

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;

Environmental TechnicianJeffrey.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., Sania Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources Department

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

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

Incident ID	
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 Type: Line
API#

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

Surface Owner:

State ☐ Federal ☐ Tribal ☐ Private (Name: Not Applicable)

Nature and Volume of Release

Crude Oil	Volume Released (not applicable)	Volume Recovered (not applicable)
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?	☐ Yes ☒ No
Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
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.

State of New Mexico Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by	If YES, for what reason(s) does the responsible party consider this a major release?
19.15.29.7(A) NMAC? ☑ Yes ☐ No	Release is greater than 5 barrels.
M res No	
	otice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? CD by Jeff Broom, Environmental Technician, Apache Corporation.
	Initial Response
The responsible p	party must undertake the following actions immediately unless they could create a safety hazard that would result in injury
The source of the rele	ase has been stopped.
☑ The impacted area ha	s been secured to protect human health and the environment.
	ve been contained via the use of berms or dikes, absorbent pads, or other containment devices.
•	coverable materials have been removed and managed appropriately.
If all the actions described	above have not been undertaken, explain why:
has begun, please attach a	AC the responsible party may commence remediation immediately after discovery of a release. If remediation a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred at area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.
regulations all operators are public health or the environn failed to adequately investiga	rmation given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and required to report and/or file certain release notifications and perform corrective actions for releases which may endanger nent. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have ate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws
Printed Name: Jeff Broom	Title: Environmental Technician
Signature:	Baon Date: 10/22/2019
Email: <u>Jeffrey.Broom@a</u>	pachecorp.com Telephone: (432) 664-4677
OCD Only	
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.

State of New Mexico Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date

	· · · · · · · · · · · · · · · · · · ·
What is the shallowest depth to groundwater beneath the area affected by the release?	147 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ⊠ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ⊠ 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)?	☐ Yes ⊠ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ⊠ 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?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ⊠ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ⊠ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ⊠ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ⊠ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ⊠ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ⊠ No
Did the release impact areas not on an exploration, development, production, or storage site?	☐ Yes ⊠ No
Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vercontamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.	rtical extents of soil
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 well Field data Data table of soil contaminant concentration data Depth to water determination 	ls.
Data table of soil contaminant concentration data Depth to water determination Determination of water sources and significant watercourses within ⅓-mile of the lateral extents of the release Boring or excavation logs	
 ✓ Photographs including date and GIS information ✓ Topographic/Aerial maps ✓ Laboratory data including chain of custody 	

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

State of New Mexico Oil Conservation Division

Incident ID	
District RP	
Facility ID	
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.

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: Date: <u>1/2/2020</u>
Email: <u>Jeffrey.Broom@apachecorp.com</u> Telephone: <u>432.664.4677</u>
OCD Only
Received by: Date:

State of New Mexico Oil Conservation Division

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

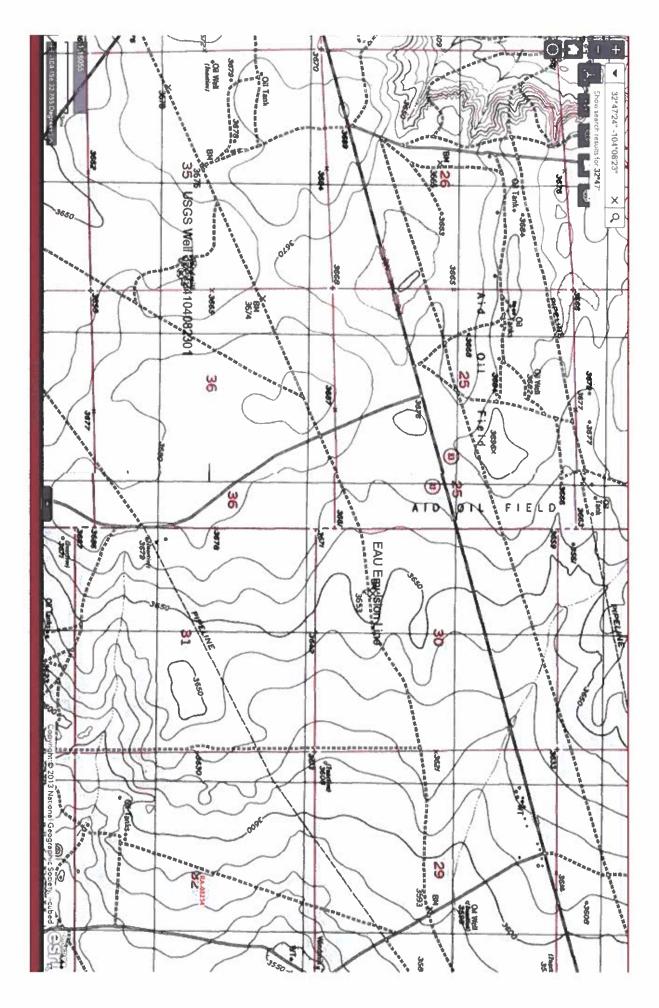
A scaled site and sampling diagram as described in 19.15.29.11 NMAC

