



2350 W Marland Blvd Hobbs, NM 88240

Closure Report

January 2, 2020

Re: Empire Abo Emulsion Line

API# N/A

Case # Not Received

To: Environmental Specialist-New Mexico Oil Conservation Division Energy, Minerals and Natural Resources Department 811 S. First Street, Artesia, NM 88210

On October 11, 2019 a release occurred due to a line strike on the Empire Abo Emulsion Line. This resulted in a release of 200 barrels of produced water inside of a ditch line being dug by a 3rd party contractor. A vacuum truck was utilized to retrieve all fluids found within the containment area. An initial C-141 was submitted to NMOCD and approved on October 22, 2019. The release is located east of Artesia, New Mexico (GPS: 32.80165, -104.11689) in unit letter R section 30 township 17S range 38E. Groundwater data was collected utilizing USGS and NMOSE wells of record. The nearest well shows depth to groundwater being 257'.

It was found that the only impacted area was within the ditch line at a depth of 4'. At the request of the pipeline operator Apache removed an additional 3' of soil out of the ditch line. The walls of the ditch line were extended until NMOCD reclamation standards were met. Apache did contact NMOCD and ask for approval to expedite the remediation notification process and increase of sampling area to 500' due to the need for the 3rd party to stay on schedule on October 17, 2019 which was approved on October 18, 2019.

Final five-point bottom and wall composite samples were collected on October 21, 2019 and submitted to a commercial laboratory for analysis of CL-, BTEX, and TPH. All excavated material was taken to an approved NM disposal facility (approx. 600 yards). During discussions with the pipeline operator they assumed the responsibility for backfilling and seeding the area. Apache respectfully requests that *the event be closed*. If you have any questions, please feel free to contact us with any questions.

Enclosed: Initial C-141, Groundwater Data, Maps, and Photos

Submitted by;

A handwritten signature in black ink that reads "Jeff Broom". The signature is written in a cursive, flowing style.

Environmental Technician

Jeffrey.Broom@apachecorp.com

Cell# 432-664-4677

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

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

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)
Contact Mailing Address: 2350 W. Marland Blvd, Hobbs, NM 88240	

Location of Release Source

Latitude: W 32.80165 Longitude: N -104.11689

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Empire Abo Emulsion Line	Site Type: Line
Date Release Discovered: October 11, 2019	API #

Unit Letter	Section	Township	Range	County
R	30	17S	38E	Eddy

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

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (not applicable)	Volume Recovered (not applicable)
<input checked="" type="checkbox"/> Produced Water	Volume Released (207.79 barrels)	Volume Recovered (200 barrels)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Apache Corporation discovered a release at this location on 10/11/2019 due to a 3rd party pipeline company coming into contact with an Apache emulsion line located approximately 3-5 feet below ground. This release was contained to the ditch line and was recovered via vacuum truck with approximately 200 barrels being recovered on 10/11/2019.

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State of New Mexico
Oil Conservation Division

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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? Release is greater than 5 barrels.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Via email given to NM OCD by Jeff Broom, Environmental Technician, Apache Corporation.	

Initial Response

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

<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>Jeff Broom</u> Title: <u>Environmental Technician</u> Signature: <u></u> Date: <u>10/22/2019</u> Email: <u>Jeffrey.Broom@apachecorp.com</u> Telephone: <u>(432) 664-4677</u>
<p><u>OCD Only</u></p> Received by: _____ Date: _____

Volume Calculation

132 cubic feet of soil contamination X 7.48 gallons per cubic foot = 992 gallons/42 gallons to a barrel=23.6 barrels X .33 soil porosity= 7.79 barrels fluid in soil + 200 barrels recovered = 207.79 barrels total loss.

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

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

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

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

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

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

Printed Name: Jeff Broom

Title: Environmental Technician

Signature: 

Date: 1/2/2020

Email: Jeffrey.Broom@apachecorp.com

Telephone: 432.664.4677

OCD Only

Received by: _____

Date: _____

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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: Jeff Broom Title: Environmental Technician

