



Form C-141 Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

API No. 30-015-00844

Release Notification and Corrective Action	

	OPERATOR	🛛 Initial Report	Final Report
Name of Company: Apache Corporation	Contact: Bruce Baker		
Address: 8 Ellison Lane Eunice, NM 88231	Telephone No. (432) 631-6982		
Facility Name: Empire Abo Unit O-8	Facility Type: Oil Well		

Surface Owner BLM

Date: 12/30/13

LOCATION OF RELEASE

Mineral Owner

Unit Letter M	Section 3	Township 18S	Range 27E	Feet from the	North/South Line	Feet from the	East/West Line	County Eddy	
191		105							

Latitude: <u>32*46'8.886"N</u> Longitude: <u>104*16'25.563"W</u>

NATURE OF RELEASE

Type of Release oil and produced water ·	Volume of Release 8 barrels (6 barrels water and 2 barrels oil)	oil and 1 ba	covered 2 barrels (1 barrel rrel water)					
Source of Release Flow-line	Date and Hour of Occurrence	Date and He 8:00 a.m.	our of Discovery 12/19/13 at					
Was Immediate Notice Given?	If YES, To Whom? Left Message with Jeffery Roberts	on (BLM)						
By Whom? Bruce Baker	Date and Hour 12/19/2013 at 2:00							
Was a Watercourse Reached?	If YES, Volume Impacting the Wa	tercourse.						
If a Watercourse was Impacted, Describe Fully.*								
Describe Cause of Problem and Remedial Action Taken.* The steal flow line pressured up and released fluid from two previous line repair clamps. Well was shut in and vacuum truck was dispatched to pick-up fluid. Line was replaced with a new poly line. Describe Area Affected and Cleanup Action Taken.* The entire release was in the pasture (6,986 square feet). The site was mapped and surface samples collected and field tested for chlorides. The site will be delineated and corrective action plan will be submitted to resolve the issue.								
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.								
	OIL CONSERV	VATION I	DIVISION					
Signature: Buce Baker								
Printed Name: Bruce Baker	Approved by Environmental Speciali	st:						
Title: Environmental Technician	Approval Date:	Expiration D	ate:					
E-mail Address: larry.baker@apachecorp.com	Conditions of Approval:		Attached					

Phone: (432) 631-6982



August 06, 2014

LAURA FLORES RICE ENVIRONMENTAL CONSULTING & SAFETY LLC 419 W. CAIN HOBBS, NM 88240

RE: EMPIRE ABO #08

Enclosed are the results of analyses for samples received by the laboratory on 08/01/14 12:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab_accred_certif.html.

Cardinal Laboratories is 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,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



RICE ENVIRONMENTAL CONSULTING & SAFETY LAURA FLORES 419 W. CAIN HOBBS NM, 88240 Fax To: (575) 397-1471

Received:	08/01/2014	Sampling Date:	07/30/2014
Reported:	08/06/2014	Sampling Type:	Soil
Project Name:	EMPIRE ABO #08	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: WEST WALL 1 (H402368-01)

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	08/04/2014	ND	1.65	82.7	2.00	8.41	
Toluene*	<0.050	0.050	08/04/2014	ND	1.68	84.1	2.00	7.43	
Ethylbenzene*	<0.050	0.050	08/04/2014	ND	1.66	83.0	2.00	7.40	
Total Xylenes*	<0.150	0.150	08/04/2014	ND	5.18	86.4	6.00	7.49	
Total BTEX	<0.300	0.300	08/04/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	100 %	6 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/05/2014	ND	400	100	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	08/04/2014	ND	200	99.8	200	2.11	
DRO >C10-C28	<10.0	10.0	08/04/2014	ND	207	104	200	4.91	
Surrogate: 1-Chlorooctane	89.1 9	65.2-14	0						
Surrogate: 1-Chlorooctadecane	95.8 9	63.6-15	4						

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



RICE ENVIRONMENTAL CONSULTING & SAFETY LAURA FLORES 419 W. CAIN HOBBS NM, 88240 Fax To: (575) 397-1471

Received:	08/01/2014	Sampling Date:	07/30/2014
Reported:	08/06/2014	Sampling Type:	Soil
Project Name:	EMPIRE ABO #08	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: WEST WALL 2 (H402368-02)

