Bratcher, Mike, EMNRD

From: Sent: To: Subject: Attachments: Gladden, Natalie [Natalie.Gladden@apachecorp.com] Monday, June 25, 2012 9:25 AM Bratcher, Mike, EMNRD Internal Report EPA G312.docx Internal Report EPA G312.docx

Mike,

Here is the internal investigation form that we use here at Apache. It has the initial sampling data performed before the work began. I will send the C141 today. I have been off, this is my first day back. I will scan and email then I will send you the original in the mail.

Thanks,

Natalie Gladder

Apache Corporation EHS Environmental Tech New Mexico District Cell: 575-390-4186 Office: 575-394-1503 x 1258 Fax: 575-394-2425 Email: natalie.gladden@apachecorp.com



Internal Incident Report – Spill/Release

Location: EPA G312 Emulsion Line

Production Area: Loco hills area

District: New Mexico

Date: 06/10/12

Time: 1040pm

One Line Summary: Fiberglass line leak

Full summary: Contractors in the area found the leak running down the road and called it into our local mechanic. The field was shut in by midnight, leak was isolated, vacuum trucks and backhoe was dispatched. 300bbls of oil/water mixture was released with recovering a total of 225bbls. The fiberglass line was repaired by midmorning 06/11/12.

Root cause of incident: Corrosion

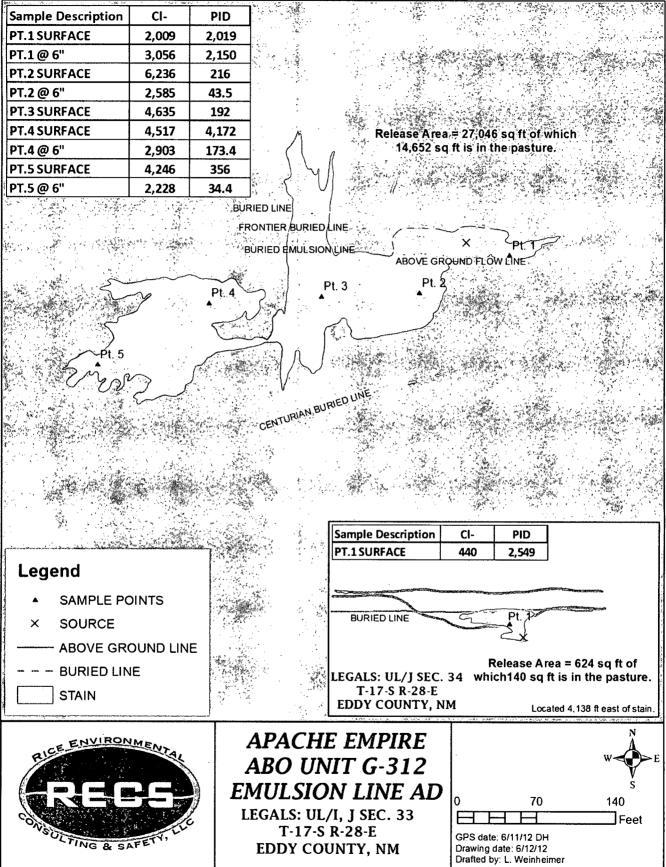
Corrective Actions:

1. Line was buried inside a junction box, therefore there is to preventative measures that could have been taken to prevent this release.

2.

Reported by: Natalie Gladden

Initial Sampling Field Data

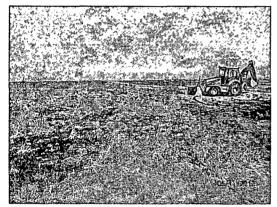


Apache Empire Abo Unit G-312 Emulsion Line Unit Letter I,J, Section 33, T17S, R28E