Signature:  Date: 1/2/2020

Email: Jeffrey.Broom@apachecorp.com Telephone: 432.664.4677

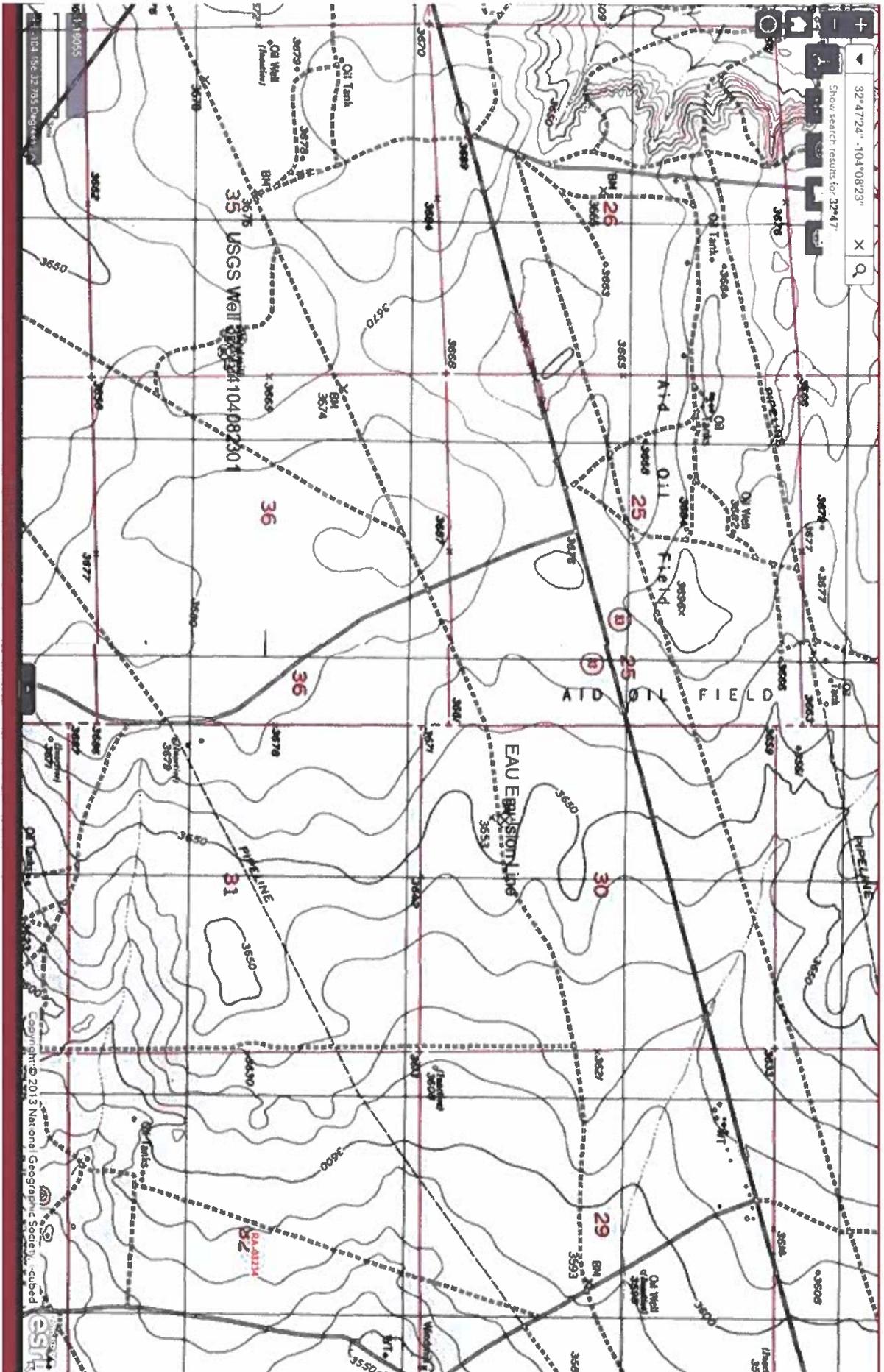
OCD Only

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: _____







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National Water Information System: Web Interface

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Data Category:	Geographic Area:	
Groundwater	United States	GO

Click to hide News Bulletins

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Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =
• 324724104082301

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 324724104082301 17S.28E.35.42233

Available data for this site

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°47'24", Longitude 104°08'23" NAD27

