

## **APACHE CORPORATION**

P.O.Box 1849 Eunice, NM 88231 Phone 575,394,3159

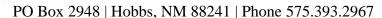
## Empire Abo Unit O-8 2RP-2141

## **Termination Request**

API No. 30-015-00844

Release Date: December 19th, 2013

Unit Letter M, Section 3, Township 18S, Range 27E





#### **January 5<sup>th</sup>, 2015**

#### Mike Bratcher

New Mexico Energy, Minerals, & Natural Resources Oil Conservation Division, Environmental Bureau – District 2 811 S. First St. Artesia, NM 88210

RE: Termination Request
Apache Corporation – Empire Abo Unit O-8 (2RP-2141)
UL/M sec. 3 T18S R27E
API No. 30-015-00844

Mr. Bratcher:

Apache Corporation (Apache) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced site.

#### **Background and Previous Work**

The site is located approximately 9 miles southeast of Artesia, New Mexico at UL/M sec. 3 T18S R27E. Soil bore installation at the site shows that there is no groundwater beneath the site.

On December 19<sup>th</sup>, 2013, Apache discovered an oil and produced water release from a steel flow line. The line had been previously repaired with clamps and when the line was pressured up, the clamps leaked. A total of 6 barrels of produced water and 2 barrels of oil were released over 6,986 square feet of pasture land (Figure 1). A vacuum truck was called to the site and recovered 1 barrel of produced water and 1 barrel of oil. BLM was notified of the release on December 19<sup>th</sup>, 2013 and an initial C-141 was submitted to NMOCD and BLM for their approval. NMOCD approved the initial C-141 on January 7<sup>th</sup>, 2014 (Appendix A).

RECS was on site beginning on December 19<sup>th</sup>, 2013 to assess and GPS map the site. On February 6<sup>th</sup>, 2014, three soil bores were installed at the site to assess the level of contamination. As the soil bores were advanced, samples were taken every 3 feet and field tested for chlorides and organic vapors. Representative samples from the bores were taken to a commercial laboratory for analysis.

Based on the laboratory sampling, a Corrective Action Plan (CAP) was submitted to NMOCD and BLM on May 7<sup>th</sup>, 2014. BLM approved the CAP on May 8<sup>th</sup>, 2014 and NMOCD approved the CAP on May 15<sup>th</sup>, 2014. The CAP stated that the release areas to the south would be excavated to a depth of 4 ft bgs. In areas that are inundated with lines, the release area would be excavated to remove the highest concentration of

chlorides. If at any time, excavating around the lines posed a safety hazard, excavating would cease. All excavated soil would be taken to a NMOCD approved facility for disposal. Clean soil would be imported to the site to backfill the excavations to ground surface and contour the areas to the surrounding location.

Corrective action activities began at the site on July 18<sup>th</sup>, 2014. Excavation 1 was dug to 4 ft bgs. Final wall samples were taken and field tested for chlorides and organic vapors. The samples were then sent to a commercial laboratory for analysis (Appendix B). All wall samples returned chloride values between 48 mg/kg and 624 mg/kg. Gasoline Range Organics (GRO), Diesel Range Organics (DRO) and BTEX results were nondetect, except for East Wall 2, which returned a DRO value of 626 mg/kg. Excavation 4 was dug to 2 ft bgs, and final wall and bottom samples were taken and field tested for chlorides and organic vapors. The samples were then sent to a commercial laboratory for analysis and returned chloride values ranging from 80 mg/kg to 1,020 mg/kg. GRO, DRO and BTEX results returned values of non-detect. Given the final wall and bottom sampling date, on August 8<sup>th</sup>, 2014, Apache requested permission from BLM and NMOCD to backfill Excavation 1 and 4 with clean, imported soil. NMOCD approved the request to backfill the site on August 8<sup>th</sup>, 2014, and BLM approved the request to backfill the site on August 14<sup>th</sup>, 2014.

The remainder of the release was excavated as stated in the approved CAP. Excavation 2 was scraped down to 2 ft bgs, Excavation 5 was scraped down to 1 ft bgs, and Excavation 3 and Excavation 6 were excavated to 4 ft bgs. Final wall samples from each of these scrapes and composite bottom samples from Excavations 2 and 5 were field tested for chlorides and organic vapors. The samples were then taken to a commercial laboratory for analysis. Excavation 2 returned laboratory chloride readings for all the wall and bottom samples below 1,000 mg/kg, except for West Wall 1, which returned a chloride value of 6,560 mg/kg, West Wall 2, which returned a chloride value of 1,100 mg/kg and East Wall 2, which returned a chloride value of 1,090 mg/kg. GRO, DRO and BTEX readings returned values of non-detect, except for West Wall 2, which returned a DRO value of 3,770 mg/kg and East Wall 2, which returned a DRO value of 127 mg/kg.

On September 3<sup>rd</sup>, 2014, Apache requested permission to backfill the remainder of the excavations with clean, imported soil. BLM gave verbal approval to backfill the site on September 9<sup>th</sup>, 2014, while NMOCD approved the site to backfilled on September 5<sup>th</sup>, 2014. As part of the approval from NMOCD to backfill the site, NMOCD requested that the West Wall 1 in Excavation 2 be expanded to obtain chloride readings below regulatory standards.

The area around West Wall 1 was excavated further to the west and re-sampled on September 8<sup>th</sup>, 2014. The sample was field tested for chlorides and organic vapors and then the sample was taken to a commercial laboratory for analysis. West Wall 1 returned a laboratory chloride value of 32 mg/kg. In response to this new data, on September 11<sup>th</sup>, 2014, NMOCD gave their approval to backfill the remaining excavations.

All excavated soil was taken to an NMOCD approved facility for disposal. Clean soil was imported to the site to replace the contaminated soil taken for disposal. The remaining excavations were backfilled with the clean, imported soil and contoured to the surrounding area. On October 17<sup>th</sup>, 2014, the disturbed area was seeded with BLM mix #3.

Photo documentation of all field activities can be found in Appendix C.

Given that NMOCD and BLM approved the site to be backfilled per the approved CAP, Apache respectfully requests 'remediation termination' and site closure. A final C-141 can be found in Appendix D.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-2967 or me if you have any questions or wish to discuss the site.