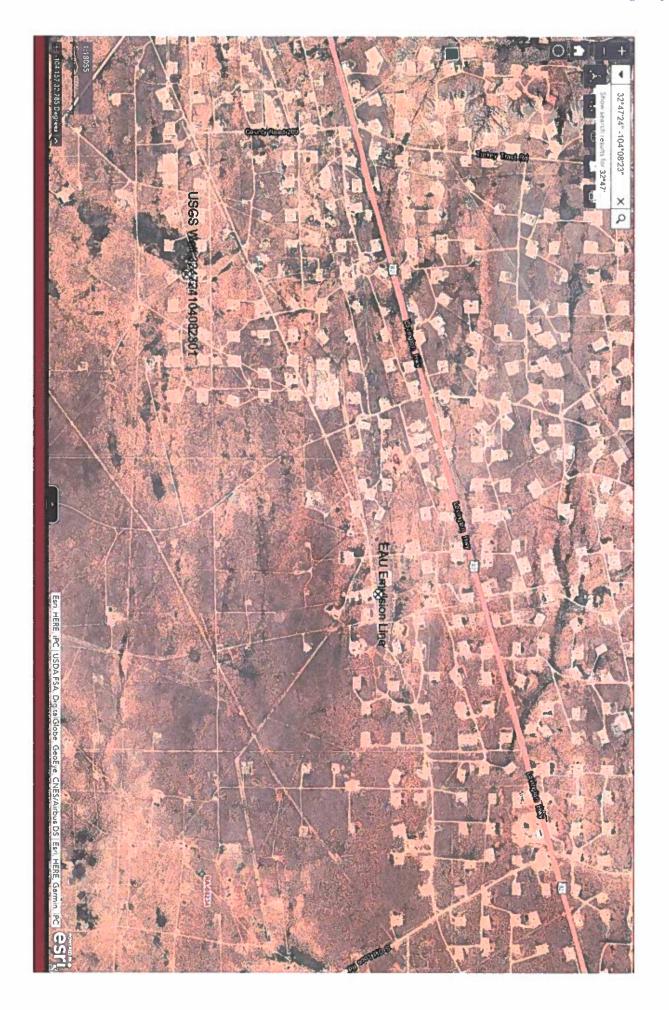
Incident ID	
District RP	
Facility ID	
Application ID	

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.

Photographs of the remediated site prior to must be notified 2 days prior to liner inspection	to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office on)
☐ Laboratory analyses of final sampling (No	ote: appropriate ODC District office must be notified 2 days prior to final sampling)
Description of remediation activities	
and regulations all operators are required to rep may endanger public health or the environment should their operations have failed to adequated human health or the environment. In addition, compliance with any other federal, state, or loca- restore, reclaim, and re-vegetate the impacted so	re is true and complete to the best of my knowledge and understand that pursuant to OCD rules ort and/or file certain release notifications and perform corrective actions for releases which. The acceptance of a C-141 report by the OCD does not relieve the operator of liability y investigate and remediate contamination that pose a threat to groundwater, surface water, OCD acceptance of a C-141 report does not relieve the operator of responsibility for al laws and/or regulations. The responsible party acknowledges they must substantially urface area to the conditions that existed prior to the release or their final land use in notification to the OCD when reclamation and re-vegetation are complete.
Printed Name: <u>Jeff Broom</u> Title: <u>I</u>	Environmental Technician
Signature: JEN Russ	Date: <u>1/2/2020</u>
Email: <u>Jeffrey.Broom@apachecorp.com</u>	Telephone: <u>432.664.4677</u>
OCD Only	
Received by:	Date:
	he responsible party of liability should their operations have failed to adequately investigate and roundwater, surface water, human health, or the environment nor does not relieve the responsible e, or local laws and/or regulations.
Closure Approved by:	Date:
Printed Name:	Title:
-	