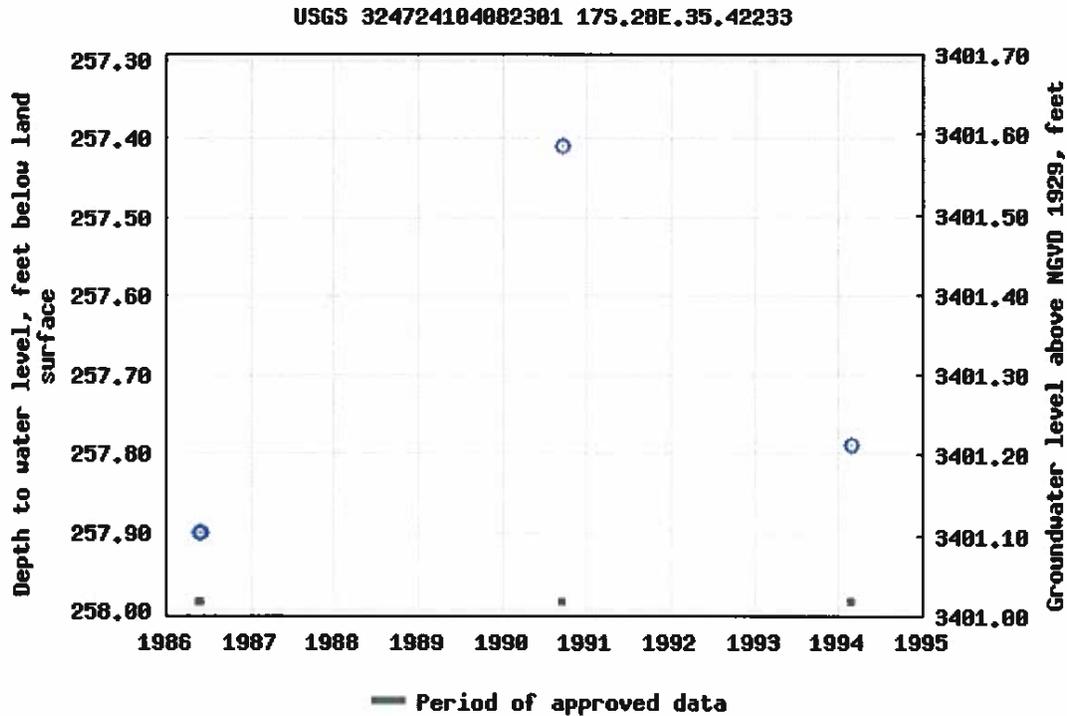
Land-surface elevation 3,659 feet above NGVD29

The depth of the well is 280.00 feet below land surface.

This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.

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Title: Groundwater for USA: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>

Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2020-01-02 10:44:41 EST

0.57 0.48 nadww01





EAU Emulsion Line Strike Final Sampling

Map ID	Sample Date	Sample ID	Depth	Chloride	Benzene	Toulene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates
W1	10/21/2019	W-1	4'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.801497, -104.117884
W2	10/21/2019	W-2	4'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.801534, -104.117666
W3	10/21/2019	W-3	4'	96	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.801574, -104.117388
W4	10/21/2019	W-4	4'	336	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.801606, -104.117135
W5	10/21/2019	W-5	4'	576	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.801638, -104.116909
W6	10/21/2019	W-6	4'	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.801605, -104.116994
W7	10/21/2019	W-7	4'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.801575, -104.117204
W8	10/21/2019	W-8	4'	496	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.801539, -104.117450
W9	10/21/2019	W-9	4'	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.801505, -104.117701
W10	10/21/2019	W-10	4'	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.801465, -104.117944
B1	10/21/2019	B-1	7'	368	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.801484, -104.117907
B2	10/21/2019	B-2	7'	1960	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.801531, -104.117603
B3	10/21/2019	B-3	7'	224	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.801578, -104.117280
B4	10/21/2019	B-4	7'	208	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.801621, -104.116972



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

October 22, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: EMPIRE ABO - EMULSION

Enclosed are the results of analyses for samples received by the laboratory on 10/21/19 16:21.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	10/21/2019	Sampling Date:	10/18/2019
Reported:	10/22/2019	Sampling Type:	Soil
Project Name:	EMPIRE ABO - EMULSION	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: W - 1 (H903590-01)

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	10/22/2019	ND	1.94	97.1	2.00	5.15		
Toluene*	<0.050	0.050	10/22/2019	ND	1.95	97.5	2.00	5.57		
Ethylbenzene*	<0.050	0.050	10/22/2019	ND	1.98	98.9	2.00	4.01		
Total Xylenes*	<0.150	0.150	10/22/2019	ND	5.92	98.7	6.00	3.72		
Total BTEX	<0.300	0.300	10/22/2019	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	10/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	209	104	200	2.83		
DRO >C10-C28*	<10.0	10.0	10/22/2019	ND	207	103	200	2.45		
EXT DRO >C28-C36	<10.0	10.0	10/22/2019	ND						