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	08/04/2014	ND	1.65	82.7	2.00	8.41	
Toluene*	<0.050	0.050	08/04/2014	ND	1.68	84.1	2.00	7.43	
Ethylbenzene*	<0.050	0.050	08/04/2014	ND	1.66	83.0	2.00	7.40	
Total Xylenes*	<0.150	0.150	08/04/2014	ND	5.18	86.4	6.00	7.49	
Total BTEX	<0.300	0.300	08/04/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	97.0 9	89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	08/05/2014	ND	400	100	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	<20.0	20.0	08/04/2014	ND	200	99.8	200	2.11	
DRO >C10-C28	<10.0	10.0	08/04/2014	ND	207	104	200	4.91	
Surrogate: 1-Chlorooctane	93.3 9	65.2-14	0						
Surrogate: 1-Chlorooctadecane	101 %	63.6-15	4						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



RICE ENVIRONMENTAL CONSULTING & SAFETY LAURA FLORES 419 W. CAIN HOBBS NM, 88240 Fax To: (575) 397-1471

Received:	08/01/2014	Sampling Date:	07/30/2014
Reported:	08/06/2014	Sampling Type:	Soil
Project Name:	EMPIRE ABO #08	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: WEST WALL 3 (H402368-03)

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	08/04/2014	ND	1.65	82.7	2.00	8.41	
Toluene*	<0.050	0.050	08/04/2014	ND	1.68	84.1	2.00	7.43	
Ethylbenzene*	<0.050	0.050	08/04/2014	ND	1.66	83.0	2.00	7.40	
Total Xylenes*	<0.150	0.150	08/04/2014	ND	5.18	86.4	6.00	7.49	
Total BTEX	<0.300	0.300	08/04/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	<i>99.7</i>	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	08/05/2014	ND	400	100	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	08/04/2014	ND	200	99.8	200	2.11	
DRO >C10-C28	<10.0	10.0	08/04/2014	ND	207	104	200	4.91	
Surrogate: 1-Chlorooctane	85.8	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	93.1	63.6-15	4						

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RICE ENVIRONMENTAL CONSULTING & SAFETY LAURA FLORES 419 W. CAIN HOBBS NM, 88240 Fax To: (575) 397-1471

Received:	08/01/2014	Sampling Date:	07/30/2014
Reported:	08/06/2014	Sampling Type:	Soil
Project Name:	EMPIRE ABO #08	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: EAST WALL 1 (H402368-04)

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	08/04/2014	ND	1.65	82.7	2.00	8.41	
Toluene*	<0.050	0.050	08/04/2014	ND	1.68	84.1	2.00	7.43	
Ethylbenzene*	<0.050	0.050	08/04/2014	ND	1.66	83.0	2.00	7.40	
Total Xylenes*	<0.150	0.150	08/04/2014	ND	5.18	86.4	6.00	7.49	
Total BTEX	<0.300	0.300	08/04/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.5	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	624	16.0	08/05/2014	ND	400	100	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	08/04/2014	ND	200	99.8	200	2.11	
DRO >C10-C28	<10.0	10.0	08/04/2014	ND	207	104	200	4.91	
Surrogate: 1-Chlorooctane	90.2	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	95.4	% 63.6-15	4						

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RICE ENVIRONMENTAL CONSULTING & SAFETY LAURA FLORES 419 W. CAIN HOBBS NM, 88240 Fax To: (575) 397-1471

Received:	08/01/2014	Sampling Date:	07/30/2014
Reported:	08/06/2014	Sampling Type:	Soil
Project Name:	EMPIRE ABO #08	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: EAST WALL 2 (H402368-05)

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	08/04/2014	ND	1.65	82.7	2.00	8.41	
Toluene*	<0.050	0.050	08/04/2014	ND	1.68	84.1	2.00	7.43	
Ethylbenzene*	<0.050	0.050	08/04/2014	ND	1.66	83.0	2.00	7.40	
Total Xylenes*	<0.150	0.150	08/04/2014	ND	5.18	86.4	6.00	7.49	
Total BTEX	<0.300	0.300	08/04/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.8	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	08/05/2014	ND	400	100	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	08/04/2014	ND	200	99.8	200	2.11	
DRO >C10-C28	626	10.0	08/04/2014	ND	207	104	200	4.91	
Surrogate: 1-Chlorooctane	101 9	65.2-14	0						
Surrogate: 1-Chlorooctadecane	129 %	63.6-15	4						

