report Dated September 17, 2020



303 Veterans Airpark Lane Midland, TX 79705

Closure Report

September 17, 2020

Re: NFE #8

Case: 2RP-862

On 6/30/2011 a release occurred due to a hydraulic BOP lost pressure on rams and some water leaked around the well head. The release (GPS: 32.850517, -103.899857) is located east of Loco Hills, New Mexico in unit letter E section 8 township 17S range 31E. There is no known ground water located in township 17S range 31E.

On 8/14/2019 4 vertical points were sampled to a depth of 2 feet. All samples were submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. Laboratory results indicated that the surface for SP 3 was above the table one standards for releases greater than 100 feet to ground water. On 1/29/2020 the surface at SP 3 was scraped to 3 inches. The area was grid off into 200 square feet sections and 5 point surface composite samples were collected and submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. The laboratory results were below table one standards for release greater than 100 feet to ground water. The excavated soil was hauled to an OCD approved facility.

Apache Corporation has demonstrated that the levels are below table one standards for releases greater than 100 feet to ground water and respectfully request closure of event # 2RP-862.

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

Submitted by;

Bruce Baker

Environmental Technician

larry.baker@apachecorp.com

Cell# 432-631-6982

Off# 432-818-1000

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

NMLB/122956012

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Apache Corporation	Contact Natalie Gladden
Address PO Box 1849 Eunice, NM 88231	Telephone No. 575-390-4186
Facility Name NFE #8	Facility Type Producer

Surface Owner Unknown	Mineral Owner State	API No. 30-015-37356
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	8	17S	31E	2310	FNL	330'	FWL	Eddy

Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 7	Volume Recovered 0
Source of Release Flowback	Date and Hour of Occurrence 06/30/11 7am	Date and Hour of Discovery 06/30/11 7am
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

RECEIVED

AUG 11 2011

NMOCD ARTESIA

Describe Cause of Problem and Remedial Action Taken.*

While running in the hole with 2 7/8 tubing and packer to locate a possible casing leak, the well was flowing back. Wellhead containment was in place wind got up and fluid was blowing the produced water across location. During the night the hydraulic BOP lost some pressure on rams and some water leaked around the wellhead. BOP leak was fixed.

Describe Area Affected and Cleanup Action Taken.*

The well is continued to be pulled, therefore remediation has not taken place yet. Once the pulling unit moves off, the location will be remediated to meet NMOCD Standards for remediations.

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

Signature: <i>Natalie Gladden</i>	OIL CONSERVATION DIVISION	
Printed Name: Natalie Gladden	Signed By <i>M. L. Brannon</i> Approved by Environmental Specialist:	
Title: EHS Environmental Tech	Approval Date: AUG 17 2011	Expiration Date:
E-mail Address: natalie.gladden@apachecorp.com	Conditions of Approval: Remediation per OCD Rules & Guidelines. SUBMIT REMEDIATION PROPOSAL NOT LATER THAN:	Attached <input type="checkbox"/>
Date: 07/1/11 Phone: 575-390-4186		

* Attach Additional Sheets If Necessary

9/17/2011

2RP-862

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.

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: Larry Baker Title: Environmental Tech SR.
Signature: Larry Baker Date: 9/17/2020
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: Larry Baker

Title: Environmental Tech SR.