Surrogate: 1-Chlorooctane 105 % 41-142

Surrogate: 1-Chlorooctadecane 106 % 37.6-147

Cardinal Laboratories

* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	10/21/2019	Sampling Date:	10/21/2019
Reported:	10/22/2019	Sampling Type:	Soil
Project Name:	EMPIRE ABO - EMULSION	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: W - 2 (H903590-02)

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	10/22/2019	ND	1.94	97.1	2.00	5.15		
Toluene*	<0.050	0.050	10/22/2019	ND	1.95	97.5	2.00	5.57		
Ethylbenzene*	<0.050	0.050	10/22/2019	ND	1.98	98.9	2.00	4.01		
Total Xylenes*	<0.150	0.150	10/22/2019	ND	5.92	98.7	6.00	3.72		
Total BTEX	<0.300	0.300	10/22/2019	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	10/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	209	104	200	2.83		
DRO >C10-C28*	<10.0	10.0	10/22/2019	ND	207	103	200	2.45		
EXT DRO >C28-C36	<10.0	10.0	10/22/2019	ND						

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 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



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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:	10/21/2019	Sampling Date:	10/21/2019
Reported:	10/22/2019	Sampling Type:	Soil
Project Name:	EMPIRE ABO - EMULSION	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: W - 3 (H903590-03)

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	10/22/2019	ND	1.94	97.1	2.00	5.15		
Toluene*	<0.050	0.050	10/22/2019	ND	1.95	97.5	2.00	5.57		
Ethylbenzene*	<0.050	0.050	10/22/2019	ND	1.98	98.9	2.00	4.01		
Total Xylenes*	<0.150	0.150	10/22/2019	ND	5.92	98.7	6.00	3.72		
Total BTEX	<0.300	0.300	10/22/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 99.6% 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	96.0	16.0	10/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	209	104	200	2.83		
DRO >C10-C28*	<10.0	10.0	10/22/2019	ND	207	103	200	2.45		
EXT DRO >C28-C36	<10.0	10.0	10/22/2019	ND						

Surrogate: 1-Chlorooctane 105% 41-142

Surrogate: 1-Chlorooctadecane 101% 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
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	10/21/2019	Sampling Date:	10/21/2019
Reported:	10/22/2019	Sampling Type:	Soil
Project Name:	EMPIRE ABO - EMULSION	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: W - 4 (H903590-04)

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	10/22/2019	ND	1.94	97.1	2.00	5.15		
Toluene*	<0.050	0.050	10/22/2019	ND	1.95	97.5	2.00	5.57		
Ethylbenzene*	<0.050	0.050	10/22/2019	ND	1.98	98.9	2.00	4.01		
Total Xylenes*	<0.150	0.150	10/22/2019	ND	5.92	98.7	6.00	3.72		
Total BTEX	<0.300	0.300	10/22/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIB) 100 % 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	336	16.0	10/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	209	104	200	2.83		
DRO >C10-C28*	<10.0	10.0	10/22/2019	ND	207	103	200	2.45		
EXT DRO >C28-C36	<10.0	10.0	10/22/2019	ND						

Surrogate: 1-Chlorooctane 109 % 41-142

Surrogate: 1-Chlorooctadecane 106 % 37.6-147

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Analytical Results For:

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

Received:	10/21/2019	Sampling Date:	10/21/2019
Reported:	10/22/2019	Sampling Type:	Soil
Project Name:	EMPIRE ABO - EMULSION	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: W - 5 (H903590-05)

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	10/22/2019	ND	1.94	97.1	2.00	5.15		
Toluene*	<0.050	0.050	10/22/2019	ND	1.95	97.5	2.00	5.57		
Ethylbenzene*	<0.050	0.050	10/22/2019	ND	1.98	98.9	2.00	4.01		
Total Xylenes*	<0.150	0.150	10/22/2019	ND	5.92	98.7	6.00	3.72		
Total BTEX	<0.300	0.300	10/22/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 100 % 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	576	16.0	10/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	209	104	200	2.83		
DRO >C10-C28*	<10.0	10.0	10/22/2019	ND	207	103	200	2.45		
EXT DRO >C28-C36	<10.0	10.0	10/22/2019	ND						

Surrogate: 1-Chlorooctane 104 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