Sincerely,

Lara Weinheimer

Project Scientist

RECS

(575) 441-0431

#### Attachments:

Figure 1 – Excavation Data

Appendix A – Initial C-141

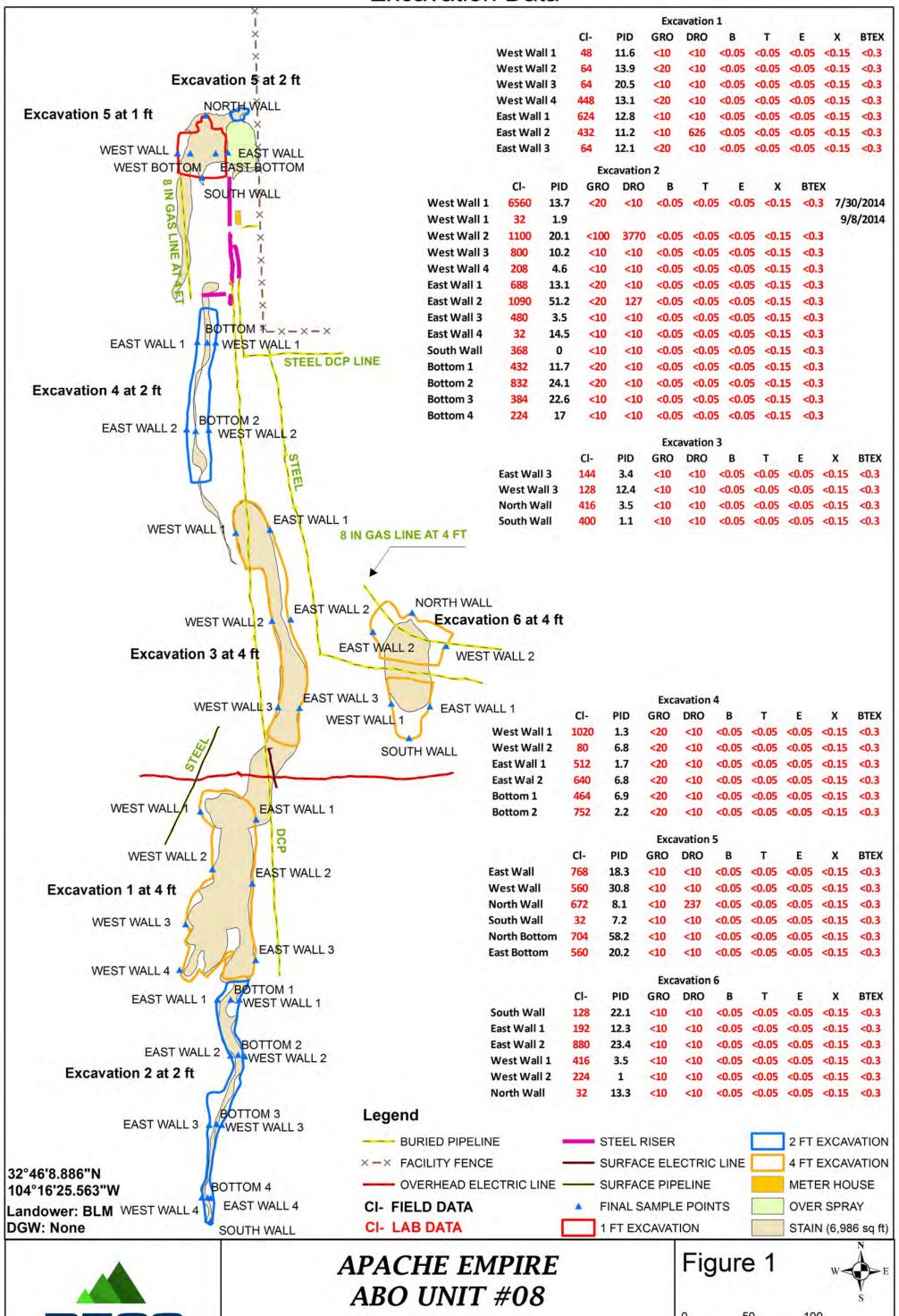
Appendix B – Laboratory Analyses

Appendix C – Photo Documentation

Appendix D – Final C-141

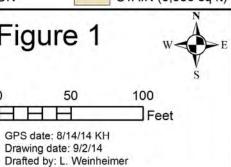
## Figures

### **Excavation Data**





LEGALS: UL/M sec. 3 UL/D sec. 10 T-18-S R-27E



# Appendix A Initial C-141

District 1 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

#### State of New Mexico Energy Minerals and Natural Resources

DEC 3 0 2013

RECEIVED

Form C-141 Revised August 8, 2011

NMORDIARTE SIA Private District Office in accordance with 19.15.29 NMAC.

Oil Conservation Division 1220 South St. Francis Dr.

1220 0: 01. 1 1111	VIS DEL OUT	110,1111,0750.		Sa	inta Fe, NM 875	05			
- 1		376 45	Rele	ase Notific	cation and Co	rrective A	ction		
ilduti	4007	42612			OPERA	ror	⊠ Initi	ial Report	Final Report
Name of Co	mpany; /	pache Corp	oration	87.3	Contact: Bi	uce Baker			
Address: 8					Telephone l	No. (432) 631-0	5982		
Facility Na	ne: Empir	e Abo Unit	0-8		Facility Typ	e: Oil Well			
Surface Ow	ner BLM			Mineral C	Owner		APINO	0. 30-015-0	0844
				LOCA	TION OF REI	LEASE			
Unit Letter M	Section 3	Township 18S	Range 27E	Feet from the	North/South Line	Feet from the	East/West Line		County Eddy
					a Manufactura Company		Anna V		

Latitude: 32\*46'8.886"N Longitude: 104\*16'25.563"W NATURE OF RELEASE Type of Release oil and produced water ' Volume of Release 8 barrels (6 ·Volume Recovered 2 barrels ( 1 barrel barrels water and 2 barrels oil) oil and I barrel water) Date and Hour of Discovery 12/19/13 at Source of Release Flow-line Date and Hour of Occurrence 8:00 a.m. Was Immediate Notice Given? If YES, To Whom? ☑ Yes ☐ No ☐ Not Required Left Message with Jeffery Robertson (BLM) Date and Hour 12/19/2013 at 2:00 p.m. By Whom? Bruce Baker If YES, Volume Impacting the Watercourse. Was a Watercourse Reached? ☐ Yes ☒ No 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 CONSERVATION DIVISION Buce Baker Signature: Approved by Environmental Specialist By M. Printed Name: Bruce Baker Approval DalAN 07 2014 Title: Environmental Technician **Expiration Date:** E-mail Address: larry.baker@apachecorp.com Conditions of Approval: Attached Remediation per OCD Rule & Guidelines, & Date: 12/30/13 Phone: (432) 631-6982

like approval by BLM. SUBMIT REMEDIATION

PROPOSAL NO LATER THAN:

# Appendix B Laboratory Analyses



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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> 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 D. Keine

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



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 %	% 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	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	95.8	% 63.6-15	4						

#### Cardinal Laboratories \*=Accredited Analyte

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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	% 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	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	101 9	63.6-15	4						

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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	99.7	% 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	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 9	% 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						

Cardinal Laboratories \*=Accredited Analyte

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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 Sample Received By: Project Number: NONE GIVEN 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 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	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 %	65.2-14	0						
C	120.0	(2.6.15							

129 % 63.6-154 Surrogate: 1-Chlorooctadecane

Cardinal Laboratories \*=Accredited Analyte

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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 Sample Received By: Project Number: NONE GIVEN Jodi Henson

Project Location: **NOT GIVEN** 

#### Sample ID: EAST WALL 3 (H402368-06)

BTEX 8021B	mg/	/kg	Analyze	ed 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 5	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	ed 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	ed 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						

Surrogate: 1-Chlorooctadecane 94.4 % 63.6-154

Cardinal Laboratories \*=Accredited Analyte

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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 Sample Received By: Project Number: NONE GIVEN 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	99.7	% 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						
G . 1 CH . 1	02.2	0/ /2 / 15	,						

92.3 % 63.6-154 Surrogate: 1-Chlorooctadecane

Cardinal Laboratories \*=Accredited Analyte

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#### **Notes and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

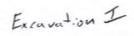
Chloride by SM4500Cl-B does not require samples be received at or below 6°C

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

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@rice-ecs.com



### ARDINAL LABORATORIES

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

101 East Marland, Hobbs, NW 662 (505) 393-2326 FAX (505) 393-24					$\neg$			BI	LL	70		_		_	<u> </u>	INAL	1010	REQUES		
ompany Name: RECS					- 1	P.O.	#:													
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ity: Hobbs State: NM	Zip: 8	8824	0		$\neg$		res									A		1 1		
hone #: Fax #:					$\neg$			,					Σ		I	S				
Project #: Project Owner	r:				$\dashv$	City			Zig			es	2	V	TPH	Cations/Anions		1 1		
Project Name:					-	Sta			21	ν.		ņ	9	Ш	S	ati	TDS			
Project Location: Empire ABO 408 Sampler Name: Kyle Schnaidt							one i	<b>#</b> :				Chloride	<b>TPH 8015</b>	BTEX	Texas	Ö	$\vdash$			
Sampler Name: Kyle Schnuidt		_	_	MATR	IV	Fax		SERV	vI	SAMPLI	NG	S	占	-	e	te		1 1	1 1	
Lab I.D. Sample I.D.  1 West wall I 2 West wall 2 3 West wall 3 4 East wall 2 5 East wall 2 6 East wall 3 7 West Wall 4	99999 999 99 99 99 99 99 99 99 99 99 99	T T T T T T T T T T T T T T T T T T T	WASTEWATER	NOS X Y Y Y X X X X X X X X X X X X X X X	SLUDGE	OTHER:		X X X ICE/COOL	OTHERS	DATE 7-30-N	TIME  70:45  10:55  11:00  11:05  11:40  11:00  11:00	X	X X X X X X X X X X X X X X X X X X X	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		Complete				