Initial release area, facing west

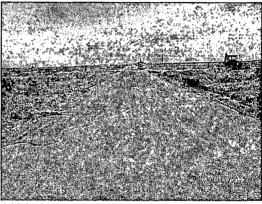
6/11/12



Initial release area, facing east

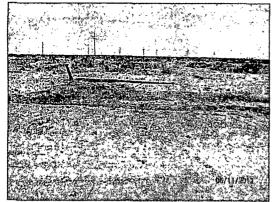
6/11/12





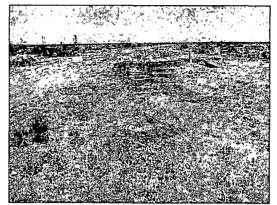
Initial release area, facing north

6/11/12



Initial release area, facing south

6/11/12



Initial release area, facing east

6/11/12

Bratcher, Mike, EMNRD

From:	Bruce Baker [bbaker@rice-ecs.com]
Sent:	Thursday, June 21, 2012 10:17 AM
То:	Bratcher, Mike, EMNRD
Cc:	'Blackmon, Leland'; hconder@rice-ecs.com
Subject:	RE: Apache Empire ABO Unit G-312 Accidental Discharge
Attachments:	1 Initial sampling Lab.pdf; 2 Vertical sampling Lab.pdf

Mr. Bratcher here is the analytical data for this site.

From: Bratcher, Mike, EMNRD [mailto:mike.bratcher@state.nm.us]
Sent: Thursday, June 21, 2012 9:49 AM
To: Bruce Baker
Cc: 'Blackmon, Leland'; <u>hconder@rice-ecs.com</u>; Gladden, Natalie
Subject: RE: Apache Empire ABO Unit G-312 Accidental Discharge

Bruce,

I don't have the C-141 for this incident yet. It was reported as a 300 bbl oil release w/225 bbls recovered. The initial field data submitted showed chloride and VOC data. I will need analytical data for hydrocarbons (GRO/DRO) to assess the release.

Mike Bratcher

NMOCD District 2 811 S. First Street Artesia, NM 88210 575-748-1283 Ext. 108 575-626-0857 <u>mike.bratcher@state.nm.us</u>

From: Bruce Baker [mailto:bbaker@rice-ecs.com]
Sent: Wednesday, June 20, 2012 2:51 PM
To: Bratcher, Mike, EMNRD
Cc: 'Blackmon, Leland'; <u>hconder@rice-ecs.com</u>
Subject: FW: Apache Empire ABO Unit G-312 Accidental Discharge

Mr. Bratcher, the discharge was from a 6" fiberglass line (Trunk line) from G-312 Booster station to the D-40 Battery. Thanks and have a good day.

From: Bruce Baker [mailto:bbaker@rice-ecs.com]
Sent: Thursday, June 14, 2012 2:26 PM
To: 'mike.bratcher@state.nm.us'
Cc: 'Gladden, Natalie'; 'hconder@rice-ecs.com'
Subject: Apache Empire ABO Unit G-312 Accidental Discharge

Mr. Bratcher,

Here is the data for the Apache Empire ABO Unit G-312. At this time we are currently removing contaminated soil. I would like to call or meet next week about a path forward. RECS appreciates the opportunity to work with you on this project. Please call me if you have any questions or wish to discuss the site.

Bruce Baker Head Foreman Phone: (575) 393-4411 Cell: (575) 631-5157

.



June 14, 2012

NATALIE GLADDEN APACHE - EUNICE P. O. BOX 1849 EUNICE, NM 88231

RE: EMPIRE ABO UNIT EMULSION LINE A.D.

Enclosed are the results of analyses for samples received by the laboratory on 06/12/12 7:58.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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.

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,

Celeg & Keine

Celey D. Keene Lab Director/Quality Manager



APACHE - EUNICE NATALIE GLADDEN P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received:	06/12/2012	Sampling Date:	06/11/2012
Reported:	06/14/2012	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT EMULSION LINE A.D.	Sampling Condition:	Cool & Intact
Project Number: Project Location:	NONE GIVEN	Sample Received By:	Jodi Henson

Sample ID: PT. 1 SURFACE (H201309-01)

Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BŞ	% Recovery	True Value QC	RPD	Qualifier
Chloride	2800 16.0		06/13/2012	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS			······································		S-06
Analyte	Result	Reporting Limit	Analyzed 06/13/2012	Method Blank ND	BS	% Recovery	True Value QC	RPD 0.771	Qualifier
GRO C6-C10	3920	50.0			181	90.7	200		
DR0 >C10-C28			06/13/2012	ND	181	90.5	200	1.21	
Surrogate: 1-Chlorooctane			0						
Surrogate: 1-Chlorooctadecane	269	% 63.6-15	4						

Sample ID: PT. 2 SURFACE (H201309-02)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4960	16.0	06/13/2012	ND	416	104	400	3.92	
трн 8015м	mg,	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed 06/13/2012	Method Blank ND ND	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	1380	50.0			181 181	90.7	200	0.771	
DR0 >C10-C28	8690	50.0	06/13/2012			90.5	200	1.21	
Surrogate: 1-Chlorooctane	246	246 % 65.2-14							
Surrogate: 1-Chlorooctadecane	252	% 63.6-15	4						

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 Di Keine

Celey D. Keene, Lab Director/Quality Manager



APACHE - EUNICE NATALIE GLADDEN P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received:	06/12/2012	Sampling Date:	06/11/2012
Reported:	06/14/2012	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT EMULSION LINE A.D.	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT. 3 SURFACE (H201309-03)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4640	16.0	06/13/2012 ND		416	104	400	3.92	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD 0.771	Qualifier
GRO C6-C10	193	10.0	06/13/2012	ND	181	90.7	200		
DRO >C10-C28			06/13/2012	ND	181	90.5	200	1.21	
Surrogate: 1-Chlorooctane			0						
urrogate: 1-Chlorooctadecane 129 %		% 63.6-15	4						

Sample ID: PT. 4 SURFACE (H201309-04)

Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4640	16.0	06/13/2012	ND	416	104	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS			·····		S-06
Analyte	Result	Reporting Limit	Analyzed 06/13/2012	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	4630	50.0		ND	181	90.7	200	0.771	
DRO >C10-C28	16500	50.0	06/13/2012	ND	181	90.5	200	1.21	
Surrogate: 1-Chlorooctane	227	% 65.2-14	0				A		
urrogate: 1-Chlorooctadecane 254		% 63.6-15	4						

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 lable 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.

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



APACHE - EUNICE NATALIE GLADDEN P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received:	06/12/2012	Sampling Date:	06/11/2012
Reported:	06/14/2012	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT EMULSION LINE A.D.	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT. 5 SURFACE (H201309-05)

	mg/	/kg	Analyze	d By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie	
Chloride	4160	16.0	06/13/2012	NÐ	416	104	400	3.92		
трн 8015м	mg/	/kg	Analyze	d By: MS					S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	. Qualifie	
GRO C6-C10	1160	50.0	06/13/2012	ND	181	90.7	200	0.771		
DRO >C10-C28	11500	50.0	06/13/2012	ND	181	90.5	200	1.21		
Surrogate: 1-Chlorooctane	289	% 65.2-14	0							
Surrogate: 1-Chlorooctadecane	227	% 63.6-15	4 F:	5 this	a					
				0.0						
Sample ID: PT. 1 SURFACE ((H201309-0	06)	2	nd p7	.1					
•	(H201309-(mg,		2 — 50	s this nd pj urface	>					
•	•		21 50 Ar \$	IN ACO	>	a) overy	True Value QC	RPD	Qualifie	
Chloride, SM4500Cl-B Analyte	mg,	/kg	— <i>50</i>	nd pj urface Sed	>	e 2 ^{overy} 4	True Value QC 400	RPD 3.92	Qualifie	
Chloride, SM4500Cl-B Analyte Chloride	Result	Reporting Limit		IN ACO	>	و میں 14	•		Qualifie	
Chloride, SM4500Cl-B Analyte Chloride	Result	Reporting Limit		IN ACO	>	l 2 overy 4 % Recovery	•		-	
Chloride, SM4500CI-B Analyte Chloride TPH 8015M Analyte	mg, Result 944 mg,	Reporting Limit 16.0 /kg		sed	> 2. pAS		400	3.92	S-06	
Chloride, SM4500Cl-B Analyte Chloride TPH 8015M Analyte GRO C6-C10	mg, Result 944 mg, Result	Reporting Limit 16.0 /kg Reporting Limit	Ar 06/ Analyzed	Method Blank	> 2 pAS BS	% Recovery	400 True Value QC	3.92 RPD	S-06	
Chloride, SM4500Cl-B Analyte Chloride TPH 8015M	mg, Result 944 mg, Result 2450	/kg Reporting Limit 16.0 /kg Reporting Limit 100 100	Ar 06/ 1 Analyzed 06/13/2012 06/13/2012	Method Blank	рАЗ ВS 181	% Recovery 90.7	400 True Value QC 200	3.92 RPD 0.771	S-06	