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Analytical Results For:

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

Received:	10/21/2019	Sampling Date:	10/18/2019
Reported:	10/22/2019	Sampling Type:	Soil
Project Name:	EMPIRE ABO - EMULSTON	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: W - 6 (H903590-06)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/22/2019	ND	1.94	97.1	2.00	5.15		
Toluene*	<0.050	0.050	10/22/2019	ND	1.95	97.5	2.00	5.57		
Ethylbenzene*	<0.050	0.050	10/22/2019	ND	1.98	98.9	2.00	4.01		
Total Xylenes*	<0.150	0.150	10/22/2019	ND	5.92	98.7	6.00	3.72		
Total BTEX	<0.300	0.300	10/22/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 99.5 % 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	80.0	16.0	10/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	209	104	200	2.83		
DRO >C10-C28*	<10.0	10.0	10/22/2019	ND	207	103	200	2.45		
EXT DRO >C28-C36	<10.0	10.0	10/22/2019	ND						

Surrogate: 1-Chlorooctane 104 % 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:	10/21/2019	Sampling Date:	10/21/2019
Reported:	10/22/2019	Sampling Type:	Soil
Project Name:	EMPIRE ABO - EMULSION	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: W - 7 (H903590-07)

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	10/22/2019	ND	1.67	83.5	2.00	3.70		
Toluene*	<0.050	0.050	10/22/2019	ND	1.79	89.3	2.00	2.62		
Ethylbenzene*	<0.050	0.050	10/22/2019	ND	1.72	86.2	2.00	1.77		
Total Xylenes*	<0.150	0.150	10/22/2019	ND	5.36	89.4	6.00	1.58		
Total BTEX	<0.300	0.300	10/22/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 108 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	10/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	209	104	200	2.83		
DRO >C10-C28*	<10.0	10.0	10/22/2019	ND	207	103	200	2.45		
EXT DRO >C28-C36	<10.0	10.0	10/22/2019	ND						

Surrogate: 1-Chlorooctane 105 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 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:	10/21/2019	Sampling Date:	10/21/2019
Reported:	10/22/2019	Sampling Type:	Soil
Project Name:	EMPIRE ABO - EMULSION	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: W - 8 (H903590-08)

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	10/22/2019	ND	1.67	83.5	2.00	3.70		
Toluene*	<0.050	0.050	10/22/2019	ND	1.79	89.3	2.00	2.62		
Ethylbenzene*	<0.050	0.050	10/22/2019	ND	1.72	86.2	2.00	1.77		
Total Xylenes*	<0.150	0.150	10/22/2019	ND	5.36	89.4	6.00	1.58		
Total BTEX	<0.300	0.300	10/22/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 108 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	496	16.0	10/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	209	104	200	2.83		
DRO >C10-C28*	<10.0	10.0	10/22/2019	ND	207	103	200	2.45		
EXT DRO >C28-C36	<10.0	10.0	10/22/2019	ND						

Surrogate: 1-Chlorooctane 97.6 % 41-142

Surrogate: 1-Chlorooctadecane 95.2 % 37.6-147

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Analytical Results For:

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

Received:	10/21/2019	Sampling Date:	10/21/2019
Reported:	10/22/2019	Sampling Type:	Soil
Project Name:	EMPIRE ABO - EMULSION	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: W - 9 (H903590-09)

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	10/22/2019	ND	1.67	83.5	2.00	3.70		
Toluene*	<0.050	0.050	10/22/2019	ND	1.79	89.3	2.00	2.62		
Ethylbenzene*	<0.050	0.050	10/22/2019	ND	1.72	86.2	2.00	1.77		
Total Xylenes*	<0.150	0.150	10/22/2019	ND	5.36	89.4	6.00	1.58		
Total BTEX	<0.300	0.300	10/22/2019	ND						

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

Chloride, SM4500C-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	10/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	209	104	200	2.83		
DRO >C10-C28*	<10.0	10.0	10/22/2019	ND	207	103	200	2.45		
EXT DRO >C28-C36	<10.0	10.0	10/22/2019	ND						

Surrogate: 1-Chlorooctane 99.7 % 41-142

Surrogate: 1-Chlorooctadecane 97.0 % 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:	10/21/2019	Sampling Date:	10/18/2019
Reported:	10/22/2019	Sampling Type:	Soil
Project Name:	EMPIRE ABO - EMULSION	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: W - 10 (H903590-10)