USGS Home Contact USGS Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category:	Geographic Area:	
Groundwater ~	United States ~	GO

Click to hideNews Bulletins

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- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

• 324724104082301

Minimum number of levels = 1

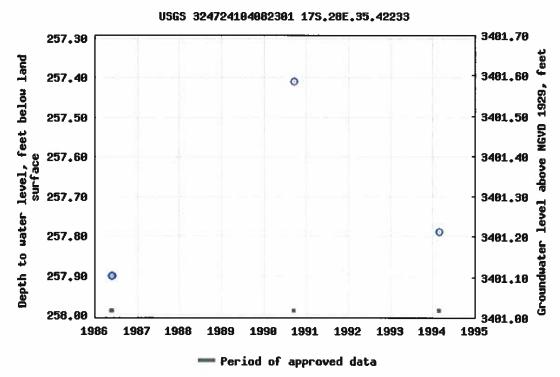
Save file of selected sites to local disk for future upload

USGS 324724104082301 17S.28E.35.42233

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 aquife	r.

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.

Download a presentation-quality graph

Questions about sites/data?
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U.S. Department of the Interior | U.S. Geological Survey

Title: Groundwater for USA: Water Levels

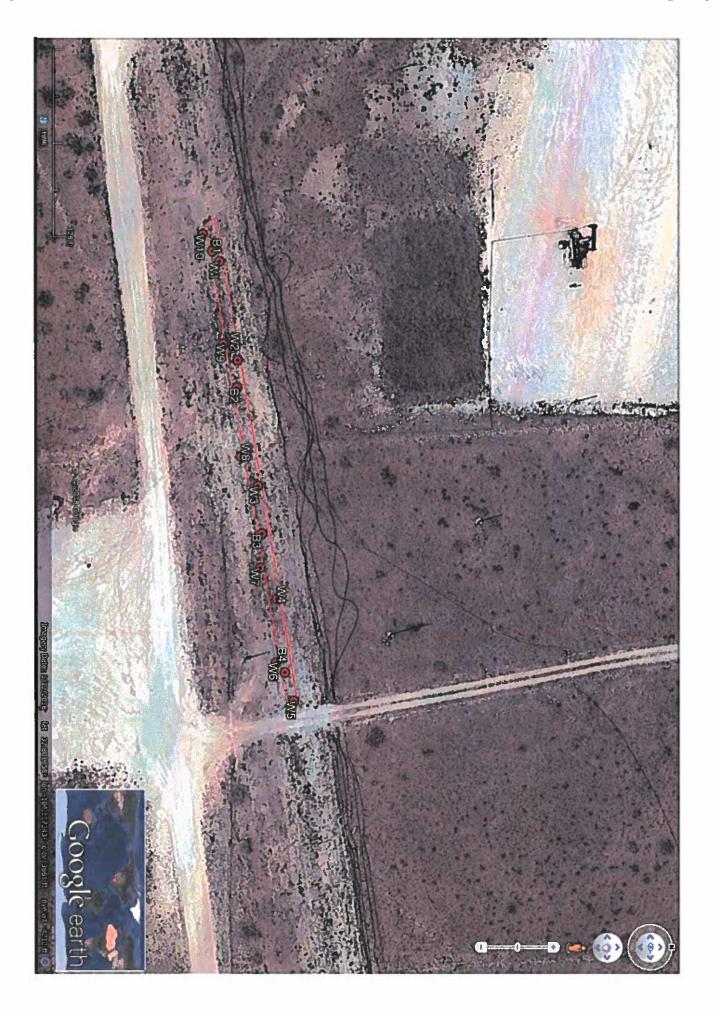
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: <u>USGS Water Data Support Team</u>