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardina'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 thirin (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business instruptions, 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 claims is atter transmost or otherwise. Results relate only to the sample identified above. This report shall not be reproduced except in full with writter approval of Cardinal Laboratories.

Celez D. Kune

Celey D. Keene, Lab Director/Quality Manager



Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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.

Celeg Di Kune

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 6 of 6

ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603

(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

Company Name	Company Name: Apache								BI	BILL TO					1	ANAI	_YSIS	S RE	QUE	ST		
Project Manage	r: Natalie Gladden						Ρ.	0. #:]	Γ									
Address:							Co	ompai	ту:				l .			S					P.	
City:	State: NM	Zij):				At	Attn:								Cations/Anion						
Phone #:	Fax #:						Ac	dres):):							Yn.						
Project #:	roject #: Project Owner:					Ci	ty:				6	Σ		T	s//							
Project Name: EMpiRe Abo Unit Emission have A.O.					St	ate:		Zip:		Chlorides	12	\times	HGT	Ч								
Project Location:				Pł	ione t	ŧ:			Ĕ	801	BTEX	S	ati	TDS								
Sampler Name:	DAKSton Horreis							x #:				E	TPH 8 BT	В	x a	Ű	F					
FOR LAB USE ONLY					MA	TRIX		PRES	SERV	SAMPL	ING	0			Texas	fe						
Lab I.D. H201309	Sample I.D.	(G)RAB OR (C)OM	# CONTAINERS	GROUNDWATER	WAS I EWA I EK SOIL	OIL 01	OTHER :	ACID/BASE:	OTHER :	DATE	TIME		F			Complete						
1	pT. 1 Surface	6	U						-	61112		V	dine .								 	
2	pJ. 2 Surface	E.	1		1					6-11-12	10:05	d.			w 11.7411			· · · · · · · · · · · ·			 	
3	pt.3 surface	6	4		1	 			4	6-11-12	10:10	2 ⁴	م رو 								 	
<u> </u>	pT, 4 Surface		1		/			·	<u></u>	6-11-12	10:15	2/									 	
5	ptis surface	Ľ,	1		6.00					6-142	10,30	i/	5 mm	<i>-</i>						·····	 	
6	pT.1 Surface pT.2 Surface pT.3 Surface pT.4 Surface pT.5 Surface pT.1 Surface	4	1						<u>}</u>	6-1178	J:30		/		•••••••		-	· · · · · · · · · · · · · · · · · · ·			 	
······			1							·		•••••				····					 	

PLEASE NOTE: Liability and Damages. Cardmails liability and client's exclusive remedy for any claim arising whether based in contract or tort, shell be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed valved unless made at willing and required by Cardmail within 30 days after completion of the applicable service. In no event ahell Cardmail within 30 days after completion of the applicable service. In one event ahell Cardmail within the sub-state of the sub-state is sub-stated by Cardmail within 30 days after completion of the applicable service. In one event ahell Cardmail within the sub-state of the sub-state and the sub-state service at the client is based to the performance of services becaude the V Cardmail, reardless of whether sub-client above state is above state is above state active twe wrise.