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	10/22/2019	ND	1.67	83.5	2.00	3.70		
Toluene*	<0.050	0.050	10/22/2019	ND	1.79	89.3	2.00	2.62		
Ethylbenzene*	<0.050	0.050	10/22/2019	ND	1.72	86.2	2.00	1.77		
Total Xylenes*	<0.150	0.150	10/22/2019	ND	5.36	89.4	6.00	1.58		
Total BTEX	<0.300	0.300	10/22/2019	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	32.0	16.0	10/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	168	83.9	200	5.17		
DRO >C10-C28*	<10.0	10.0	10/22/2019	ND	161	80.7	200	5.35		
EXT DRO >C28-C36	<10.0	10.0	10/22/2019	ND						

Surrogate: 1-Chlorooctane 95.0 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 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:	10/21/2019	Sampling Date:	10/21/2019
Reported:	10/22/2019	Sampling Type:	Soil
Project Name:	EMPIRE ABO - EMULSION	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: B - 1 (H903590-11)

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	10/22/2019	ND	1.67	83.5	2.00	3.70		
Toluene*	<0.050	0.050	10/22/2019	ND	1.79	89.3	2.00	2.62		
Ethylbenzene*	<0.050	0.050	10/22/2019	ND	1.72	86.2	2.00	1.77		
Total Xylenes*	<0.150	0.150	10/22/2019	ND	5.36	89.4	6.00	1.58		
Total BTEX	<0.300	0.300	10/22/2019	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	368	16.0	10/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	168	83.9	200	5.17		
DRO >C10-C28*	<10.0	10.0	10/22/2019	ND	161	80.7	200	5.35		
EXT DRO >C28-C36	<10.0	10.0	10/22/2019	ND						

Surrogate: 1-Chlorooctane 90.6 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 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
 BRUCE BAKER
 2350 W. MARLAND BLVD.
 HOBBS NM, 88240
 Fax To: (575) 393-2432

Received:	10/21/2019	Sampling Date:	10/21/2019
Reported:	10/22/2019	Sampling Type:	Soil
Project Name:	EMPIRE ABO - EMULSION	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: B - 2 (H903590-12)

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	10/22/2019	ND	1.67	83.5	2.00	3.70		
Toluene*	<0.050	0.050	10/22/2019	ND	1.79	89.3	2.00	2.62		
Ethylbenzene*	<0.050	0.050	10/22/2019	ND	1.72	86.2	2.00	1.77		
Total Xylenes*	<0.150	0.150	10/22/2019	ND	5.36	89.4	6.00	1.58		
Total BTEX	<0.300	0.300	10/22/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 108 % 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	1960	16.0	10/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	168	83.9	200	5.17		
DRO >C10-C28*	<10.0	10.0	10/22/2019	ND	161	80.7	200	5.35		
EXT DRO >C28-C36	<10.0	10.0	10/22/2019	ND						

Surrogate: 1-Chlorooctane 98.8 % 41-142

Surrogate: 1-Chlorooctadecane 109 % 37.6-147

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	10/21/2019	Sampling Date:	10/18/2019
Reported:	10/22/2019	Sampling Type:	Soil
Project Name:	EMPIRE ABO - EMULSION	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: B - 3 (H903590-13)

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	10/22/2019	ND	1.67	83.5	2.00	3.70		
Toluene*	<0.050	0.050	10/22/2019	ND	1.79	89.3	2.00	2.62		
Ethylbenzene*	<0.050	0.050	10/22/2019	ND	1.72	86.2	2.00	1.77		
Total Xylenes*	<0.150	0.150	10/22/2019	ND	5.36	89.4	6.00	1.58		
Total BTEX	<0.300	0.300	10/22/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 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	224	16.0	10/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	168	83.9	200	5.17		
DRO >C10-C28*	<10.0	10.0	10/22/2019	ND	161	80.7	200	5.35		
EXT DRO >C28-C36	<10.0	10.0	10/22/2019	ND						

Surrogate: 1-Chlorooctane 92.2 % 41-142

Surrogate: 1-Chlorooctadecane 106 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	10/21/2019	Sampling Date:	10/18/2019
Reported:	10/22/2019	Sampling Type:	Soil
Project Name:	EMPIRE ABO - EMULSION	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: B - 4 (H903590-14)