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

0.57 0.48 nadww01

USA.gov



EAU Emulsion Line Strike Final Sampling

Map ID	Sample	Sample ID	Depth	Chloride	Benzene	Toulene	Ethybenzene	Total	Total	GRO	DRO	EXT DRO	GPS Coordinates
			:	1))	•)))))	32.801497,
TW	6T07/17/0T	T-AA	4	ΔT	<0.050	<0.050	<0.050	OCT.0>	<0.300	0.01>	0.01>	0.01>	73 601574
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
C/W/	10/21/2010		ż	96	\0 0s0	70 0s0	V20 U20	V0 150	002 07	/10 0	/10 0	700	32.801574,
	10/11/2017		1	00	10.000	10.000	0000	10.100	20.000	10.0	10.0	**0.0	22 901 606
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
													32.801638,
W5	10/21/2019	W-5	4'	576	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	-104.116909
													32.801605,
W6	10/21/2019	W-6	4'	80	<0.050	<0.050	<0.050	<0.150	< 0.300	<10.0	<10.0	<10.0	-104.116994
i i		:	2		0)	0	1					32.801575,
W/	ST07/T7/0T	VV	4	TO	0000	00.000	0.000	OCT.0>	<0.500	V.0.0	V10.0	V.0.0	-104.11/204
;	722	;	<u>.</u>		0))		2				<u>.</u>	32.801539,
OAA	CTO2 /T2 /OT	O-44	t	450	70.000	10.000	V0.000	OCT.00	\0,300	V10.0	V.TO.0	V.TO.0	004,11.401
'			,							•			32.801505,
W9	6T07/17/0T	W-9	4	64	<0.050	<0.050	<0.050	<0.150	<0.300	0.01>	0.0T>	0.UT>	-104.11//U1
													32.801465,
W10	10/21/2019	W-10	4'	32	<0.050	<0.050	<0.050	< 0.150	<0.300	<10.0	<10.0	<10.0	-104.117944
													32.801484,
B1	10/21/2019	B-1	7"	368	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	-104.117907
													32.801531,
B2	10/21/2019	B-2	7'	1960	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	-104.117603
													32.801578,
В3	10/21/2019	B-3	7'	224	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	-104.117280
													32.801621,
В4	10/21/2019	B-4	7'	208	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	-104.116972



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 accreditated 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.

Celey L. Keina

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



Analytical Results For:

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

Fax To:

(575) 393-2432

Received:

10/21/2019

Reported:

10/22/2019

Project Name:

EMPIRE ABO - EMULSION

Project Number: Project Location:

NONE GIVEN

Sampling Date:

10/18/2019

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact

Tamara Oldaker

Sample ID: W - 1 (H903590-01)

BTEX 8021B	mg/	/kg	Analyze	d 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	99.2	% 73.3-12	!9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed 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	Analyze	d 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	2						
Surrogate: 1-Chlorooctadecane	106	% 37.6-14	17						

Cardinal Laboratories

*=Accredited Analyte

PLLASE, NOTE: Liberity and Dahages. Cardinars legislately and coloris excusive remote for any color and any other cause inflance or art, small or among or or any policy or any color and any other cause whatcover shall be deemed waved unless made in writing and received by Cardinal within thinty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages including, business interruptions, loss of use, or loss of profits incurred by cleant, as saturitients, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproducted except in full with written approval of Cardinal Laboratories.

Carry I trans



Analytical Results For:

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

Fax To: (575) 393-2432

Received:

RTFY 8021R

10/21/2019

Reported:

10/22/2019

Project Name:

EMPIRE ABO - EMULSION

Project Number: Project Location: NONE GIVEN

ma/ka

Sampling Date:

10/21/2019

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact Tamara Oldaker

Analyzed Ry: MS

NONE GIVEN

Sample ID: W - 2 (H903590-02)

BTEX 8021B	mg/	kg	Analyze	а ву: мэ					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BŞ	% Recovery	True Value QC	RPD	Qualifler
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	% 73,3-12	9						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d 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	Analyze	d 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	% 37.6-14	7						

Cardinal Laboratories

*=Accredited Analyte

PLANCE, MUTE: Liability and comagnes. Currinal's isolomicy and covern's excusive transport of any column recovery for any column control of any column completion of the applicable services. In no event shall Currinal be lable for incidental or consequential damages including, without limitation, business interruptions, loss of use, or loss of profits incurrind by client, its subsidiaries, affiliates or successors ensing out of or related to the performance of the services hereunder by Carrinal, regardless of whether sucl client is based upon any of the above stated reasons or otherwise. Results related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Colory 2 trans