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 30 days after completion of the applicable in writing and received by Cardinal within 30 days after completion of the applicable in writing and received by Cardinal within 30 days after completion of the applicable in writing and received by Cardinal within 30 days after completion of the applicable in writing and received by Cardinal within 30 days after completion of the applicable in writing and received by Cardinal within 30 days after completion of the applicable in writing and received by Cardinal within 30 days after completion of the applicable in writing and received by Cardinal within 30 days after completion of the applicable in writing and received by Cardinal within 30 days after completion of the applicable in writing and received by Cardinal within 30 days after completion of the applicable in writing and received by Cardinal writing a

analyses. In Casal in Robbing in Robbing for incidental or of service. In no event shall Cardinal be liable for incidental or of efficiency or successors arising out of or related to the perform Relinquished By:  Relinquished By:	Times DO	refless of whether such claim is based upon any of the above ved By:  Odd Slew Slew Slow  Wed By:	Phone Result:	res@rice-ecs.com; an@rice-ecs.com;
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool Intact PYes PYes No No	BY:   auroonic@rice-ecs com	@rice-

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476



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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> 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 D. Keine

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



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 2 WEST WALL 1 (H402369-01)

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	99.2	% 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	6560	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	98.6	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	105	% 63.6-15	4						

Cardinal Laboratories \*=Accredited Analyte

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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

#### Sample ID: EXC 2 WEST WALL 2 (H402369-02)

**NOT GIVEN** 

Project Location:

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	120 9	% 89.4-12	6						
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1100	16.0	08/05/2014	ND	400	100	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<100	100	08/04/2014	10.1	199	99.4	200	1.66	
DRO >C10-C28	3770	50.0	08/04/2014	ND	212	106	200	2.11	
Surrogate: 1-Chlorooctane	101 9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	174 9	% 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: EXC 2 EAST WALL 1 (H402369-03)

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	100 9	% 89.4-12	6						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	688	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	90.5	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	90.8	% 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: EXC 2 EAST WALL 2 (H402369-04)

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	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	1090	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	127	10.0	08/04/2014	ND	212	106	200	2.11	
Surrogate: 1-Chlorooctane	88.5								

Surrogate: 1-Chlorooctadecane 98.4 % 63.6-154

Cardinal Laboratories \*=Accredited Analyte

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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: EXC 2 BOTTOM 1 (H402369-05)

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	101 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	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	<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	101 9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	103 9	% 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: EXC 2 BOTTOM 2 (H402369-06)

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, SM4500CI-B	mg/	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	832	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	97.0	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	98.7	% 63.6-15	4						

Cardinal Laboratories \*=Accredited Analyte

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#### **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

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## ARDINAL LABORATORIES

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

	impany Name: RECS						BILL TO								- 1	ANAL	YSIS REQUEST	
	ra Flores , Jucob Kampl	ain					P.0	.#:										
Address:	, , ,						Cor	npan	ıy:							SC		
City: Hobbs	State: NM	Zip:	882	240			Attr	n:								.0		
Phone #:	Fax #:						Add	dress	:							An		
Project #:	Project Owne	r:					City	<i>y</i> :				l co	Σ		I	18/		
Project Name:						_8	Sta	te:		Zip:		ge	<b>IPH 8015 M</b>	×	입	<u>5</u>	ro l	
	mpile ABO 408						Pho	one #	:			Chlorides	80	BTEX	Texas TPH	at	IDS	
Sampler Name: Ly	Schwidt		_				Fax					글	I	B		0	-	1 1
Z EACGU 3 EACGU 4 EACGU 5 EACGU	Sample I.D.  vation 2 west wall 1  vation 2 west wall 1  vation 2 East wall 1  vation 2 East wall 2  vation 2 Bottom 1  vation 2 Bottom 2	9 9 9 9 (G)RAB OR (C)OMP.	1 1 1	GROUNDWATER	MATE S			PRES	OTHER:	DATE 7-30-14	TIME	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	A X X X X	XXXXX	1	Complete Cations/Anions		
PLEASE NOTE: Liability and Damage analyses. All claims including those for service. In no event shall Cardinal be affiliates or successors arising out of or Relinquished By:  Relinquished By:  Delivered By: (Cir. Sampler - UPS - Bus		Cardina Re	d waive ut limite l, regar	id unless tion, bus diess of v ved B	made in viness inter whether so	Condinate Condin	loss o	f use, or ed upon	check (Init	to the amount pa within 30 days aft rofits incurred by e above stated re	Phone R. Fax Resu REMARK	ine appendicates, laries, lari	onder er@r @rice	r@rice-ecs.	ecs.c s.com com	d.co	Phone #: Fax #:  m; Iflores@rice-ecs.co knorman@rice-ecs.co dwards@rice-ecs.com	m;

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476





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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> 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 D. Keine

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



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 9	% 89.4-12	6						
Chloride, SM4500CI-B	mg/	'kg	Analyze	ed 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	ed 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	92.0	% 63.6-15	4						

Cardinal Laboratories \*=Accredited Analyte

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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

Analyzed By: MC

Project Location: NOT GIVEN

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

RTFY 8021R

B1EX 8021B	mg/	кд	Anaiyze	а ву: мѕ					
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 89.4-120	6						
Chloride, SM4500CI-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	% 65.2-140	9						
Surrogate: 1-Chlorooctadecane	99.9	% 63.6-15-	4						

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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 Sample Received By: Project Number: NONE GIVEN 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	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	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						
G	00.0	0/ /2/15	,						

98.9 % 63.6-154 Surrogate: 1-Chlorooctadecane

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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	ed 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	% 89.4-12	6						
Chloride, SM4500Cl-B	mg,	'kg	Analyze	ed 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	ed 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						
Summarata: 1 Chlamanatadanana	07.0	0/ 62 6 15	. 1						

Surrogate: 1-Chlorooctadecane 97.0 % 63.6-154

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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	08/05/2014	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	08/05/2014	ND	6.66	111	6.00	3.49	
Total BTEX	<0.300	0.300	08/05/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 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	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	ND	212	106	200	2.11	
Surrogate: 1-Chlorooctane	91.4	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	97.1	% 63.6-15	4						

51.170 05.0 157

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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: 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	08/05/2014	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	08/05/2014	ND	6.66	111	6.00	3.49	
Total BTEX	<0.300	0.300	08/05/2014	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	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	ND	212	106	200	2.11	
Surrogate: 1-Chlorooctane	105 %	65.2-14	0						
Surrogate: 1-Chlorooctadecane	112 %	63.6-15	4						

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#### **Notes and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

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

Cardinal Laboratories \*=Accredited Analyte

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Celeg D. Freene

# ( A

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES

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

(505) 393-2326 FAX (50	05) 393-2476 (325) 673-7001	FAX (325)673-7020	ANALYSIS REQUEST						
ompany Name: RECS	1/ /	P.O. #:							
roject Manager: Laura Flores, Jacob	16ampain								
ddress:		Company:							
ity: Hobbs St	ate: NM Zip: 88240	Attn:							
hone #: Fax	<b>(#:</b>	Address:							
	ject Owner:	City:	Chlorides PH 8015 M BTEX Texas TPH TDS TDS						
Project Name:		State: Zip:	Chlorides TPH 8015   BTEX Texas TPH ete Cations TDS						
Project Location: Empire ABD 4	408	Phone #:	oride 8018 38 T TDS TDS						
Project Location: Emfile ABD + Sampler Name: Kyle Schnoids		Fax #:	[본] 토] 의 왕] 의 ·						
FOR LAB USE ONLY	1.	PRESERV. SAMPLING							
Lab I.D. Sample I.D.  H402370  I Ecouption 4 west  Z Excavation 4 Fast  H Excavation 4 East  S Excavation 4 Cott  Excavation 4 Cott	wall I G   M wall Z G   M wall I G   M wall I G   M wall Z G   M wall Z G   M wall Z G   M wall Z G   M	DATE TIME  7 230-19 3:50  8 1/0  8 1/0  8 1/0  8 1/0  8 1/7  9 1/0  9 1/	Complete						
Relinquished by.	Date: Received By:  Received By:  Received By:	Juptions, Joss of use, or loss of profits inclured by periods, is started to the claim is based upon any of the above stated reasons or other Fax Res REMAR email live in jkam	Result:						
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Cool	Condition CHECKED BY: CURS	anic@rice-ecs.com ronmental Tech:  @rice-ecs.com						

#54

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476



August 29, 2014

**BRUCE BAKER** 

APACHE - EUNICE

P. O. BOX 1849

**EUNICE, NM 88231** 

RE: EMPIRE ABO UNIT #08

Enclosed are the results of analyses for samples received by the laboratory on 08/27/14 9:00.