Relinguished By	Date:6/12/12 Received By:		Phone Result: Yes No Add'I Phone #: Fax Result: Yes No Add'I Fax #: REMARKS:
Relinquished By:	Date 12/12 Received By: Type: 58 Madi Me	MAON	email results Natalie.Gladden@usa.apachecorp.com; Zander@rine.com.Bhakar@rine.com;
Delivered By: (Circle One)	Sample Condition Cool_Intact	CHECKED BY: //(lhitials)	Zconder@rice-ecs.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com
Sampler - UPS - Bus - Other:	- Yes - Yes C No No	67th	

#26

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476



June 18, 2012

NATALIE GLADDEN

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

RE: EMPIRE ABO UNIT G-B12 EMULSION LINE A.D.

Enclosed are the results of analyses for samples received by the laboratory on 06/13/12 10:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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 accredited 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.

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,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager



APACHE - EUNICE NATALIE GLADDEN P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received:	06/13/2012	Sampling Date:	06/12/2012
Reported:	06/18/2012	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT G-B12 EMULSION LIN	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT 1 VERTICAL #1 @ 1' (H201330-01)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/15/2012	ND	416	104	400	3.77	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/14/2012	ND	177	88.7	200	6.72	
DRO >C10-C28	56.0	10.0	06/14/2012	ND	176	87.9	200	8.73	
Surrogate: 1-Chlorooctane	101	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	122	% 63.6-15	4						

Sample ID: PT 1 VERTICAL #1 @ 1'6" (H201330-02)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP		<u> </u>			
Anaiyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/15/2012	ND	416	104	400	3.77	
ТРН 8015М	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/14/2012	ND	177	88.7	200	6.72	
DRO >C10-C28	208	10.0	06/14/2012	ND	176	87.9	200	8.73	
Surrogate: 1-Chlorooctane	96.1	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	115	% 63.6-15	4						

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and cient'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 daims, including those for negligence and any other cause whetsoever 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 subsidianes, 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 show stated reasons or othewise. Results relate only to the samples defended exore. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg Di Kune

Celey D. Keene, Lab Director/Quality Manager



APACHE - EUNICE NATALIE GLADDEN P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received:	06/13/2012	Sampling Date:	06/12/2012
Reported:	06/18/2012	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT G-B12 EMULSION LIN	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT 2 VERTICAL #2 @ 3' (H201330-03)

Chloride, SM4500Cl-B	mg,	mg/kg		Analyzed By: AP					
Anaiyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	06/15/2012	ND	416	104	400	3.77	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/14/2012	ND	177	88.7	200	6.72	
DRO >C10-C28	94.8	10.0	06/14/2012	ND	176	87.9	200	8.73	
Surrogate: 1-Chlorooctane	93.2	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	125	% 63.6-15	4						

Sample ID: PT 2 VERTICAL #2 @ 3'6" (H201330-04)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	06/15/2012	ND	416	104	400	3.77	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/14/2012	ND	177	88.7	200	6.72	·
DRO >C10-C28	<10.0	10.0	06/14/2012	ND	176	87.9	200	8.73	
Surrogate: 1-Chlorooctane	109	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	123	% 63.6-15	4						

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and dient's exclusive remedy for any claim arising, whether based in contract or toxt, 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 recoved by Cardinal within tithint (17) 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 abuse stated reasons or otherwise. Results relate only to the samples demetted abave. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg Di Kune

Celey D. Keene, Lab Director/Quality Manager



APACHE - EUNICE NATALIE GLADDEN P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received: Reported:	06/13/2012 06/18/2012	Sampling Date: Sampling Type:	06/12/2012 Soil
Project Name:	EMPIRE ABO UNIT G-B12 EMULSION LIN	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT 3 VERTICAL #3 @ 2' (H201330-05)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	06/18/2012	ND	432	108	400	3.77	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BŞ	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/14/2012	ND	177	88.7	200	6.72	
DRO >C10-C28	<10.0	10.0	06/14/2012	ND	176	87.9	200	8.73	
Surrogate: 1-Chlorooctane	101	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	116	% 63.6-15	4						

Sample ID: PT 3 VERTICAL #3 @ 2'6" (H201330-06)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	06/18/2012	ND	432	108	400	3.77	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/14/2012	ND	177	88.7	200	6.72	
DRO >C10-C28	12.4	10.0	06/14/2012	ND	176	87.9	200	8.73	
Surrogate: 1-Chlorooctane	96.7	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	109	% 63.6-15	4						

Cardinal Laboratories

*=Accredited Analyte

PLEXEE NOTE: Liability and Dametes. 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, busiess interruptions, 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 sample definited above. This report shall not be reproduced except in full with writtm approval of Cardinal Laboratories.

Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



APACHE - EUNICE NATALIE GLADDEN P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received: Reported:	06/13/2012 06/18/2012	Sampling Date: Sampling Type:	06/12/2012 Soil
Project Name:	EMPIRE ABO UNIT G-B12 EMULSION LIN	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT 4 VERTICAL #4 @ 2'6" (H201330-07)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	06/18/2012	ND	432	108	400	3.77	•
TPH 8015M	/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	06/14/2012	ND	177	88.7	200	6.72	
DRO >C10-C28	<10.0	10.0	06/14/2012	ND	176	87.9	200	8.73	
Surrogate: 1-Chlorooctane	96.3	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	112	% 63.6-15	4						

Sample ID: PT 4 VERTICAL #4 @ 3' (H201330-08)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP				· · · · · · ·		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0 16.0		06/18/2012	ND	432	108	400	3.77		
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	06/14/2012	ND	177	88.7	200	6.72		
DRO >C10-C28	<10.0	10.0	06/14/2012	ND	176	87.9	200	8.73		
Surrogate: 1-Chlorooctane	112	% 65.2-14	0							
Surrogate: 1-Chlorooctadecane	129	% 63.6-15	4							

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 those for negligence and any other kause based service. This repair the service and the service of the service of the service of the service 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.

Celeg D. Keene

Celey D. Keene, Lab Director/Quality Manager



APACHE - EUNICE NATALIE GLADDEN P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received:	06/13/2012	Sampling Date:	06/12/2012
Reported:	06/18/2012	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT G-B12 EMULSION LIN	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT 5 VERTICAL #5 @ 2'6" (H201330-09)

Chloride, SM4500Cl-B	4500Cl-B mg/kg			4500Cl-B mg/kg Analyzed By: AP								·
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier			
Chloride	96.0	16.0	16.0 06/18/2012		432	108	400	3.77				
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	06/14/2012	ND	177	88.7	200	6.72				
DRO >C10-C28	25.8	10.0	06/14/2012	ND	176	87.9	200	8.73				
Surrogate: 1-Chlorooctane	108 9	65.2-14	0									
Surrogate: 1-Chlorooctadecane	128 9	63.6-15	4									

Sample ID: PT 5 VERTICAL #5 @ 3' (H201330-10)

Chloride, SM4500CI-B	SM4500Cl-B mg/kg			d By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	06/18/2012	ND	432	108	400	3.77		
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	06/14/2012	ND	193	96.4	200	1.52		
DRO >C10-C28	105	10.0	06/14/2012	ND	200	99.8	200	2.47		
Surrogate: 1-Chlorooctane	99.6	% 65.2-14	0							
Surrogate: 1-Chlorooctadecane	123	% 63.6-15	4							

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 whistoever shall be deemed waived 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, 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 detained and to the reproduced except in full with written approval of Cardinal Laboratories.

Celuz D. Kune

Celey D. Keene, Lab Director/Quality Manager



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 $6^{\circ}C$
	Samples reported on an as received basis (wet) unless otherwise noted on report

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 clarms, including those for negligence and any other cause whatsoever shall be deemed waived 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, whole limitation, business interruptions, loss of use, or loss of profits incurrent by client, its subidiaries, affiliates or successers arising out 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 Di Keine

Celey D. Keene, Lab Director/Quality Manager

ARDINAL LABORATORIES

R

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603 (505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