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Received:	08/01/2014	Sampling Date:	07/30/2014
Reported:	08/06/2014	Sampling Type:	Soil
Project Name:	EMPIRE ABO #08	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: EAST WALL 3 (H402368-06)

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	08/04/2014	ND	1.65	82.7	2.00	8.41	
Toluene*	<0.050	0.050	08/04/2014	ND	1.68	84.1	2.00	7.43	
Ethylbenzene*	<0.050	0.050	08/04/2014	ND	1.66	83.0	2.00	7.40	
Total Xylenes*	<0.150	0.150	08/04/2014	ND	5.18	86.4	6.00	7.49	
Total BTEX	<0.300	0.300	08/04/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	100 9	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	08/05/2014	ND	400	100	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	<20.0	20.0	08/04/2014	10.1	199	99.4	200	1.66	
DRO >C10-C28	<10.0	10.0	08/04/2014	ND	212	106	200	2.11	
Surrogate: 1-Chlorooctane	89.3	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	94.4	% 63.6-15	4						

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Celey D. Keene, Lab Director/Quality Manager



RICE ENVIRONMENTAL CONSULTING & SAFETY LAURA FLORES 419 W. CAIN HOBBS NM, 88240 Fax To: (575) 397-1471

Received:	08/01/2014	Sampling Date:	07/30/2014
Reported:	08/06/2014	Sampling Type:	Soil
Project Name:	EMPIRE ABO #08	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: WEST WALL 4 (H402368-07)

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	08/04/2014	ND	1.65	82.7	2.00	8.41	
Toluene*	<0.050	0.050	08/04/2014	ND	1.68	84.1	2.00	7.43	
Ethylbenzene*	<0.050	0.050	08/04/2014	ND	1.66	83.0	2.00	7.40	
Total Xylenes*	<0.150	0.150	08/04/2014	ND	5.18	86.4	6.00	7.49	
Total BTEX	<0.300	0.300	08/04/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	<i>99</i> .7	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	08/05/2014	ND	400	100	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	<20.0	20.0	08/04/2014	10.1	199	99.4	200	1.66	
DRO >C10-C28	<10.0	10.0	08/04/2014	ND	212	106	200	2.11	
Surrogate: 1-Chlorooctane	87.1	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	92.3	% 63.6-15	4						

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Celeg D. Keine

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°C Samples reported on an as received basis (wet) unless otherwise noted on report

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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 sample identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