Signature: Larry Baker

Date: 9/17/2020

email: larry.baker@apachecorp.com

Telephone: 432-631-6982

OCD Only

Received by: _____

Date: _____

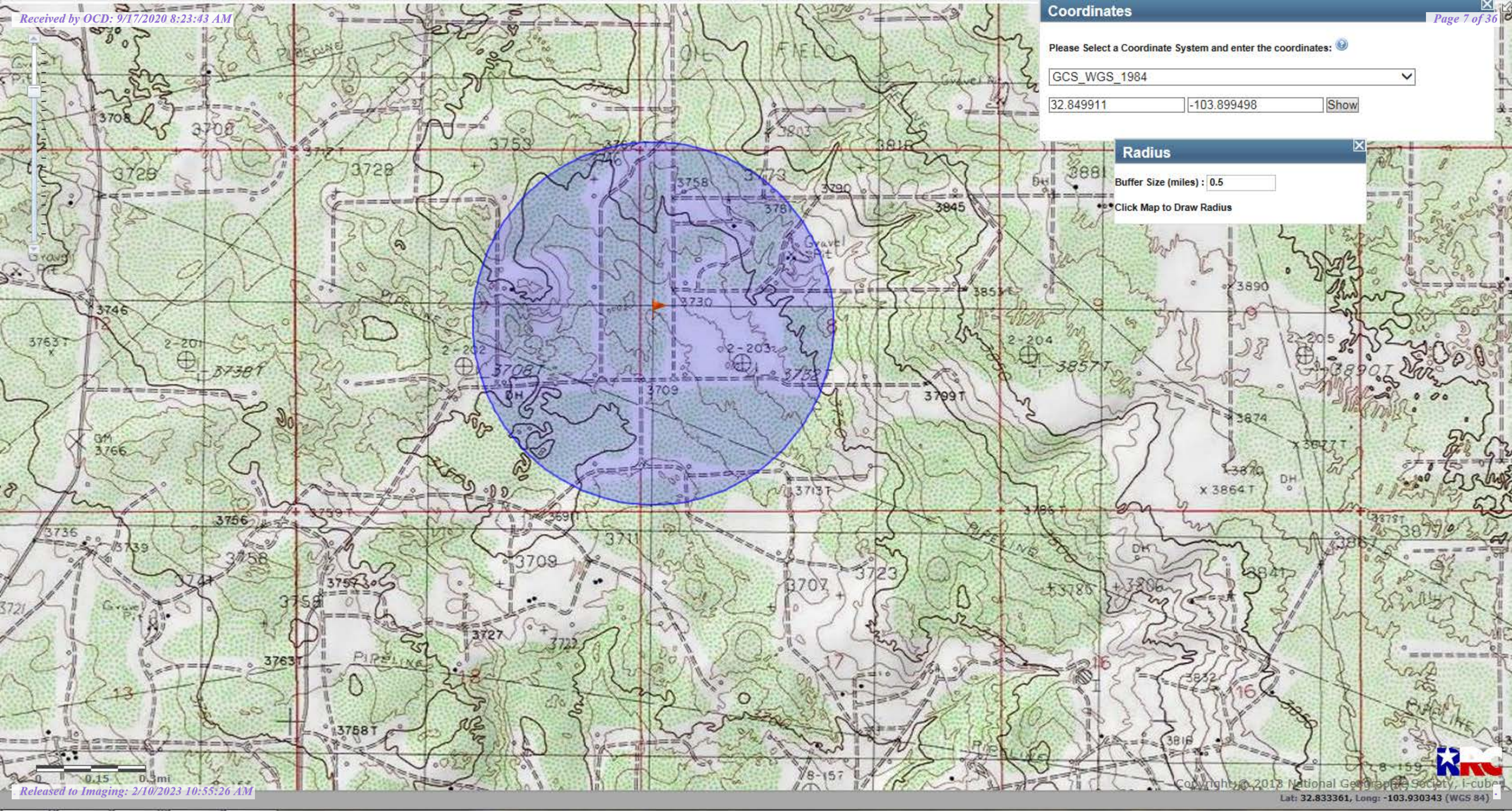
Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance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

Closure Approved by: Brittany Hall

Date: 2/10/2023

Printed Name: Brittany Hall

Title: Environmental Specialist



Coordinates

Please Select a Coordinate System and enter the coordinates: ?