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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> 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)

Celey D. Keine

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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

Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name: EMPIRE ABO UNIT #08 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NOT GIVEN

#### Sample ID: EXC 2 WEST WALL 3 (H402627-01)

TEX 8021B	mg/kg		Analyze	Analyzed By: ck					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	1.85	92.7	2.00	10.1	
Toluene*	<0.050	0.050	08/28/2014	ND	1.71	85.3	2.00	12.4	
Ethylbenzene*	<0.050	0.050	08/28/2014	ND	1.92	96.1	2.00	15.9	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	5.74	95.7	6.00	16.6	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	103 9	89.4-12	6						
Chloride, SM4500Cl-B	mg/	mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	800	16.0	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	ND	186	93.2	200	8.01	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	187	93.6	200	8.54	
Surrogate: 1-Chlorooctane	110 %	65.2-14	0						
Surrogate: 1-Chlorooctadecane	119 9	63.6-15	4						

Cardinal Laboratories \*=Accredited Analyte

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Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name: EMPIRE ABO UNIT #08 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NOT GIVEN

#### Sample ID: EXC 2 WEST WALL 4 (H402627-02)

BTEX 8021B	mg/	kg	Analyze	d By: ck					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	1.85	92.7	2.00	10.1	
Toluene*	< 0.050	0.050	08/28/2014	ND	1.71	85.3	2.00	12.4	
Ethylbenzene*	< 0.050	0.050	08/28/2014	ND	1.92	96.1	2.00	15.9	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	5.74	95.7	6.00	16.6	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	104 %	6 89.4-12	6						
Chloride, SM4500CI-B	mg/	kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	ND	186	93.2	200	8.01	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	187	93.6	200	8.54	
Surrogate: 1-Chlorooctane	111 %	65.2-14	0						
Surrogate: 1-Chlorooctadecane	121 %	63.6-15	4						

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Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name:EMPIRE ABO UNIT #08Sampling Condition:Cool & IntactProject Number:NONE GIVENSample Received By:Jodi HensonProject Location:NOT GIVEN

#### Sample ID: EXC 2 EAST WALL 3 (H402627-03)

BTEX 8021B	mg/kg		Analyze	d By: ck					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	1.85	92.7	2.00	10.1	
Toluene*	<0.050	0.050	08/28/2014	ND	1.71	85.3	2.00	12.4	
Ethylbenzene*	<0.050	0.050	08/28/2014	ND	1.92	96.1	2.00	15.9	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	5.74	95.7	6.00	16.6	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 9	89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	ND	186	93.2	200	8.01	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	187	93.6	200	8.54	
Surrogate: 1-Chlorooctane	97.2	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	107 9	63.6-15	4						

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Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name: EMPIRE ABO UNIT #08 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NOT GIVEN

#### Sample ID: EXC 2 EAST WALL 4 (H402627-04)

EX 8021B	mg/kg		Analyzed By: ck						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	1.85	92.7	2.00	10.1	
Toluene*	< 0.050	0.050	08/28/2014	ND	1.71	85.3	2.00	12.4	
Ethylbenzene*	< 0.050	0.050	08/28/2014	ND	1.92	96.1	2.00	15.9	
Total Xylenes*	< 0.150	0.150	08/28/2014	ND	5.74	95.7	6.00	16.6	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	105 %	6 89.4-12	6						
Chloride, SM4500Cl-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	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	ND	186	93.2	200	8.01	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	187	93.6	200	8.54	
Surrogate: 1-Chlorooctane	110 %	65.2-14	0						

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Celey D. Keine

Surrogate: 1-Chlorooctadecane

123 %

63.6-154



APACHE - EUNICE BRUCE BAKER P. O. BOX 1849 **EUNICE NM, 88231** Fax To: 394-2425

Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name: EMPIRE ABO UNIT #08 Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Jodi Henson

Project Location: **NOT GIVEN** 

#### Sample ID: EXC 2 BOTTOM 3 (H402627-05)

BTEX 8021B	mg/kg		Analyze	Analyzed By: ck					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	1.85	92.7	2.00	10.1	
Toluene*	< 0.050	0.050	08/28/2014	ND	1.71	85.3	2.00	12.4	
Ethylbenzene*	< 0.050	0.050	08/28/2014	ND	1.92	96.1	2.00	15.9	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	5.74	95.7	6.00	16.6	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	106 %	6 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	ND	186	93.2	200	8.01	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	187	93.6	200	8.54	
Surrogate: 1-Chlorooctane	97.9 9	65.2-14	0						
Surrogate: 1-Chlorooctadecane	107 9	63 6-15	4						

107 % Surrogate: 1-Chlorooctadecane 63.6-154

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Celeg D. Freene



APACHE - EUNICE BRUCE BAKER P. O. BOX 1849 **EUNICE NM, 88231** Fax To: 394-2425

Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name: EMPIRE ABO UNIT #08 Sampling Condition: Cool & Intact Project Number: Sample Received By: NONE GIVEN Jodi Henson

Project Location: **NOT GIVEN** 

#### Sample ID: EXC 2 BOTTOM 4 (H402627-06)

BTEX 8021B	mg/kg		Analyze	Analyzed By: ck					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	1.85	92.7	2.00	10.1	
Toluene*	<0.050	0.050	08/28/2014	ND	1.71	85.3	2.00	12.4	
Ethylbenzene*	<0.050	0.050	08/28/2014	ND	1.92	96.1	2.00	15.9	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	5.74	95.7	6.00	16.6	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	103 9	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	ND	186	93.2	200	8.01	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	187	93.6	200	8.54	
Surrogate: 1-Chlorooctane	99.2	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	108	% 63.6-15	14						

Surrogate: 1-Chlorooctadecane 108 % 63.6-154

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

Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name: EMPIRE ABO UNIT #08 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NOT GIVEN

#### Sample ID: EXC 2 SOUTH WALL (H402627-07)

BTEX 8021B	mg/kg		Analyzed By: ck						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	1.85	92.7	2.00	10.1	
Toluene*	<0.050	0.050	08/28/2014	ND	1.71	85.3	2.00	12.4	
Ethylbenzene*	<0.050	0.050	08/28/2014	ND	1.92	96.1	2.00	15.9	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	5.74	95.7	6.00	16.6	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	105 %	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	ND	186	93.2	200	8.01	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	187	93.6	200	8.54	
Surrogate: 1-Chlorooctane	108 %	65.2-14	0						

Surrogate: 1-Chlorooctadecane 120 % 63.6-154

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

Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name: EMPIRE ABO UNIT #08 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NOT GIVEN

#### Sample ID: EXC 3 EAST WALL 3 (H402627-08)

EX 8021B	mg/kg		Analyzed By: ck						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	1.85	92.7	2.00	10.1	
Toluene*	<0.050	0.050	08/28/2014	ND	1.71	85.3	2.00	12.4	
Ethylbenzene*	<0.050	0.050	08/28/2014	ND	1.92	96.1	2.00	15.9	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	5.74	95.7	6.00	16.6	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	104 %	6 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	ND	186	93.2	200	8.01	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	187	93.6	200	8.54	
Surrogate: 1-Chlorooctane	111 %	6 65.2-14	0						

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Celey D. Keine

Surrogate: 1-Chlorooctadecane

124 %

63.6-154



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

Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name: EMPIRE ABO UNIT #08 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NOT GIVEN