Excavation I

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 10 of 10

ARDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240 (505) 393-2326 FAX (505) 393-2476	(325) 013-1001 F	T	010/01	11 70					A	NAL	YSIS	REQUES		
ompany Name: RECS		P.O. #:												
oject Manager: Laura Flores, Jucob Kamplain	ct Manager: Laura Flores, Jacob Iramprain			Company:						S				
Idress:	00040	Att								.ē				
ty: Hobbs	88240		dress:				Σ			A				
none #: Fax #:		Cit			1.1	S			포	Sr/				
oject #: Project Owner:		-	ate:	Zip:		de	15	×	TPH	0	S			
roject Name:		Ph	one #:			Chlorides	TPH 8015	BTEX	as	Cations/Anions	TDS			
roject Location: Empire ABO #08 ampler Name: Kyle Schnwidt		Fa	x #:			Ĕ	I	m	Texas					
Ampler Name: Kyle Jehnwidt	MATRIX	_	PRESERV	SAMPLI	NG	0	日		Ĕ	ete				
OR LAB USE UNLY	μ. μ.						1			du				
Lab LD Sample I.D.	# CONTAINERS GROUNDWATER WASTEWATER SOIL OIL		ш́ д							Complete				
Lab I.D. Sample I.D.	INDV INDV	E E	/BAS COC							0				
	# CON GROL WAST WAST SOIL	SLUDGE	ACID/BASE ICE / COOL	DATE	TIME				-	-				
		0, 0	×	7-30-14		X	K	X	-	-				
West wall I			X	16	10:50	X	XX	X	-	-				
2 west wall 2 0 3 west wall 3 6	IX	-	X	-, (10:55	X	X	X	-					
4 East wall 2 6	X	-	X	-i \-	11:00	-	X	X						
S East well Z 6			K	+	11:00		X	X						
6 East wall 3 6			K	1.1	11:15	K	X	X			-		++	
T Bottom 1	N N		V	11	11:20	-	X	14		-	-	++	+ +	
7 West Wall 4			¥		11:00	X	¥	X	-	-	-			
West wall i					anid by the client	t for the			_					
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any analyses. All claims including those for negligence and any other cause whatsoprer shall be dee service. In no event shall Cardinal be liable for incidental or consequental for anget, including we affiliates or successors arising out of or related to the performance of services thereuncer by Card Date:	claim arising whether based in co med waived unless made in writi	ontract o	r tort, shall be lin received by Card	inal within 30 days and of profits incurred l	after completion	of the app idiaries,	licable							
analyses. All claims including those for negligence and any other executions and the service. In no event shall Cardinal be liable for incidental or consequentiate pages, including with service. In no event shall Cardinal be liable for incidental to consequentiate pages, including with a service of services thereing and for related to the performance of services thereing and the service of the services of the s	thout limitation, business interrup linal, regardless of whether such	claim is	based upon any	of the above stated	Phone	Result	: 0	Yes	⊠ No		I'l Phone I'l Fax #	e #:		
Affiliates or successors ansing our of or loades with the successors ansing our of or loades with the successors and the succes	Received By:	b		ma	REMAR	RKS:		Yes	⊠ No					
1/ 1. S.h. Ju Timen: DO	(M)CU.	X	en	on	-		cond	er@	rices	wd.c	om; lf	flores@	rice-ecs	.com;
Relinquished By: Date:	Received By:					- la a in	marle	Drico	200-0	com	. KUO	maniwi	100-000	
Time:	-				ikam	nplai	n@ri	ce-e	CS.CC	om; s	edwa	rds@ric	e-ecs.c	om;
Delivered By: (Circle One)	Sample Co	onditi	on CH	ECKED BY: (Initials)	curs	anic	@ric	e-ec	S.COI	m				price-ecs.
Sampler - UPS - Bus - Other:	Cool Int	Yes No		TH	Envi	ironr	nenta	al Te	ech:				(c)	9.100 000

AF



August 06, 2014

LAURA FLORES RICE ENVIRONMENTAL CONSULTING & SAFETY LLC 419 W. CAIN HOBBS, NM 88240

RE: EMPIRE ABO #08

Enclosed are the results of analyses for samples received by the laboratory on 08/01/14 12:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab_accred_certif.html.

Cardinal Laboratories is 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,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



RICE ENVIRONMENTAL CONSULTING & SAFETY LAURA FLORES 419 W. CAIN HOBBS NM, 88240 Fax To: (575) 397-1471

Received:	08/01/2014	Sampling Date:	07/30/2014
Reported:	08/06/2014	Sampling Type:	Soil
Project Name:	EMPIRE ABO #08	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: EXC 4 WEST WALL 1 (H402370-01)

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	08/04/2014	ND	1.65	82.7	2.00	8.41	
Toluene*	<0.050	0.050	08/04/2014	ND	1.68	84.1	2.00	7.43	
Ethylbenzene*	<0.050	0.050	08/04/2014	ND	1.66	83.0	2.00	7.40	
Total Xylenes*	<0.150	0.150	08/04/2014	ND	5.18	86.4	6.00	7.49	
Total BTEX	<0.300	0.300	08/04/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 %	6 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1020	16.0	08/05/2014	ND	400	100	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	<20.0	20.0	08/04/2014	10.1	199	99.4	200	1.66	
DRO >C10-C28	<10.0	10.0	08/04/2014	ND	212	106	200	2.11	
Surrogate: 1-Chlorooctane	87.1 9	65.2-14	0						
Surrogate: 1-Chlorooctadecane	92.0 9	63.6-15	4						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