GCS_WGS_1984

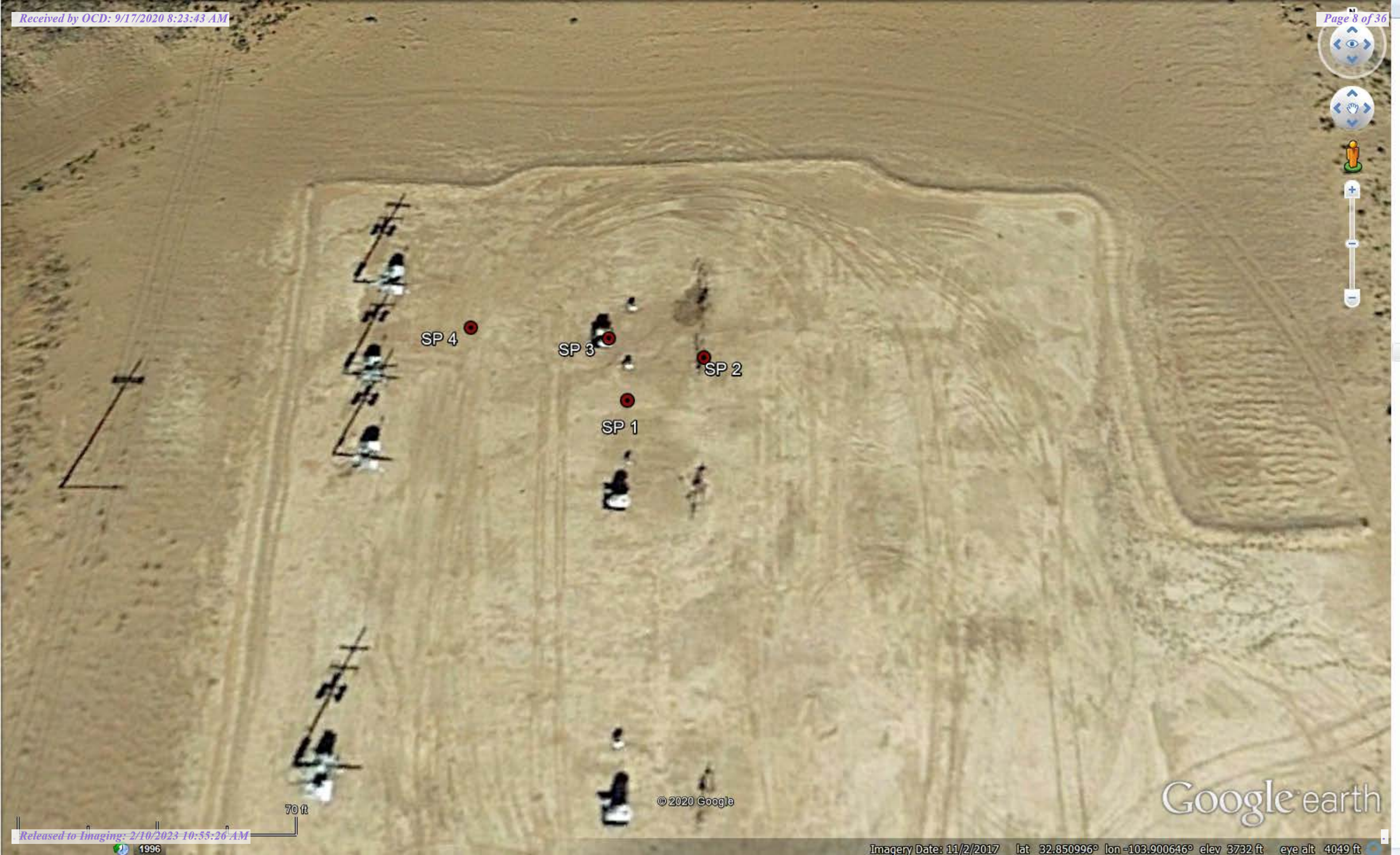
32.849911-103.899498Show

Radius

Buffer Size (miles) : 0.5

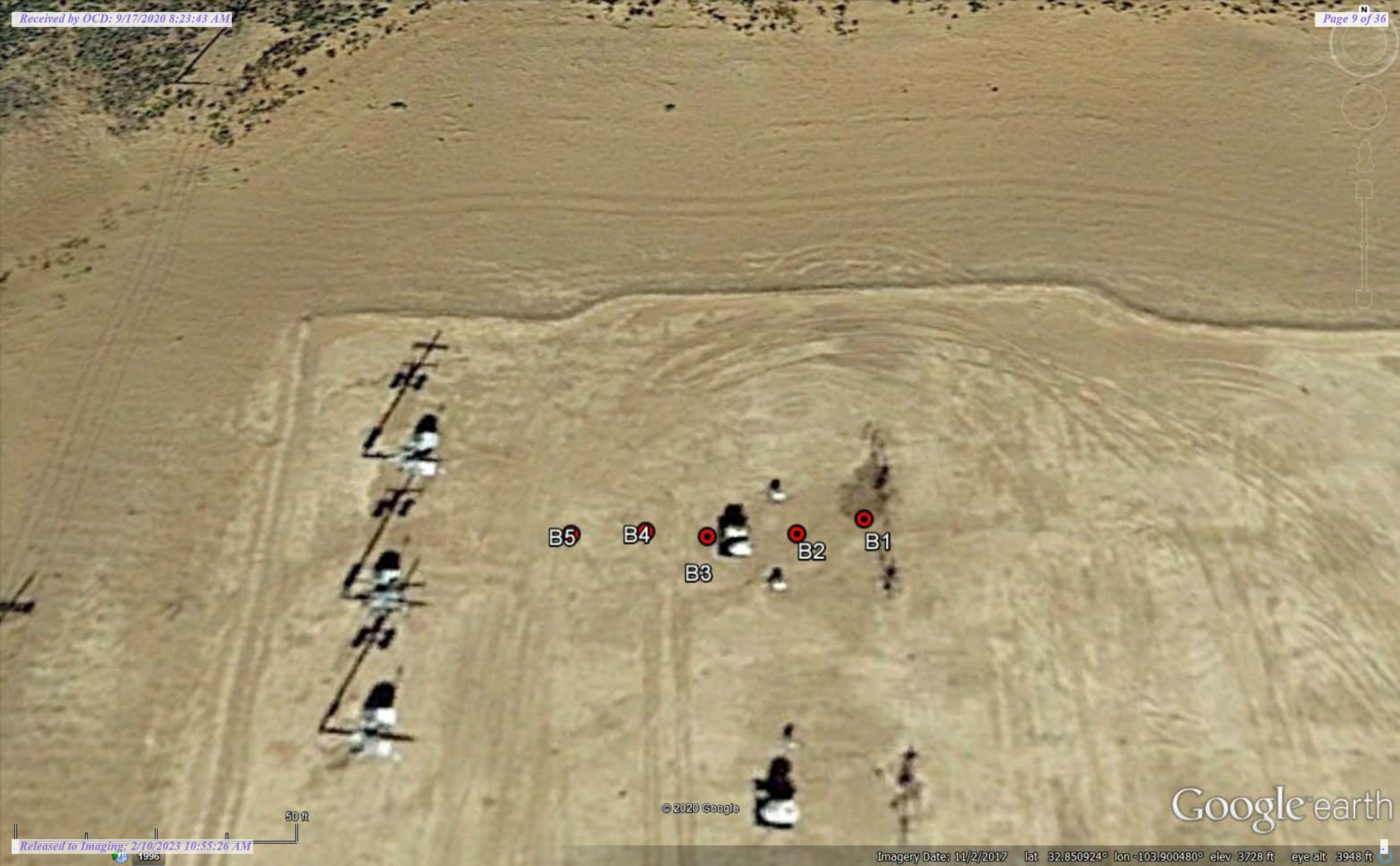
Click Map to Draw Radius





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Google earth



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Google earth

Sample Date	Sample ID	Depth	Chloride	Benzene	Toulene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates
Delineation Samples												
8/14/2019	SP1	S	5120	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.850517, - 103.899857
8/14/2019		1'	2360	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
8/14/2019		2'	1200	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
8/14/2019	SP2	S	4960	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	395	268	32.850552, - 103.899780
8/14/2019		1'	2840	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	81.9	186	
8/14/2019		2'	1760	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
8/14/2019	SP3	S	23000	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	40.9	18.4	32.850574, - 103.899874
8/14/2019		1'	2480	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
8/14/2019		2'	1440	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
8/14/2019	SP4	S	1260	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	14.2	<10.0	32.850590, - 103.900024
8/14/2019		1'	1020	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
8/14/2019		2'	624	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	

Final Bottom Samples												
Sample Date	Sample ID	Depth	Chloride	Benzene	Toulene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates
1/29/2020	B1	0"	1860	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.8505853, - 103.8997955
1/29/2020	B2	0-3"	3400	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	20	<10.0	32.8505771, - 103.8998441
1/29/2020	B3	0"	592	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.8505833, - 103.8999045
1/29/2020	B4	0"	3520	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.8505912, - 103.8999454
1/29/2020	B5	0"	6530	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.8505935, - 103.9000037