#### Sample ID: EXC 3 WEST WALL 3 (H402627-09)

BTEX 8021B	mg/	kg	Analyze	d By: ck					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	1.85	92.7	2.00	10.1	
Toluene*	< 0.050	0.050	08/28/2014	ND	1.71	85.3	2.00	12.4	
Ethylbenzene*	< 0.050	0.050	08/28/2014	ND	1.92	96.1	2.00	15.9	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	5.74	95.7	6.00	16.6	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	106 %	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	ND	186	93.2	200	8.01	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	187	93.6	200	8.54	
Surrogate: 1-Chlorooctane	106 %	65.2-14	0						
Surrogate: 1-Chlorooctadecane	118 %	63.6-15	4						

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EUNICE NM, 88231
Fax To: 394-2425

Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name:EMPIRE ABO UNIT #08Sampling Condition:Cool & IntactProject Number:NONE GIVENSample Received By:Jodi HensonProject Location:NOT GIVEN

#### Sample ID: EXC 3 NORTH WALL (H402627-10)

BTEX 8021B	mg/kg		Analyze	Analyzed By: ck					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	1.85	92.7	2.00	10.1	
Toluene*	<0.050	0.050	08/28/2014	ND	1.71	85.3	2.00	12.4	
Ethylbenzene*	<0.050	0.050	08/28/2014	ND	1.92	96.1	2.00	15.9	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	5.74	95.7	6.00	16.6	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	105 9	89.4-12	6						
Chloride, SM4500CI-B	mg/	kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	ND	186	93.2	200	8.01	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	187	93.6	200	8.54	
Surrogate: 1-Chlorooctane	111 %	65.2-14	0						
Surrogate: 1-Chlorooctadecane	122 9	63.6-15	4						

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Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name: EMPIRE ABO UNIT #08 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NOT GIVEN

#### Sample ID: EXC 3 SOUTH WALL (H402627-11)

EX 8021B	mg/kg		Analyzed By: ck						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	1.85	92.7	2.00	10.1	
Toluene*	< 0.050	0.050	08/28/2014	ND	1.71	85.3	2.00	12.4	
Ethylbenzene*	< 0.050	0.050	08/28/2014	ND	1.92	96.1	2.00	15.9	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	5.74	95.7	6.00	16.6	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	104 %	6 89.4-12	6						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	ND	186	93.2	200	8.01	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	187	93.6	200	8.54	
Surrogate: 1-Chlorooctane	112 %	6 65.2-14	0						

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Celey D. Keine

Surrogate: 1-Chlorooctadecane

124 %

63.6-154



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Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name: EMPIRE ABO UNIT #08 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NOT GIVEN

#### Sample ID: EXC 5 NORTH WALL (H402627-12)

BTEX 8021B	mg/	kg	Analyze	d By: ck					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	1.85	92.7	2.00	10.1	
Toluene*	<0.050	0.050	08/28/2014	ND	1.71	85.3	2.00	12.4	
Ethylbenzene*	<0.050	0.050	08/28/2014	ND	1.92	96.1	2.00	15.9	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	5.74	95.7	6.00	16.6	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	104 %	% 89.4-12	6						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	672	16.0	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	ND	186	93.2	200	8.01	
DRO >C10-C28	237	10.0	08/27/2014	ND	187	93.6	200	8.54	
Surrogate: 1-Chlorooctane	110 9	% 65.2-14	0						

Surrogate: 1-Chlorooctane 110 % 65.2-140
Surrogate: 1-Chlorooctadecane 130 % 63.6-154

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Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name: EMPIRE ABO UNIT #08 Sampling Condition: Cool & Intact Project Number: Sample Received By: NONE GIVEN Jodi Henson

Project Location: **NOT GIVEN** 

#### Sample ID: EXC 5 WEST WALL (H402627-13)

BTEX 8021B	mg/kg		Analyze	Analyzed By: ck					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	1.85	92.7	2.00	10.1	
Toluene*	<0.050	0.050	08/28/2014	ND	1.71	85.3	2.00	12.4	
Ethylbenzene*	<0.050	0.050	08/28/2014	ND	1.92	96.1	2.00	15.9	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	5.74	95.7	6.00	16.6	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	106 9	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	560	16.0	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	ND	186	93.2	200	8.01	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	187	93.6	200	8.54	
Surrogate: 1-Chlorooctane	111 9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	123	% 63 6-15	4						

Surrogate: 1-Chlorooctadecane 123 % 63.6-154

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Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name: EMPIRE ABO UNIT #08 Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Jodi Henson

**NOT GIVEN** 

#### Sample ID: EXC 5 SOUTH WALL (H402627-14)

Project Location:

BTEX 8021B	` mg/	'kg	Analyzed By: ck						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	1.85	92.7	2.00	10.1	
Toluene*	<0.050	0.050	08/28/2014	ND	1.71	85.3	2.00	12.4	
Ethylbenzene*	<0.050	0.050	08/28/2014	ND	1.92	96.1	2.00	15.9	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	5.74	95.7	6.00	16.6	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	106 9	% 89.4-12	6						
Chloride, SM4500Cl-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	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	ND	186	93.2	200	8.01	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	187	93.6	200	8.54	
Surrogate: 1-Chlorooctane	116 9	% 65.2-14	0						
C 1 CII 1	127								

127 % 63.6-154 Surrogate: 1-Chlorooctadecane

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Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name: EMPIRE ABO UNIT #08 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NOT GIVEN

#### Sample ID: EXC 5 NORTH BOTTOM (H402627-15)

BTEX 8021B	mg/	kg	Analyze	d By: ck					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	1.85	92.7	2.00	10.1	
Toluene*	<0.050	0.050	08/28/2014	ND	1.71	85.3	2.00	12.4	
Ethylbenzene*	< 0.050	0.050	08/28/2014	ND	1.92	96.1	2.00	15.9	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	5.74	95.7	6.00	16.6	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	105 %	6 89.4-12	6						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	704	16.0	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	ND	186	93.2	200	8.01	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	187	93.6	200	8.54	
Surrogate: 1-Chlorooctane	99.7	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	109 9	63.6-15	4						

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Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name: EMPIRE ABO UNIT #08 Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Jodi Henson

Project Location: **NOT GIVEN** 

#### Sample ID: EXC 5 EAST BOTTOM (H402627-16)

BTEX 8021B	mg/	kg	Analyze	d By: ck					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	1.85	92.7	2.00	10.1	
Toluene*	<0.050	0.050	08/28/2014	ND	1.71	85.3	2.00	12.4	
Ethylbenzene*	<0.050	0.050	08/28/2014	ND	1.92	96.1	2.00	15.9	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	5.74	95.7	6.00	16.6	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	106 9	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	560	16.0	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	ND	186	93.2	200	8.01	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	187	93.6	200	8.54	
Surrogate: 1-Chlorooctane	114 %	65.2-14	0						
Surrogate: 1-Chlorooctadecane	124 9	63.6-15	4						

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Celey D. Keine



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Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name:EMPIRE ABO UNIT #08Sampling Condition:Cool & IntactProject Number:NONE GIVENSample Received By:Jodi HensonProject Location:NOT GIVEN

#### Sample ID: EXC 5 EAST WALL (H402627-17)

BTEX 8021B	mg/	kg	Analyzed By: ck						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	1.85	92.7	2.00	10.1	
Toluene*	<0.050	0.050	08/28/2014	ND	1.71	85.3	2.00	12.4	
Ethylbenzene*	<0.050	0.050	08/28/2014	ND	1.92	96.1	2.00	15.9	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	5.74	95.7	6.00	16.6	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	106 9	89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	768	16.0	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	ND	186	93.2	200	8.01	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	187	93.6	200	8.54	
Surrogate: 1-Chlorooctane	108 9	65.2-14	0						
Surrogate: 1-Chlorooctadecane	120 9	63.6-15	4						

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Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name: EMPIRE ABO UNIT #08 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NOT GIVEN

#### Sample ID: EXC 6 SOUTH WALL (H402627-18)

BTEX 8021B	mg/	kg	Analyze	Analyzed By: ck					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	1.85	92.7	2.00	10.1	
Toluene*	<0.050	0.050	08/28/2014	ND	1.71	85.3	2.00	12.4	
Ethylbenzene*	<0.050	0.050	08/28/2014	ND	1.92	96.1	2.00	15.9	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	5.74	95.7	6.00	16.6	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	105 9	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	ND	186	93.2	200	8.01	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	187	93.6	200	8.54	
Surrogate: 1-Chlorooctane	111 %	65.2-14	0						