Celey D. Keene, Lab Director/Quality Manager

Page 3 of 18



Analytical Results For:

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

Fax To: (575) 393-2432

Received:

10/21/2019

Reported: Project Name:

10/22/2019 EMPIRE ABO - EMULSION

Project Number:

NONE GIVEN

Project Location:

NONE GIVEN

Sampling Date:

10/21/2019

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact

Tamara Oldaker

Sample ID: W - 3 (H903590-03)

BTEX 8021B	mg/	/kg	Analyze	d 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 8TEX	<0.300	0.300	10/22/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIL	99.6	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	/kg	Analyze	d 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	Analyze	d 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 9	% 41-142	?						
Surrogate: 1-Chlorooctadecane	101 9	% 37.6-14	7						

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Analytical Results For:

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

Fax To:

(575) 393-2432

Analyzed By: MS

Received:

BTEX 8021B

10/21/2019

Reported: Project Name: 10/22/2019

Project Number: Project Location: **EMPIRE ABO - EMULSION**

NONE GIVEN

NONE GIVEN

ma/ka

Sampling Date:

10/21/2019

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact Tamara Oldaker

Sample ID: W - 4 (H903590-04)

DIEV OATTR	my,	rky	Analyze	u by: M3					
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	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	85	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	10/22/2019	ND	432	108	400	0.00	
TPH 8015M	mg	/kg	Analyze	d 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	% 37.6-14	7						

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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

Reported: Project Name: 10/22/2019 **EMPIRE ABO - EMULSION**

Project Number:

NONE GIVEN

Project Location:

NONE GIVEN

Sampling Date:

Sampling Type:

Sampling Condition:

Sample Received By:

10/21/2019

Soil

Cool & Intact Tamara Oldaker

Sample ID: W - 5 (H903590-05)

BTEX 8021B	mg/	kg	Anatyze	d By: MS					_
Analyte	Result	Reporting Limit	Analyzed	Method Slank	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	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d 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	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	8\$	% 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	% 37.6-14	7						

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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

Reported: Project Name: 10/22/2019 **EMPIRE ABO - EMULSION**

Project Number:

NONE GIVEN

Project Location:

NONE GIVEN

Sampling Date:

10/18/2019

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact Tamara Oldaker

Sample ID: W - 6 (H903590-06)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifler
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	99.5	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyze	d 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	Analyze	d 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 9	% 37.6-14	7						

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Analytical Results For:

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

Fax To:

(575) 393-2432

Analyzed By: MS

Received:

BTEX 8021B

10/21/2019

Reported: Project Name: 10/22/2019

Project Number:

EMPIRE ABO - EMULSION

ma/ka

Project Location:

NONE GIVEN

Sampling Date:

10/21/2019

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact Tamara Oldaker

NONE GIVEN

Sample ID: W - 7 (H903590-07)

DIEX 6021B	mg,	kg	Analyze	u by: M3					
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 (PIL	108	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d 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	Analyze	d 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	% 37.6-14	17						

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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:

BTEX 8021B

10/21/2019

Reported:

10/22/2019

Project Name:

EMPIRE ABO - EMULSION

Project Number: Project Location: NONE GIVEN

ma/ka

NONE GIVEN

Sampling Date:

10/21/2019

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Tamara Oldaker

Sample ID: W - 8 (H903590-08)

BIEX 8021B	mg/	Kg	Analyze	и ву: мэ					
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 (PIL	108 %	6 73.3-129	9						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	85	% Recovery	True Value QC	RPD	Qua lifler
Chloride	496	16.0	10/22/2019	NĐ	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyze	d 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	% 37.6-14	7						

Analyzed By: MS

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Analytical Results For:

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

Fax To:

(575) 393-2432

Analyzed By: MS

Received:

BTEX 8021B

10/21/2019

Reported: Project Name: 10/22/2019 EMPIRE ABO - EMULSION

Project Number: Project Location: NONE GIVEN

ma/ka

NONE GIVEN

Sampling Date:

10/21/2019

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact

Tamara Oldaker

Sample ID: W - 9 (H903590-09)

PIEV 8051P	mg/	Kg	Analyze	n bà: wa					
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 (PIL	107	% 73.3-12	9						
Chloride, SM4500Ct-B	mg,	/kg	Analyze	d 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	Analyze	d 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	% 37.6-14	7						