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

August 19, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: CEDAR LAKE FED #812

Enclosed are the results of analyses for samples received by the laboratory on 08/14/19 15:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	08/14/2019	Sampling Date:	08/14/2019
Reported:	08/19/2019	Sampling Type:	Soil
Project Name:	CEDAR LAKE FED #812	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP - 1 @ SURFACE 32.850517 (H902795-01)

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	08/17/2019	ND	1.83	91.4	2.00	6.24	
Toluene*	<0.050	0.050	08/17/2019	ND	1.92	95.9	2.00	6.02	
Ethylbenzene*	<0.050	0.050	08/17/2019	ND	2.05	102	2.00	5.78	
Total Xylenes*	<0.150	0.150	08/17/2019	ND	6.16	103	6.00	6.21	
Total BTEX	<0.300	0.300	08/17/2019	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5120	16.0	08/16/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/15/2019	ND	203	101	200	0.792	
DRO >C10-C28*	<10.0	10.0	08/15/2019	ND	208	104	200	0.309	
EXT DRO >C28-C36	<10.0	10.0	08/15/2019	ND					

Surrogate: 1-Chlorooctane 92.0 % 41-142

Surrogate: 1-Chlorooctadecane 93.1 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	08/14/2019	Sampling Date:	08/14/2019
Reported:	08/19/2019	Sampling Type:	Soil
Project Name:	CEDAR LAKE FED #812	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP - 1 @ 1 -103.899857 (H902795-02)

BTX 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	08/17/2019	ND	1.83	91.4	2.00	6.24	
Toluene*	<0.050	0.050	08/17/2019	ND	1.92	95.9	2.00	6.02	
Ethylbenzene*	<0.050	0.050	08/17/2019	ND	2.05	102	2.00	5.78	
Total Xylenes*	<0.150	0.150	08/17/2019	ND	6.16	103	6.00	6.21	
Total BTX	<0.300	0.300	08/17/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2360	16.0	08/16/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/15/2019	ND	203	101	200	0.792	
DRO >C10-C28*	<10.0	10.0	08/15/2019	ND	208	104	200	0.309	
EXT DRO >C28-C36	<10.0	10.0	08/15/2019	ND					

Surrogate: 1-Chlorooctane 101 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 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



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

Analytical Results For:

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

Received:	08/14/2019	Sampling Date:	08/14/2019
Reported:	08/19/2019	Sampling Type:	Soil
Project Name:	CEDAR LAKE FED #812	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP - 1 @ 2 (H902795-03)

BTX 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	08/17/2019	ND	1.83	91.4	2.00	6.24	
Toluene*	<0.050	0.050	08/17/2019	ND	1.92	95.9	2.00	6.02	
Ethylbenzene*	<0.050	0.050	08/17/2019	ND	2.05	102	2.00	5.78	
Total Xylenes*	<0.150	0.150	08/17/2019	ND	6.16	103	6.00	6.21	
Total BTX	<0.300	0.300	08/17/2019	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1200	16.0	08/16/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/15/2019	ND	203	101	200	0.792	
DRO >C10-C28*	<10.0	10.0	08/15/2019	ND	208	104	200	0.309	
EXT DRO >C28-C36	<10.0	10.0	08/15/2019	ND					

Surrogate: 1-Chlorooctane 104 % 41-142

Surrogate: 1-Chlorooctadecane 106 % 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



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

Analytical Results For:

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

Received:	08/14/2019	Sampling Date:	08/14/2019
Reported:	08/19/2019	Sampling Type:	Soil
Project Name:	CEDAR LAKE FED #812	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP - 2 @ SURFACE 32.850552 (H902795-04)

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	08/17/2019	ND	1.83	91.4	2.00	6.24		
Toluene*	<0.050	0.050	08/17/2019	ND	1.92	95.9	2.00	6.02		
Ethylbenzene*	<0.050	0.050	08/17/2019	ND	2.05	102	2.00	5.78		
Total Xylenes*	<0.150	0.150	08/17/2019	ND	6.16	103	6.00	6.21		
Total BTEx	<0.300	0.300	08/17/2019	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	4960	16.0	08/16/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/15/2019	ND	203	101	200	0.792	
DRO >C10-C28*	395	10.0	08/15/2019	ND	208	104	200	0.309	
EXT DRO >C28-C36	268	10.0	08/15/2019	ND					

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 127 % 37.6-147

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Analytical Results For:

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

Received:	08/14/2019	Sampling Date:	08/14/2019
Reported:	08/19/2019	Sampling Type:	Soil
Project Name:	CEDAR LAKE FED #812	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP - 2 @ 1 -103.899780 (H902795-05)

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	08/17/2019	ND	1.83	91.4	2.00	6.24		
Toluene*	<0.050	0.050	08/17/2019	ND	1.92	95.9	2.00	6.02		
Ethylbenzene*	<0.050	0.050	08/17/2019	ND	2.05	102	2.00	5.78		
Total Xylenes*	<0.150	0.150	08/17/2019	ND	6.16	103	6.00	6.21		
Total BTEX	<0.300	0.300	08/17/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.6 % 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	2840	16.0	08/16/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/15/2019	ND	203	101	200	0.792	
DRO >C10-C28*	81.9	10.0	08/15/2019	ND	208	104	200	0.309	
EXT DRO >C28-C36	186	10.0	08/15/2019	ND					

Surrogate: 1-Chlorooctane 97.0 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 37.6-147

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Analytical Results For:

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

Received:	08/14/2019	Sampling Date:	08/14/2019
Reported:	08/19/2019	Sampling Type:	Soil
Project Name:	CEDAR LAKE FED #812	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP - 2 @ 2 (H902795-06)

BTX 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	08/17/2019	ND	1.83	91.4	2.00	6.24		
Toluene*	<0.050	0.050	08/17/2019	ND	1.92	95.9	2.00	6.02		
Ethylbenzene*	<0.050	0.050	08/17/2019	ND	2.05	102	2.00	5.78		
Total Xylenes*	<0.150	0.150	08/17/2019	ND	6.16	103	6.00	6.21		
Total BTX	<0.300	0.300	08/17/2019	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1760	16.0	08/16/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/15/2019	ND	203	101	200	0.792	
DRO >C10-C28*	<10.0	10.0	08/15/2019	ND	208	104	200	0.309	
EXT DRO >C28-C36	<10.0	10.0	08/15/2019	ND					

Surrogate: 1-Chlorooctane 94.3 % 41-142

Surrogate: 1-Chlorooctadecane 96.0 % 37.6-147

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Analytical Results For:

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

Received:	08/14/2019	Sampling Date:	08/14/2019
Reported:	08/19/2019	Sampling Type:	Soil
Project Name:	CEDAR LAKE FED #812	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP - 3 @ SURFACE 32.850574 (H902795-07)