Company Name	^{a:} Apachė							BILL TO				ANALYSIS REQUEST												
Project Manage	r: Natalie Gladden						P,	.0. #	:				Ι									,		
Address:							С	ompi	any:	:]				s							
City:	State: NM	Zip):				A	ttn:					1				Cations/Anions							
Phone #:	Fax #:						A	ddre	ss:				1				, ni							
Project #:	Project Owne	r:					C	ity:			**************************************			Σ		·	√/S							
Project Name:	Empire Abo (In: + 6-B)	21	im	Jsi	xo].		SI	tate:		Z	Zip:	**************************************	es	2		TPH	Ĕ							
Project Locatio	n:		ł	0.0	···· • ····•		Р	hone	#:				Chlorides	801	BTEX	H (0	Ę	S						
Sampler Name:	Dallsten Harris						Fa	3x #:					2		L M	Texas	ပိ	P						
FOR LAS USE ONLY		Τ	Γ		MAT	RIX		A DESCRIPTION OF THE OWNER OWNER OF THE OWNER OWNER OWNER OF THE OWNER OWNE	ESER	₹٧.	SAMPL	NG	 う	H		ω.	Ø							i
Lab I.D. H20(330)	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	GROUNDWATER MASTEMATER	SOIL	OIL	SLUDGE OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME		}			Complete							
1	PTIVertuil# [C 1] PTIVErtuil# [E. I'le"	6-	1		1				/	k	21212	2:00	/	L.					·					
L.	PTI Vertnul #1 E. 1' 10"	Ċ.	1		1		 		1	Ľ	1212	9:45	1	المعربة										
3	pTA Vintua # 2 C 3'	6			1				1		12-12		200		·									
	pTA Vertical # A C3'6"	0			1	,	 		1		-12-12		Survey											
5	pT3 Ventual # 3 C A'	1)						/			0:00	1	م. مربا										
6	053 Ventual #30 9'6'	6			1				• <i>J</i> .			2:25		~										
	pr4 Ventical #4 2 3'b"	6	4		v				1			3:30	~	V							·			
	pT. 4 Ventra 7 4 4 2 3'	6	Ļ		. Kry		Ļ		4	Ľ.	-19-12	9:35	*	×.								·		
	17.5 Ventrai # 50.9'0"	<u>0</u> -	1	<u> </u>			<u> </u>		1	_Ľ	-12-14	and a	<u>,</u>	<u>~</u> ,										
	PTS VORAN 45C-3	0	ν		المحملا	1	1		*	- 6	19-12	9:45	V	1/		1	- 1	1		1	i	Ì		

PLEASE NOTE: Endery and Danninger. Cardinals liability and elent's evolutive remedy for any claim arising whether based in contract or tori, shall be timited to the amount pand by the claim for the malyses. All claims including flose for negligence and any other cause whatsoever shall be deemed valved unless made in wriging and received by Cardinal, while 30 days after completion of the applicable service. In no event shall Overfinat be table for molecular to cause resents dramages, including without initiations, buildess interruptions, loss of tree, or loss of proble includered by cleant, as subsidiaries affiliates or processors/sitisping out of an end/site in the processor beneficient of vorticinal, reproduced by cleant, as a barrow failer in essance or therewise.

	its of services nervorate of Cartains, requires and whether socialisating is based fibble any of the approximated r	RASUIS OF GUERANSE.
Relinguished By: //	Date: g. 12 Received By:	Phone Result:
1 to buttor V to a		Fax Result:
1 KATTON ALAND	Time:	REMARKS:
MAN THERE	10745 Man Mull	
Relinquished/By:	Date: Received By:	email results
	Vortstelland All In	
	Time: A AUI ARANGAR	Natalie.Gladden@usa.apachecorp.com;
Lunal Ar will	1051) Martin Martin V	
Delivered By. (Circle One)	// Sample Condition CHECKED BY:	Zconder@rice-ecs.com; Bbaker@rice-ecs.com;
and the second sec	Cool Intact (Initiats)	hconder@rice-ecs.com; Lweinheimer@rice-ecs.com
Sampler - UPS - Bus - Other:	- L+ Cl-Yes Aryes / Physical	neonder@nee ees.com, Eweinnermen@nee ees.com

______t-Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476