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Celey D. Keene, Lab Director/Quality Manager



Analytical Results For:

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

Fax To:

(575) 393-2432

Received:

10/21/2019

Reported:

10/22/2019

Project Name:

EMPIRE ABO - EMULSION

Project Number: Project Location: NONE GIVEN

NONE GIVEN

Sampling Date:

10/18/2019

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact Tamara Oldaker

Sample ID: W - 10 (H903590-10)

BTEX 8021B	mg/	kg	Analyze	d 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 (PIL	105	% 73.3-12	9						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d 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	Analyze	d 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	% 37.6-14	7						

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Analytical Results For:

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

Fax To:

(575) 393-2432

Analyzed By: MS

Received: Reported:

BTEX 8021B

10/21/2019

10/22/2019

Sampling Date: Sampling Type: 10/21/2019

Project Name:

EMPIRE ABO - EMULSION

pling Type: So

Soil Cool & Intact

Project Number:

NONE GIVEN

mg/kg

Sampling Condition: Sample Received By:

Tamara Oldaker

Project Location:

NONE GIVEN

Sample ID: B - 1 (H903590-11)

	*****	112	,	,,,,,,,					
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 (PIL	107	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d 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	Analyze	d 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	% 37.6-14	7						

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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: Reported: 10/21/2019

10/22/2019

Sampling Date: Sampling Type: 10/21/2019

Project Name:

EMPIRE ABO - EMULSION

Soil Cool & Intact

NONE GIVEN

Sampling Condition: Sample Received By:

Tamara Oldaker

Project Number: Project Location:

NONE GIVEN

Sample ID: B - 2 (H903590-12)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
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 (PIL	108	% 73.3-12	9						
Chloride, SM4500CI-8	mg/	'kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Chloride	1960	16.0	10/22/2019	ND	432	108	400	0.00	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qua ifier
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	% 37.6-14	7						

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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

Reported: Project Name: 10/22/2019 **EMPIRE ABO - EMULSION**

Project Number:

NONE GIVEN

Project Location:

NONE GIVEN

Sampling Date:

10/18/2019

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Tamara Oldaker

Sample ID: B - 3 (H903590-13)

BTEX 8021B	mg/	'kg	Anatyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifler
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 (PIL	109	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyze	d 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	Analyze	d 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: I-Chlorooctane	92.2	% 41-142	?						
Surrogate: 1-Chlorooctadecane	106	% 37.6-14	7						

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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

Analyzed By: MS

Received:

BTEX 8021B

10/21/2019

Reported: Project Name: 10/22/2019 EMPIRE ABO - EMULSION

Project Number:

NONE GIVEN

mg/kg

Project Location:

NONE GIVEN

Sampling Date:

10/18/2019

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Tamara Oldaker

Sample ID: B - 4 (H903590-14)

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	99.8 9	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyze	d 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	Analyze	d 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 9	% 41-142							
Surrogate: 1-Chlorooctadecane	97.6 9	% 37.6-14	7						

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*=Accredited Analyte

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Colog I time

Celey D. Keene, Lab Director/Quality Manager

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ND



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

Notes and Definitions

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

Analyte NOT DETECTED at or above the reporting limit

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Colleg I trees

Celey D. Keene, Lab Director/Quality Manager

Sampler - UPS - Bus - Other 2.50

2.9 correct

Sample Condition
Cool Intact
Yes Yes
No No

CHECKED BY: (Initials)

ると

Delivered By: (Circle One)

Time:



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: 12000	CIDOLATICA		OL TIIB	The state of the s	ANALYSIS	REQUEST	
Project Manager: 127 B	Block		P.O. #:				
			Company:				
City:	State: 2	Zip:	Attn:				
Phone #:	Fax #:		Address:				
Project #:	Project Owner:		City:				
Project Name: EMPICE	ABO EMUSICA		State: Zip:				_
Project Location:	1		Phone #:				
Sampler Name: Fance 18	Raster		Fax #:				
FOR LAB USE ONLY		MATRIX	PRESERV SAMPLING	NG			
Lab I.D. Sa	Sample I.D.)RAB OR (C)OMP CONTAINERS ROUNDWATER ASTEWATER DIL L UDGE	HER: DID/BASE: E / COOL HER;	CL EXT. TPH	3TEX		
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9-W-6			16121111200	2:00 1 1	\(\text{\tin}\text{\tetx{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\ti}\}\tittt{\text{\text{\ti}\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\texi}\text{\text{\text{\text{\text{\text{\texi}\text{\text{\text{\text{\text{\text{\text{\text{\texi}\tint{\text{\texi}\text{\texit}\tittt{\text{\texi}\text{\texit{\texi}\text{\texi}\text{\texi}\t		
01-10			10/18/19	2:20 1 1 1			
PLEASE NOTE: Liability and Champtes. Charistants liability and cleants exclusive remote/ for any claim altering whether besed in contract or fort, shall be lifeted to the amount paid by the cleant for the analyses. All claims including those for negligence and any other cause whatchever shall be determed waved unless reads in writing and restrict by Cardinal which 30 days after completence of the applicable service. In no event shall be calculated be lable for incidental or consequented elementers, including without interaction, business infaminishes, to the act to be a proble inclusive by Cardinal, insufficies or auccessors a visual out of or related to the performance of sorvices havenumber. Such claims to based upon any of the above stated reasons or otherwise.	s liability and cleant's excitaive remedy for any and any other cause whatsoever shall be deadental or consequental damages, including whe performance of sonices hereunder by Carr	claim sising whether based in contract in imed weived unless made in writing and Bhoul limitation, business Interruptions, it line, regardless of whether such claim is	or lart, shall be limbed to the amount paid received by Carpinal within 30 days alto cas of use, or loss of profits incursed by c s based upon any of the above stated res	d by the cleat for the r completon of the applicable Sent, its subsidiaries, Isons or otherwise.			
Relinquished By:	18121/19	Received By:		Phone Result: ☐ Yes	s \(\text{No} \text{ Add'! Phone #:} \) S \(\text{No} \text{ Add'! Fax #:} \)		
Relinquished By	10:21 pm	Brandi Oli	loaker	REMARKS:	アークト・マナー	Call Calling	8
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	mine.)			

Relinquished By:

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Received By:

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HSVS

Time:

Sampler - UPS - Bus - Other: Delivered By: (Circle One)

2.5° 2.9° corne

Sample Condition
Cool Intact
Cool Tes Tes
No No

なませ CHECKED BY: (Initials)



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Apulle	· Apache corporation		BILL TO	2		ANALYSIS REQUEST
Project Manager:	5 I		P.O. #:			
Address:			Company:		-	
City:	State:	Zip:	Attn:			
Phone #:	Fax #:		Address:			
Project #:	Project Owner:	r:	City:			
ame:	FMP/re ABO, Emulsion	:	State: Zip:			
Project Location:			Phone #:			
Sampler Name:	Mary Rossov		Fax #:			
FOR USE ONLY		MATRIX	ESERV.	SAMPLING		
		RS TER R			PH	
Lab I.D.	Sample I.D.	(G)RAB OR (C) # CONTAINE GROUNDWA WASTEWATE SOIL OIL SLUDGE	OTHER: ACID/BASE: ICE / COOL OTHER: DATE	TIME	EXT. TI ISTEX	
	B-1		10/21/19	1 8:50 H	7	
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PLEASE NOTE: LIABINY BY	PLEASE NOTE: Liability and Damages. Cardina's hability and client's exclusive remedy for any claim arising whether based in contract or fort, shall be finited to the amount paid by the client for the	say daim arising whether based in contrac	d or lart, shall be fimiled to the amou	nt paid by the client for the	-	-
analyses. All claims includir service. In no event shall Cu	analyzes. All chains including those for negligence and any other cause wheteover shall be deemed waved unless made in writing and received by Cardinal within 10 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or correspond damages, including without immation, business interruptions, loss of use, or force of profile incrumed by client, its arbeitsteines, services are serviced and the control of the extension of the control of the	e deemed waived unless made in writing an ng without limiteton, business Interruptions, Card nat	nd received by Cardinal within 30 day , loss of use, or loss of profits incurre , its bened upon any of the above stat	s after completion of the applied by client, its subsidieries, ed reasons or otherwise.	cable	
Relinduished By	y: Date: P	Received By:		Phone Result:		Ш
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Empire Abo Emulsion Line Photo Page