BTX 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	08/17/2019	ND	1.83	91.4	2.00	6.24	
Toluene*	<0.050	0.050	08/17/2019	ND	1.92	95.9	2.00	6.02	
Ethylbenzene*	<0.050	0.050	08/17/2019	ND	2.05	102	2.00	5.78	
Total Xylenes*	<0.150	0.150	08/17/2019	ND	6.16	103	6.00	6.21	
Total BTX	<0.300	0.300	08/17/2019	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	23000	16.0	08/16/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/15/2019	ND	203	101	200	0.792	
DRO >C10-C28*	40.9	10.0	08/15/2019	ND	208	104	200	0.309	
EXT DRO >C28-C36	18.4	10.0	08/15/2019	ND					

Surrogate: 1-Chlorooctane 97.6 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	08/14/2019	Sampling Date:	08/14/2019
Reported:	08/19/2019	Sampling Type:	Soil
Project Name:	CEDAR LAKE FED #812	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP - 3 @ 1 -103.899874 (H902795-08)

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	08/17/2019	ND	1.83	91.4	2.00	6.24		
Toluene*	<0.050	0.050	08/17/2019	ND	1.92	95.9	2.00	6.02		
Ethylbenzene*	<0.050	0.050	08/17/2019	ND	2.05	102	2.00	5.78		
Total Xylenes*	<0.150	0.150	08/17/2019	ND	6.16	103	6.00	6.21		
Total BTEx	<0.300	0.300	08/17/2019	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	2480	16.0	08/16/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/15/2019	ND	203	101	200	0.792	
DRO >C10-C28*	<10.0	10.0	08/15/2019	ND	208	104	200	0.309	
EXT DRO >C28-C36	<10.0	10.0	08/15/2019	ND					

Surrogate: 1-Chlorooctane 98.1 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 37.6-147

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Analytical Results For:

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

Received:	08/14/2019	Sampling Date:	08/14/2019
Reported:	08/19/2019	Sampling Type:	Soil
Project Name:	CEDAR LAKE FED #812	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP - 3 @ 2 (H902795-09)

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	08/17/2019	ND	1.83	91.4	2.00	6.24		
Toluene*	<0.050	0.050	08/17/2019	ND	1.92	95.9	2.00	6.02		
Ethylbenzene*	<0.050	0.050	08/17/2019	ND	2.05	102	2.00	5.78		
Total Xylenes*	<0.150	0.150	08/17/2019	ND	6.16	103	6.00	6.21		
Total BTEx	<0.300	0.300	08/17/2019	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1440	16.0	08/16/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/16/2019	ND	191	95.7	200	1.10	
DRO >C10-C28*	<10.0	10.0	08/16/2019	ND	200	100	200	1.10	
EXT DRO >C28-C36	<10.0	10.0	08/16/2019	ND					

Surrogate: 1-Chlorooctane 99.7 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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Analytical Results For:

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

Received:	08/14/2019	Sampling Date:	08/14/2019
Reported:	08/19/2019	Sampling Type:	Soil
Project Name:	CEDAR LAKE FED #812	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP - 4 @ SURFACE (H902795-10)

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/17/2019	ND	1.83	91.4	2.00	6.24		
Toluene*	<0.050	0.050	08/17/2019	ND	1.92	95.9	2.00	6.02		
Ethylbenzene*	<0.050	0.050	08/17/2019	ND	2.05	102	2.00	5.78		
Total Xylenes*	<0.150	0.150	08/17/2019	ND	6.16	103	6.00	6.21		
Total BTEx	<0.300	0.300	08/17/2019	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1260	16.0	08/16/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/16/2019	ND	191	95.7	200	1.10	
DRO >C10-C28*	14.2	10.0	08/16/2019	ND	200	100	200	1.10	
EXT DRO >C28-C36	<10.0	10.0	08/16/2019	ND					

Surrogate: 1-Chlorooctane 94.6 % 41-142

Surrogate: 1-Chlorooctadecane 98.3 % 37.6-147

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Analytical Results For:

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

Received:	08/14/2019	Sampling Date:	08/14/2019
Reported:	08/19/2019	Sampling Type:	Soil
Project Name:	CEDAR LAKE FED #812	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP - 4 @ 1 32.850590 (H902795-11)

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	08/17/2019	ND	1.83	91.4	2.00	6.24		
Toluene*	<0.050	0.050	08/17/2019	ND	1.92	95.9	2.00	6.02		
Ethylbenzene*	<0.050	0.050	08/17/2019	ND	2.05	102	2.00	5.78		
Total Xylenes*	<0.150	0.150	08/17/2019	ND	6.16	103	6.00	6.21		
Total BTEx	<0.300	0.300	08/17/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.6 % 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	1020	16.0	08/16/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/16/2019	ND	191	95.7	200	1.10	
DRO >C10-C28*	<10.0	10.0	08/16/2019	ND	200	100	200	1.10	
EXT DRO >C28-C36	<10.0	10.0	08/16/2019	ND					