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	10/22/2019	ND	1.94	97.1	2.00	5.15		
Toluene*	<0.050	0.050	10/22/2019	ND	1.95	97.5	2.00	5.57		
Ethylbenzene*	<0.050	0.050	10/22/2019	ND	1.98	98.9	2.00	4.01		
Total Xylenes*	<0.150	0.150	10/22/2019	ND	5.92	98.7	6.00	3.72		
Total BTEX	<0.300	0.300	10/22/2019	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	10/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	168	83.9	200	5.17		
DRO >C10-C28*	<10.0	10.0	10/22/2019	ND	161	80.7	200	5.35		
EXT DRO >C28-C36	<10.0	10.0	10/22/2019	ND						

Surrogate: 1-Chlorooctane 87.9 % 41-142

Surrogate: 1-Chlorooctadecane 97.6 % 37.6-147

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Notes and Definitions

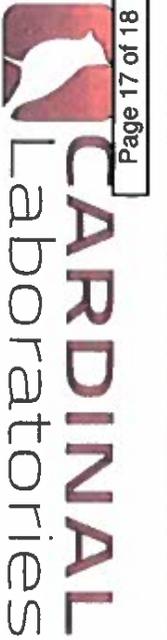
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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*=Accredited Analyte

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

81 of 17 pages

BILL TO

ANALYSIS REQUEST

Company Name: <u>ARABIC CORPORATION</u>		P.O. #:	
Project Manager: <u>JEFF BROWN</u>		Company:	
Address:		Attn:	
City:		Address:	
State:		City:	
Zip:		State:	
Project #:		Phone #:	
Project Owner:		Fax #:	
Project Location:		Project Name: <u>EMPIRE A30, EMISSION</u>	
Sampler Name: <u>PAVEL RASLER</u>		Project Location:	
FOR LAB USE ONLY		Project Location:	

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	CL	EXT. TPH	BTEX
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
HER390-														
1	W-1								10/18/19	1:02	✓	✓	✓	
2	W-2								10/21/19	1:45	✓	✓	✓	
3	W-3								10/21/19	1:47	✓	✓	✓	
4	W-4								10/21/19	1:50	✓	✓	✓	
5	W-5								10/21/19	2:12	✓	✓	✓	
6	W-6								10/18/19	1:03	✓	✓	✓	
7	W-7								10/21/19	1:53	✓	✓	✓	
8	W-8								10/21/19	1:57	✓	✓	✓	
9	W-9								10/21/19	2:00	✓	✓	✓	
10	W-10								10/18/19	2:30	✓	✓	✓	

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Relinquished By: [Signature] Date: 10/21/19 Time: 4:21pm Received By: Bruce Cleaver

Relinquished By: [Signature] Date: 10/21/19 Time: 4:21pm Received By: Bruce Cleaver

Delivered By: (Circle One) Other 2.5c 2.9cc 2.9cc Sample Condition: Cool Intact Yes Yes No No CHECKED BY: [Signature] (Initials) Buo #97

REMARKS: Email to Bin@TrinityOilFieldServices.com
RUSH

81 JO 81 ege d



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: ARLIVE CORPORATION P.O. #:
 Project Manager: JEFF BROWN Company:
 Address: Attn:
 City: State: Zip: Address:
 Phone #: Fax #: City: State: Zip:
 Project #: Project Owner:
 Project Name: EMPIRE ABO, EMULSION State: Zip:
 Project Location: Phone #:
 Sampler Name: Daniel Kessler Fax #:

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX				DATE	TIME	CL	EXT. TPH	ISTEX
				GROUNDWATER	WASTEWATER	SOIL	OIL					
4603590-												
	11 B-1						10/21/19	2:30	✓	✓	✓	
	12 B-2						10/21/19	2:27	✓	✓	✓	
	13 B-3						10/19/19	6:05	✓	✓	✓	
	14 B-4						10/19/19	4:10	✓	✓	✓	

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Relinquished By: [Signature] Date: 10/21/19 Time: 4:21 pm
 Received By: Brandon Olaker
 Relinquished By: [Signature] Date: _____ Time: _____
 Received By: _____

Delivered By: (Circle One) Other
 Sampler - UPS - Bus - 2.50 - 2.90 cont
 Sample Condition: Intact Cool Yes No
 CHECKED BY: (Initials) BRB #97

Phone Result: Yes No Add'l Phone #:
 Fax Result: Yes No Add'l Fax #:
 REMARKS: Email to Ben@TrinityOilFieldServices RUSH

Empire Abo Emulsion Line Photo Page