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keine

Surrogate: 1-Chlorooctadecane

122 %

63.6-154



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

Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name: EMPIRE ABO UNIT #08 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NOT GIVEN

#### Sample ID: EXC 6 EAST WALL 1 (H402627-19)

BTEX 8021B	mg/	kg	Analyze	d By: ck					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	1.85	92.7	2.00	10.1	
Toluene*	<0.050	0.050	08/28/2014	ND	1.71	85.3	2.00	12.4	
Ethylbenzene*	<0.050	0.050	08/28/2014	ND	1.92	96.1	2.00	15.9	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	5.74	95.7	6.00	16.6	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	107 %	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	ND	186	93.2	200	8.01	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	187	93.6	200	8.54	
Surrogate: 1-Chlorooctane	106 %	% 65.2-14	0						

Surrogate: 1-Chlorooctadecane 117 % 63.6-154

Cardinal Laboratories \*=Accredited Analyte

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APACHE - EUNICE **BRUCE BAKER** P. O. BOX 1849 **EUNICE NM, 88231** Fax To: 394-2425

Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name: EMPIRE ABO UNIT #08 Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Jodi Henson

Project Location: **NOT GIVEN** 

#### Sample ID: EXC 6 EAST WALL 2 (H402627-20)

BTEX 8021B	mg/	kg	Analyzed By: ck						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	1.85	92.7	2.00	10.1	
Toluene*	<0.050	0.050	08/28/2014	ND	1.71	85.3	2.00	12.4	
Ethylbenzene*	<0.050	0.050	08/28/2014	ND	1.92	96.1	2.00	15.9	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	5.74	95.7	6.00	16.6	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	105 9	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	880	16.0	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	ND	186	93.2	200	8.01	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	187	93.6	200	8.54	
Surrogate: 1-Chlorooctane	113 9	% 65.2-14	0						

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Celey D. Keine

Surrogate: 1-Chlorooctadecane

124 %

63.6-154



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

Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name: EMPIRE ABO UNIT #08 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NOT GIVEN

#### Sample ID: EXC 6 WEST WALL 1 (H402627-21)

BTEX 8021B	mg/	kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	2.08	104	2.00	2.16	
Toluene*	<0.050	0.050	08/28/2014	ND	2.12	106	2.00	2.21	
Ethylbenzene*	<0.050	0.050	08/28/2014	ND	2.17	108	2.00	2.63	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	6.81	113	6.00	1.95	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	109 %	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	10.3	200	100	200	0.943	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	203	102	200	1.18	
Surrogate: 1-Chlorooctane	112 %	65.2-14	0						

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Celey D. Keine

Surrogate: 1-Chlorooctadecane

127 %

63.6-154



APACHE - EUNICE BRUCE BAKER P. O. BOX 1849 **EUNICE NM, 88231** Fax To: 394-2425

Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name: EMPIRE ABO UNIT #08 Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Jodi Henson

**NOT GIVEN** 

#### Sample ID: EXC 6 WEST WALL 2 (H402627-22) BTEX 8021B

Project Location:

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	2.08	104	2.00	2.16	
Toluene*	<0.050	0.050	08/28/2014	ND	2.12	106	2.00	2.21	
Ethylbenzene*	<0.050	0.050	08/28/2014	ND	2.17	108	2.00	2.63	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	6.81	113	6.00	1.95	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	100 9	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	08/27/2014	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	Qualifier
GRO C6-C10	<10.0	10.0	08/27/2014	10.3	200	100	200	0.943	
DRO >C10-C28	<10.0	10.0	08/27/2014	ND	203	102	200	1.18	
Surrogate: 1-Chlorooctane	118 %	65.2-14	0						

Analyzed By: MS

134 % 63.6-154 Surrogate: 1-Chlorooctadecane

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APACHE - EUNICE **BRUCE BAKER** P. O. BOX 1849 **EUNICE NM, 88231** Fax To: 394-2425

Received: 08/27/2014 Sampling Date: 08/15/2014

Reported: 08/29/2014 Sampling Type: Soil

Project Name: EMPIRE ABO UNIT #08 Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Jodi Henson

Project Location: **NOT GIVEN** 

#### Sample ID: EXC 6 NORTH WALL (H402627-23)

BTEX 8021B	` mg/	'kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2014	ND	2.08	104	2.00	2.16	
Toluene*	<0.050	0.050	08/28/2014	ND	2.12	106	2.00	2.21	
Ethylbenzene*	<0.050	0.050	08/28/2014	ND	2.17	108	2.00	2.63	
Total Xylenes*	<0.150	0.150	08/28/2014	ND	6.81	113	6.00	1.95	
Total BTEX	<0.300	0.300	08/28/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	115 9	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	ed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/27/2014	ND	416	104	400	3.92	
TPH 8015M	mg/	'kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/28/2014	10.3	200	100	200	0.943	
DRO >C10-C28	<10.0	10.0	08/28/2014	ND	203	102	200	1.18	
Surrogate: 1-Chlorooctane	122 5	% 65.2-14	0						
	120.0								

139 % 63.6-154 Surrogate: 1-Chlorooctadecane

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#### **Notes and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

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

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Celeg D. Freene

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Name:	(505) 393-2326 FAX (505) 393-24						1			B	IL	LTQ	in the time				- 1	NAL	YSIS	KEG	(UES	1		_	
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oject Manager:	Bruch Geker							Con	npar	17:								2							
idress:	21.1 XIM	7in:	001	240				Attn		1								ō				- 1			
ty: Hobbs		Zip:	884	240			-1		res	g.								7				- 1			
none #:	Fax #:		_					City							Σ		Т	1/8							
roject#:	Project Owner	_					-1	Stat			7	Zip:		Chlorides		~	TPH	Cations/Anions							
roject Name:	1 2 1 2 1			_	_		$\neg$			и.	-	ip.		D.	TPH 8015	BTEX		atic	S					- 1	
roject Location	: Empire ADD # 08			_			-		ne	#:	-			0	00	100	Texas	Ö	TD					- 1	
ampler Name:	Kyle Humphrey			_	MΔ	TRIX	_	Fax	PRE	SER	v.	SAMPLI	NG	15	1	ш	G,	e							
3	Sample I.D.  Exception 2 West well 3  Exception 2 West well 4  Exception 2 East wall 3	P P P (G)RAB OR (C)OMP.	- + CONTAINERS	GROUNDWATER	V SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	/ / ICE/COOL	OTHER:	DATE 8-18-H	9:05	-/	-   / / / / / / / / / / / / / / / / / / /	///////////////////////////////////////		Complete							
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analyses. All clolins incluses service. In no event shall all failures or successors are Relinquished E	Mela King The 1:00		out limi al, reg	ived	usiness of wheth	interrular succ	ptions is claim	loss is ba	of use, sed up	or los on stry	as of p	wallis incorred by	Phone F Fax Res REMAR email Knorn Kjone Lwein	result: sult: result: resultinan@	s rice-e ceswd	ecs.co	jkam s.com .com	Add plain(	Phone Fax #:	ecs.co		conde	r@rice	ecs.	com

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476



#### 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: ADar No		BILL TO	ANALYSIS REQUEST
Project Manager: Bruce Boker		P.O. #:	
Address:		Company:	<u> </u>
	88240	Attn:	
Phone #: Fax #:		Address;	
Project #: Project Owner:		City:	
Project Name:		State: Zip:	Chlorides TPH 8015 M BTEX Texas TPH ete Cations// TDS
Project Location: Empire A Bo HO8		Phone #:	Hloride H 8015 Cation TDS
Sampler Name: Kyle Humphrey		Fax #:	Chloric Chloric TEXAS TEXAS TDS
FOR LAB USE ONLY	MATRIX	PRESERV. SAMPLING	
Lab I.D. Sample I.D.  H407627  SEXCEVETION DEAST WOITS 6  PEXCEVETION DEAST WOITS 6  ID EXCEVETION DEAST WOITS 6  IN EXCEVETION DEAST WOITS 6  IN EXCEVETION DEAST WELL 6  IN EXCEVETION DEAST WELL 6  PLEASE NOTE: Liability and Damages Cardinal's liability and client's exclusive remedy for any claim	GROUNDWATER  GROUNDWATER  WASTEWATER  OIL  SILIDGE	8-15-19 Th.  V	Citient for the
analyses. All claims including those for negligence and any other cause whatsoever shall be deemed service. In no event shall Cardinal be liable for incidental or consequential damages, including without allifiales or successors arising out of or related to the performance of services hereunder by Cardinal Relinquished By:	d walved unless made in writing ; use it is made in writing in the control of the contr	and received by Cutomia within 3 days later broken, is in loss of use, or loss of profils inclured by client, is in is based upon any of the above stated reasons or Fax.  REN  White CHECKED BY:  In titles)	a subsidiarios,