Surrogate: 1-Chlorooctane 88.8 % 41-142

Surrogate: 1-Chlorooctadecane 91.5 % 37.6-147

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Analytical Results For:

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

Received:	08/14/2019	Sampling Date:	08/14/2019
Reported:	08/19/2019	Sampling Type:	Soil
Project Name:	CEDAR LAKE FED #812	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP - 4 @ 2 -103.900024 (H902795-12)

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	08/17/2019	ND	1.86	92.9	2.00	3.68		
Toluene*	<0.050	0.050	08/17/2019	ND	1.96	98.0	2.00	4.39		
Ethylbenzene*	<0.050	0.050	08/17/2019	ND	2.09	104	2.00	3.42		
Total Xylenes*	<0.150	0.150	08/17/2019	ND	6.31	105	6.00	2.69		
Total BTEx	<0.300	0.300	08/17/2019	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	624	16.0	08/16/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/16/2019	ND	191	95.7	200	1.10	
DRO >C10-C28*	<10.0	10.0	08/16/2019	ND	200	100	200	1.10	
EXT DRO >C28-C36	<10.0	10.0	08/16/2019	ND					

Surrogate: 1-Chlorooctane 99.2 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

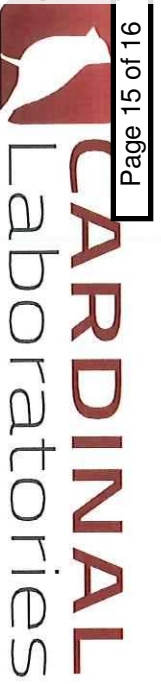
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A handwritten signature in black ink, appearing to read "Caley D. Keene".

Caley 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>Apache Corporation</u>		P.O. #:		BILL TO								ANALYSIS REQUEST											
Project Manager: <u>Bruce Baker</u>		Company:																					
Address:		Attn:																					
City:		Address:																					
Phone #:		City:																					
Project #:		State:																					
Project Name: <u>Cedar Lake Fed 812</u>		Zip:																					
Project Location: <u>Cedar Lake Fed 812</u>		Phone #:																					
Sample Name: <u>Daniel Roster</u>		Fax #:																					
FOR LAB USE ONLY		MATRIX		PRESERV.		SAMPLING																	
Lab I.D.		# CONTAINERS		GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER :		ACID/BASE:		ICE / COOL		OTHER :			
H902795		(G)RAB OR (C)OMP.																					
1 SP-1 Surface 32.350517																							
2 SP-1 @ 1 - 103.849857																							
3 SP-1 @ 2																							
4 SP-2 Surface 32.850552																							
5 SP-2 @ 1 - 103.849780																							
6 SP-2 @ 2																							
7 SP-3 Surface 32.850574																							
8 SP-3 @ 1 - 103.849874																							
9 SP-3 @ 2																							
10 SP-4 Surface																							

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Relinquished By: [Signature] Date: 8-14-19 Received By: [Signature] Date: 8-14-19

Time: 13:50

Delivered By: (Circle One) D.I.C # 497 Sample Condition Intact CHECKED BY: [Signature] (Initials)

Sampler - UPS - Bus - Other: Consistent DSC ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No

REMARKS: Email to Bruce and Jeff



(575) 393-2326 FAX (575) 393-2476

Email to Bruce and JCF



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

February 04, 2020

JEFFREY BROOM

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: CEDAR LAKE FED #812H

Enclosed are the results of analyses for samples received by the laboratory on 01/29/20 14:41.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	01/29/2020	Sampling Date:	01/29/2020
Reported:	02/04/2020	Sampling Type:	Soil
Project Name:	CEDAR LAKE FED #812H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 1 @ SURFACE 32.8505853 - 103.8997955 (H000285-01)

BTX 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	01/30/2020	ND	2.08	104	2.00	8.27	
Toluene*	<0.050	0.050	01/30/2020	ND	2.02	101	2.00	8.43	
Ethylbenzene*	<0.050	0.050	01/30/2020	ND	2.01	101	2.00	8.50	
Total Xylenes*	<0.150	0.150	01/30/2020	ND	5.94	99.0	6.00	8.68	
Total BTX	<0.300	0.300	01/30/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1860	16.0	01/31/2020	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2020	ND	201	101	200	0.206	
DRO >C10-C28*	<10.0	10.0	01/30/2020	ND	217	108	200	6.76	
EXT DRO >C28-C36	<10.0	10.0	01/30/2020	ND					

Surrogate: 1-Chlorooctane 69.4 % 41-142

Surrogate: 1-Chlorooctadecane 70.2 % 37.6-147

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	01/29/2020	Sampling Date:	01/29/2020
Reported:	02/04/2020	Sampling Type:	Soil
Project Name:	CEDAR LAKE FED #812H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 2 @ SURFACE 32.8505771 - 103.8998441 (H000285-02)