RICE ENVIRONMENTAL CONSULTING & SAFETY LAURA FLORES 419 W. CAIN HOBBS NM, 88240 Fax To: (575) 397-1471

Received:	08/01/2014	Sampling Date:	07/30/2014
Reported:	08/06/2014	Sampling Type:	Soil
Project Name:	EMPIRE ABO #08	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: EXC 4 WEST WALL 2 (H402370-02)

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 0.050		ND	1.65	82.7	2.00	8.41	
Toluene*	<0.050	0.050	08/04/2014	ND	1.68	84.1	2.00	7.43	
Ethylbenzene*	<0.050	0.050	08/04/2014	ND	1.66	83.0	2.00	7.40	
Total Xylenes*	<0.150	0.150	08/04/2014	ND	5.18	86.4	6.00	7.49	
Total BTEX	<0.300	0.300	08/04/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	100 % 89.4-126		6						
Chloride, SM4500Cl-B	mg/kg		Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	08/05/2014	ND	400	100	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	<20.0	20.0	08/04/2014	10.1	199	99.4	200	1.66	
DRO >C10-C28	<10.0	10.0	08/04/2014	ND	212	106	200	2.11	
Surrogate: 1-Chlorooctane	93.9 9	65.2-14	0						
Surrogate: 1-Chlorooctadecane	99.9 9	63.6-15	4						

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Celey D. Keene, Lab Director/Quality Manager



RICE ENVIRONMENTAL CONSULTING & SAFETY LAURA FLORES 419 W. CAIN HOBBS NM, 88240 Fax To: (575) 397-1471

Received:	08/01/2014	Sampling Date:	07/30/2014
Reported:	08/06/2014	Sampling Type:	Soil
Project Name:	EMPIRE ABO #08	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: EXC 4 EAST WALL 1 (H402370-03)

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 0.050		ND	1.65	82.7	2.00	8.41	
Toluene*	<0.050	0.050	08/04/2014	ND	1.68	84.1	2.00	7.43	
Ethylbenzene*	<0.050	0.050	08/04/2014	ND	1.66	83.0	2.00	7.40	
Total Xylenes*	<0.150	<0.150 0.150		ND	5.18	86.4	6.00	7.49	
Total BTEX	<0.300	0.300	08/04/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	96.1	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/kg		Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	08/05/2014	ND	400	100	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	<20.0	20.0	08/05/2014	10.1	199	99.4	200	1.66	
DRO >C10-C28	<10.0	10.0	08/05/2014	ND	212	106	200	2.11	
Surrogate: 1-Chlorooctane	96.7	65.2-14	0						
Surrogate: 1-Chlorooctadecane 98.9 % 63.6-		63.6-15	4						

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Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



RICE ENVIRONMENTAL CONSULTING & SAFETY LAURA FLORES 419 W. CAIN HOBBS NM, 88240 Fax To: (575) 397-1471

Received:	08/01/2014	Sampling Date:	07/30/2014
Reported:	08/06/2014	Sampling Type:	Soil
Project Name:	EMPIRE ABO #08	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: EXC 4 EAST WALL 2 (H402370-04)

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 0.050		ND	1.65	82.7	2.00	8.41	
Toluene*	<0.050	0.050	08/04/2014	ND	1.68	84.1	2.00	7.43	
Ethylbenzene*	<0.050	0.050	08/04/2014	ND	1.66	83.0	2.00	7.40	
Total Xylenes*	<0.150	0.150	08/04/2014	ND	5.18	86.4	6.00	7.49	
Total BTEX	<0.300	0.300	08/04/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	gate: 4-Bromofluorobenzene (PID 101 % 89.4-12		6						
Chloride, SM4500Cl-B	mg/kg		Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	08/05/2014	ND	400	100	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	<20.0	20.0	08/05/2014	10.1	199	99.4	200	1.66	
DRO >C10-C28	<10.0	10.0	08/05/2014	ND	212	106	200	2.11	
Surrogate: 1-Chlorooctane	91.3	65.2-14	0						
Surrogate: 1-Chlorooctadecane 97.0 % 63.6-154		4							

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Celey D. Keene, Lab Director/Quality Manager