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#### 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	Apoche	,					BI	LLTO					1	ANAL	YSIS R	EQUE	ST		
Project Manage	Gara Flores Brue 6	Zefere	/		P.	.0. #:													
Address:	ľ				С	ompa	ny:							S					
City: Hobbs	State: NM	Zip: 88	240		A	ttn:								.0	0.1				
Phone #:	Fax #:				A	ddres	s:				_1			A					
Project #:	Project Owner	:			C	ity:				S	Σ		포	)SI					
Project Name:					S	tate:		Zip:		de	15	×	TPH	.o	S				
Project Location	: Empire Abo #	08				hone	#:			Chlorides	801	BTEX	Texas	Cations/Anions	TDS				-
Sampler Name: FOR LAB USE ONLY	V			MATRIX	_	ax #:	SERV.	SAMPLI	NG	돗	ТРН	В	Xe						1
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP # CONTAINERS	GROUNDWATER	SOIL	SLUDGE OTHER:	ACID/BASE:	ICE / COOL OTHER:		TIME					Complete		-			
12	Excavation & North Well	9 1		1	-	+	1	8-15-14	12:00	1	-	_				+	-	-	+
13	Excavation 5 Westing	2 1	-	1	+	+	1	/	12:05	1	-	-							
14	Excavation 5 Southwall Excavation 5 N. B. Hun	5 1		1	1				11:45	-	/	-							
	Excapation S E 3 Hm	31		1			4	5	11:50	/	/	/							
								to the amount pai	d by the effect for	the									

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Relinquished By:	Date: 7/14 Recei	ved By:	10011	Phone Result: Fax Result: REMARKS:	□ Yes	☑ No ☑ No	Add'l Phone #: Add'l Fax #:	
Relinquished by:	Date: Recei	ved By:	101	lweinheim	er@rice	e-ecs.c	vd.com; lflores@ com; knorman@r m; sedwards@ric	rice-ecs.com;
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	1.80	Cool Intact	CHECKED BY:	cursanic@ Environme	rice-ec	s.com		@rice-ecs.com

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#### 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 Pach P	BILLTO	ANALYSIS REQUEST
Project Manager: Bruce Daker	P.O. #:	
Address:	Company:	
City: Hobbs State: NM Zip: 88240	Attn:	Horides H 8015 M STEX Kas TPH Cations/Anions TDS
Phone #: Fax #:	Address:	
Project #: Project Owner:	City:	
Project Name:	State: Zip:	Chlorides PH 8015 N BTEX Texas TPH TDS TDS
Project Location: Empire ABO 408	Phone #:	Hloride H 8016 BTEX Xas TF TDS TDS
Sampler Name: Kyle Humphrey	Fax #:	
Lab I.D. Sample I.D. MATRIX	PRESERV. SAMPLING	Chlorides TPH 8015 BTEX Texas TP Complete Cation TDS
# CONT. # CONT. WASTEV WASTEV OIL	SCUDGE OTHER: ACID/BASE: OTHER:  MIL STAD	
17 Exception S Entral 6 1	J 8-15-14 9:45	
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in co- analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writin service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interrupt	and received by Cardinal within 30 days alter completion of it ws, loss of use, or loss of profits incurred by client, its subsidi-	arios,
Relinquished By:  Relinquished By:  Relinquished By:  Date:  Received By:	In its dated upon any at the above stated reasons of others.  Phone Re Fax Resurrement REMARK	sult:
Relinquished By:  Date: Received By:  Time:		esulls an@rice-ecs.com @riceswd.com; jkamplain@rice-ecs.com hconder@rice-ecs.com;
Delivered By: (Circle One)  Sampler - UPS - Bus - Other:  Sampler - UPS - Bus - Other:  No  No	dition CHECKED BY: Lweinh	eimer@rice-ecs.com hrey@rice-ecs.com ds@rice-ecs.com,lflores@rice-ecs.com

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2405



Brucp

Company Name:

Project Manager:

#### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Address:			Comp	oany	<i>r</i> :							S	-										
City: Hobbs																.0							
Phone #:	Fax #:						Addr	ess:					_			An							
Project #:	Project Own	er:					City:					S	Σ		I	18/							
Project Name:							State	:		Zip:		ge	15	×	묘	0	S						
Project Location	: Empire ADO HO	8					Phon	e #:				Chlorides	80	BTEX	Texas TPH	ati	TDS						
Sampler Name: Kyle Humphrey								:				글	I	m	×	0	-						
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	Z	GROUNDWATER WASTEWATER	MATE	SLUDGE	OTHER:	ICE / COOL		DATE	TIME	0	TPH 801		Te	Complete Cations/Anions							
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analyses. All claims includir service. In no eveni shall C	od Damages. Cardinaf's liability and client's exclusive remedy it og those for negligence and any other cause whalsoever shall profinal be flable for incidental or consequental damages, inclu- ing out of or related to the performance of services hereunder to	be deem ling with	ed waiv out limit	ed unless allon, busi	made in v	writing and ruptions,	received ose of us	by Ca	edinal v	within 30 days of rolls incurred by	er completion of I client, its subsidi	the applications,	able					-					
Relinguished By		FR	egei	ved B	y:	1	$\Gamma$				Phone Re Fax Resu	esult:	□ Ye		No		Phone Fax #:	#:					
Kal	& Humphill Tig. or	5/	W	a	1.	1	e	M	20	m	REMARK				110	Inca i							
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Delivered By: (Circle One)  Sample Cool Inthe Sampler - UPS - Bus - Other:								CH	TECH TECH	ED BY:	Lweinh Khump sedwar	hrey(	Drice-	ecs.c	om	es@r	ice-eo	CS.COI	m				

BILL TO

P.O. #:

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 505-393-24%





September 09, 2014

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: EMPIRE ABO #08

Enclosed are the results of analyses for samples received by the laboratory on 09/09/14 8:30.

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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> 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)

Celey D. Keine

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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

Received: 09/09/2014 Sampling Date: 09/08/2014

Reported: 09/09/2014 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: EXCAVATION 2 WEST WALL 1 (H402790-01)

Chioride, SM4500CI-B	mg,	/kg	Analyze	а ву: АР					
Analyte	Result		Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/09/2014	ND	416	104	400	0.00	

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 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 related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg D. Freene



#### **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

Cardinal Laboratories \*=Accredited Analyte

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Company Name: A Pe U	326 FAX (505) 393-24	-				1700	特的	E	314	LTQ	onicionales.				F	ANAL	YSIS	REQI	JEST	1		
Project Manager: Bruch	B-K+r					F	0.0.	<b>#</b> :														
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ddress:	State: NM	Zip:	882	40		1	Attn:									Ö					V	
ity: Hobbs	Fax #:		002			1	Addr	ess;								An				1	V	1
Phone #:	Project Owner					0	City:					rn.	Σ		I	S/S					1	
Project #:	110,000						State	:		Zip:		Chlorides	TPH 8015	×	Texas TPH	0	m		1	4		
Project Location: EmPi	P ABO #08	/					Phon	e #:				j.E	80	BTEX	S	ati	TDS		1			
Tojout Location		-					Fax #					글	I	B	×	0	-		1	1 -		
Sampler Name: Kyle Humphr	sy		T		MATRI	X	PI	RESE	RV.	SAMPLI	NG	O			e	ete	1	1	1	-		
4402790	nple I.D.	(C)RAB OR (C)OMP	# CONTAINERS	GROUNDWATER	SOIL	SLUDGE	OTHER:	VICE/COOL	OTHER:	DATE 9-8-14	Z:3D					Complete Cations/Anions						
PLEASE NOTE: Liability and Damages. Cardinalnanalyses. At claims. Including those for negligence service. In no event shall Cardinal be liable for including the service of the cardinal be liable for including the services	and any other cause whatsoever a rate or denial or consequential damages, include the performance of services hereundar by Times 30  Date:  Time:	Re	d limital regard delv	lion, busi liess of v ed B	iness Interreduced by:	conditions to the claim in the	loss of us based	LA CH	os of property of the	e above stated re	Phone R Fax Resu REMARH	result: compared to the compar	s rice-e eswd. er@rice	cs.com; ce-ecs	jkamp com	Add'		cs.cor	n hoond	ler@ric	e-ecs.	com