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	01/30/2020	ND	2.08	104	2.00	8.27		
Toluene*	<0.050	0.050	01/30/2020	ND	2.02	101	2.00	8.43		
Ethylbenzene*	<0.050	0.050	01/30/2020	ND	2.01	101	2.00	8.50		
Total Xylenes*	<0.150	0.150	01/30/2020	ND	5.94	99.0	6.00	8.68		
Total BTEX	<0.300	0.300	01/30/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3400	16.0	01/31/2020	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2020	ND	201	101	200	0.206	
DRO >C10-C28*	20.0	10.0	01/30/2020	ND	217	108	200	6.76	
EXT DRO >C28-C36	<10.0	10.0	01/30/2020	ND					

Surrogate: 1-Chlorooctane 66.5 % 41-142

Surrogate: 1-Chlorooctadecane 66.6 % 37.6-147

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	01/29/2020	Sampling Date:	01/29/2020
Reported:	02/04/2020	Sampling Type:	Soil
Project Name:	CEDAR LAKE FED #812H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 3 @ 0" 32.8505833 - 103.8999045 (H000285-03)

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	01/30/2020	ND	2.08	104	2.00	8.27		
Toluene*	<0.050	0.050	01/30/2020	ND	2.02	101	2.00	8.43		
Ethylbenzene*	<0.050	0.050	01/30/2020	ND	2.01	101	2.00	8.50		
Total Xylenes*	<0.150	0.150	01/30/2020	ND	5.94	99.0	6.00	8.68		
Total BTEX	<0.300	0.300	01/30/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	592	16.0	01/31/2020	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2020	ND	201	101	200	0.206	
DRO >C10-C28*	<10.0	10.0	01/30/2020	ND	217	108	200	6.76	
EXT DRO >C28-C36	<10.0	10.0	01/30/2020	ND					

Surrogate: 1-Chlorooctane 71.8 % 41-142

Surrogate: 1-Chlorooctadecane 73.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	01/29/2020	Sampling Date:	01/29/2020
Reported:	02/04/2020	Sampling Type:	Soil
Project Name:	CEDAR LAKE FED #812H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 4 @ 0" 32.8505912 - 103.8999454 (H000285-04)

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	01/30/2020	ND	2.08	104	2.00	8.27		
Toluene*	<0.050	0.050	01/30/2020	ND	2.02	101	2.00	8.43		
Ethylbenzene*	<0.050	0.050	01/30/2020	ND	2.01	101	2.00	8.50		
Total Xylenes*	<0.150	0.150	01/30/2020	ND	5.94	99.0	6.00	8.68		
Total BTEX	<0.300	0.300	01/30/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3520	16.0	01/31/2020	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/30/2020	ND	201	101	200	0.206		
DRO >C10-C28*	<10.0	10.0	01/30/2020	ND	217	108	200	6.76		
EXT DRO >C28-C36	<10.0	10.0	01/30/2020	ND						

Surrogate: 1-Chlorooctane 74.8 % 41-142

Surrogate: 1-Chlorooctadecane 76.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	01/29/2020	Sampling Date:	01/29/2020
Reported:	02/04/2020	Sampling Type:	Soil
Project Name:	CEDAR LAKE FED #812H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: B 5 @ 0" 32.8505935 - 103.9000037 (H000285-05)

BTX 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	01/30/2020	ND	2.08	104	2.00	8.27	
Toluene*	<0.050	0.050	01/30/2020	ND	2.02	101	2.00	8.43	
Ethylbenzene*	<0.050	0.050	01/30/2020	ND	2.01	101	2.00	8.50	
Total Xylenes*	<0.150	0.150	01/30/2020	ND	5.94	99.0	6.00	8.68	
Total BTX	<0.300	0.300	01/30/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6530	16.0	01/31/2020	ND	400	100	400	3.92	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	01/31/2020	ND	199	99.5	200	4.14	
DRO >C10-C28*	<10.0	10.0	01/31/2020	ND	216	108	200	2.21	
EXT DRO >C28-C36	<10.0	10.0	01/31/2020	ND					

Surrogate: 1-Chlorooctane 70.7 % 41-142

Surrogate: 1-Chlorooctadecane 69.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

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Notes and Definitions

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

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A handwritten signature in black ink, appearing to read "Celey D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager



BILL TO

ANALYSIS REQUEST

[†] Cardinal cannot accept verbal changes. Please email changes to celeyn.keene@cardinallabsnm.com



District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 10235

CONDITIONS

Operator: APACHE CORPORATION 303 Veterans Airpark Ln Midland, TX 79705	OGRID: 873
	Action Number: 10235
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	Site will need to meet the requirements of 19.15.29.13 NMAC at time of plugging and abandonment.	2/10/2023