RICE ENVIRONMENTAL CONSULTING & SAFETY LAURA FLORES 419 W. CAIN HOBBS NM, 88240 Fax To: (575) 397-1471

Received:	08/01/2014	Sampling Date:	07/30/2014
Reported:	08/06/2014	Sampling Type:	Soil
Project Name:	EMPIRE ABO #08	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: EXC 4 BOTTOM 1 (H402370-05)

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 0.050		ND	2.07	103	2.00	1.58	
Toluene*	<0.050	0.050	08/05/2014	ND	2.10	105	2.00	1.01	
Ethylbenzene*	<0.050	0.050	08/05/2014	ND	2.13	106	2.00	1.52	
Total Xylenes*	<0.150	<0.150 0.150		ND	6.66	111	6.00	3.49	
Total BTEX	<0.300	0.300	08/05/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID 101 % 89.4-12		6							
Chloride, SM4500Cl-B	mg/kg		Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	464	16.0	08/05/2014	ND	400	100	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	<20.0	20.0	08/05/2014	10.1	199	99.4	200	1.66	
DRO >C10-C28	<10.0	10.0	08/05/2014	5/2014 ND		106	200	2.11	
Surrogate: 1-Chlorooctane	91.4	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane 97.1		% 63.6-15	4						

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Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



RICE ENVIRONMENTAL CONSULTING & SAFETY LAURA FLORES 419 W. CAIN HOBBS NM, 88240 Fax To: (575) 397-1471

Received:	08/01/2014	Sampling Date:	07/30/2014
Reported:	08/06/2014	Sampling Type:	Soil
Project Name:	EMPIRE ABO #08	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: EXC 4 BOTTOM 2 (H402370-06)

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 0.050		ND	2.07	103	2.00	1.58	
Toluene*	<0.050	0.050	08/05/2014	ND	2.10	105	2.00	1.01	
Ethylbenzene*	<0.050	0.050	08/05/2014	ND	2.13	106	2.00	1.52	
Total Xylenes*	<0.150	<0.150 0.150		ND	6.66	111	6.00	3.49	
Total BTEX	<0.300	0.300	08/05/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID 101 % 89.4-12		6							
Chloride, SM4500Cl-B	mg/kg		Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	752	16.0	08/05/2014	ND	400	100	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	<20.0	20.0	08/05/2014	10.1	199	99.4	200	1.66	
DRO >C10-C28	<10.0	10.0	08/05/2014	05/2014 ND		106	200	2.11	
Surrogate: 1-Chlorooctane	105 9	65.2-14	0						
Surrogate: 1-Chlorooctadecane 112 %		63.6-15	4						

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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°C Samples reported on an as received basis (wet) unless otherwise noted on report

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

Exervation 4 a-

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

RDINAL LABORATORIES

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

	(505) 393-2326 FAX (505) 393-2476 (325) 673					I FA	x (32	5)673	3-7	620 L TO			1		A	NAL	YSIS	REQUES	Г		
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Project Manager:	Laura Flores, Jocob	Kamp'n	in	-												S					
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City: Hobbs	State	e: NM Zip	: 88	240		-	Attn:												1		
Phone #:	Fax #	:				- ľ	Address:				Σ		-	A/S							
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Project Location	Empire ABD #	08		2.0			Phone		-		1.1	Chlorides	FPH 8015	BTEX	as	Co	H				
Sampler Name:	Kyle Schnnicht	-	-	-			Fax #	ESER	av I	SAMPLI	NG	5	H		ex	Ð					
FOR LAB USE ONLY				T	MATR		PR	ESER	1	SAM EN		1	1H			let					
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PLEASE NOTE: Liability a analyses. All claims includ service. In no event shall affiliates or successors arti	Ind Damages. Cardinal's liability and client's excl ing those for negligence and any other cauge who cardinal be liable for incidental or consequentar sing out of or related to the performance of service	amages, including w es hareunder by Car	ithout lin dinal, rei	aived unle nitation, b gardless o	usiness inte of whether s	writing an arruptions, such claim	nd receive loss of u is based	d by Car se, or los upon an	rdinal ss of p ny of th	within 30 days af profits incurred by he above stated r	easons or other Phone F	wise. Result:			Z No		'I Phon				
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† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476