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



# Appendix C Photo Documentation

# Apache Empire Abo Unit #08 Unit Letter M, Section 3, & Unit Letter D, Section 10, T18S, R27E



Initial release area, facing south

12/19/13



Initial release area, facing south

12/19/13



Initial release area, facing north

12/19/13



Initial release area, facing southeast

12/19/13



Installing soil bores, facing east

2/6/14



Conducting excavation at Excavation 1, facing south 7/24/14



Gauging SB-4 to determine evidence of groundwater, facing south 2/8/14



Exporting soil, facing southeast

7/25/14



Conducting excavation at Excavation 4, facing south 7/28/14



Conducting excavation at Excavation 3, facing east 7/31/14



Conducting excavation at Excavation 5, facing west 7/29/14



Conducting excavation at Excavation 2, facing southeast

8/1/14



Conducting excavation at Excavation 6, facing northeast 8/1/14



Backfilling excavations, facing north

9/29/14



Importing soil, facing east

9/8/14



Disking site prior to seeding, facing north

10/17/14



Seeding site, facing west 10/17/14



Disking seed into soil, facing north 10/17/14



Seeding site, facing northwest



Site completed, facing south

10/17/14

# Appendix D Final C-141

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

#### State of New Mexico **Energy Minerals and Natural Resources**

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.

			Rele	ease Notific	catio	n and Co	orrective A	ction	n							
			,			OPERA'	ГOR		☐ Initi	al Report	$\boxtimes$	Final Repor				
		Apache Corp				Contact Bru				<u> </u>						
		ne Eunice, N re Abo Unit					No. (432) 631-6	982								
			U-8			Facility Typ	e Oil Well									
Surface Ow	ner BLM			Mineral C	)wner				API No	o. 30-015-	00844					
				LOCA	TIOI	OF RE	LEASE									
Unit Letter	Section	Township	Range	Feet from the	North	South Line	Feet from the	East/	West Line	County						
M	3	188	27E							Eddy	•					
			La	titude: <u>32*46'8</u>	886"N	Longitude	104*16'25 56	3"\\		1 200)						
						OF RELI		<u>3 YY</u>								
Type of Rele	ase Oil a	nd Produced V	Vater				Release 8 barrel	s (6	Volume I	Recovered 2	barrels	s (1 barrel oil				
Source of Re	leace Flow	line					er and 2 barrels o		and 1 bar	rel water)						
						Date and H	our of Occurrence	e	Date and   8:00 a.m.	Hour of Disc	covery	12/19/13 at				
Was Immedia	ite Notice C		v. 🗀	LAT CONT. IS		If YES, To										
By Whom?			res	No Not Re	quired		ge with Jeffery R									
Was a Water	course Reac	hed?				If YES, Vo	our 12/19/2013 a lume Impacting t	t 2:00 p he Wata	.M.							
			Yes 🗵	No		11 120, 10	tunio implicting (	ne mad	Acourse.							
If a Watercou	rse was Imp	oacted, Descri	be Fully.*	:												
Describe Cau	se of Proble	m and Remed	lial Action	Taken.* The sto	el flow	line was pres	sured up and rele	ased flu	iid from tw	o previous li	пе гера	air clamps,				
Describe Area	a Affected a	ind Cleanup A	ction Tak	en.* RECS was or	n site be	Line was replaced with a new poly line.  Site beginning on December 19 <sup>th</sup> 2013 to assess and GPS man the site. On										
J 6°°, 2014, 3 sc	al bores we	re installed at	the site to	assess the level of	ficontan	nination Rer	resentative samo	les fron	the horse	wara takan t	2 0 000	amaraini				
i aboratory for	anaiysis, L	sased on the E	aboratory :	sampling, a CAP on May 15 <sup>th</sup> , 2014.	was sub	mitted to NM	بمطفامه	CADan								
i una excavano	m 4 was duj	g to 2 ft bgs, .	Final Wall	and bottom samp	es were	taken and se	nt to a commerci:	al labor:	atory for an	alucie On i	monet	Stg JUFF				
Apache reque	stea permis	Sion from BL	M and NA	1OCD to backfill I	Excavat	ion I and 4 u	ith clean import	ائمه ایو	NIMOOD A	mneased the		أ الانتمامة ا				
in the approve	OCAP, EX	cavalion 2 wa	is scraped	down to 2 ft bgs,	Excavat	ion 5 was scr	aped down to 1 f	Lhes, ar	mainder of the release was excavated as s, and Excavation 3 and Excavation 6 was							
excavated to 4	in des. Pit	iai wali sampi	es from ea	ich of these scrape	es and co	amposite bott	om samples from	Excans	atione 2 and	l 5 ware take	n to o c	nommoroiol				
BLM gave ver	marysis. C	al to backfill (	be site on	Apache requested September 9 <sup>th</sup> , 20	permis 14. whil	sion to backfi e NMOCD a	If the remainder of	of the ex o backfa	scavations : illed on Ser	with clean, in Stember 5 <sup>th</sup> (	nporte 1014	d soil.				
լ աշ այդուստում	LOIB MANOC	D to backilli	the site, N	MOCD requested	that the	: West Wall I	in Excavation 2	be expa	nded to obt	ain chloride	reading	ne helow				
data, on Septe	ndards. The mber 11 <sup>th</sup> , 2	area around 2014. NMOCI	West Wall Deave the	1 was excavated ir approval to bac	further t kfill the	to the west an	d re-sampled on	Septemi	ber 8 <sup>th</sup> , 201	4. In respon	se to th	nis new				
tacinty for dis	posai. Ciea	in soii was imj	ported to t	he site to replace t	the cont.	aminated soil	taken for dispose	al The	remaining a	excauatione :	uera ba	ackfilled				
with the clean	, imported s	oil and contor	ared to the	surrounding area.	. On Oo	:tober 17 <sup>th</sup> , 20	14, the disturbed	area w	as seeded v	ith RLM mi	x #3	1				
regulations all	operators a	re required to	report and	is true and comple I/or file certain rel	ease no	tifications and	I perform correct	ive actio	one for rele	ases which r	nav enz	langer				
public health of	or the enviro	onment. The a	icceptance	of a C-141 report	t by the	NMOCD ma	rked as "Final Re	nort" de	nes not relie	eve the opera	tor of I	lighility				
or the environ	perations na ment. In ad	ve failed to ac dition. NMOC	iequately i CD accept:	investigate and rer ance of a C-141 re	nediate mort do	contaminatio	n that pose a thre	at to gro	surface wat	er, hum	nan health					
federal, state, o	or local law	s and/or regul	ations.		Jon do	ca not reflere	the operator of it	saponsn	mity for co	mphance wi	ın any o	otner				
Signature:	Bruc	L And	لال				OIL CONS	ERV.	ATION	DIVISIO	<u> </u>					
Printed Name:	Bruce Bake	er			A	pproved by E	invironmental Sp	ecialist:	list:							
Title: Environi	mental Tech	<u> </u>			Approval Date:				Expiration Date:							
E-mail Addres	-		p.com		c	onditions of a	Approval:			Attached						
Date:	- a - 6	1015	Phone: (	432) 631-6982								Į.				