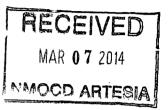
## Basin Environmental Service Technologies, LLC

3100 Plains Highway
P. O. Box 301
Lovington, New Mexico 88260
jwlowry@basinenv.com
Office: (575) 396-2378 Fax: (575) 396-1429

Â
Effective Solutions

## **REMEDIATION SUMMARY**

## AND SITE CLOSURE REQUEST



BOPCO, LP POKER LAKE UNIT #341H Eddy County, New Mexico Unit Letter "D" (NW/NW), Section 23, Township 24 South, Range 30 East Latitude 32.208112° North, Longitude 103.856698° West NMOCD Reference #s 2RP-1926

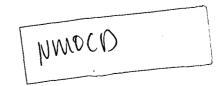
Prepared For:

BOPCO, LP 522 W. Mermod, Suite 704 Carlsbad, New Mexico 88220

Prepared By: Basin Environmental Service Technologies, LLC 3100 Plains Highway Lovington, New Mexico 88260

February 2014

Joel W Project Manager



## **TABLE OF CONTENTS**

1.0	INTRODUCTION & BACKGROUND INFORMATION	1
2.0	NMOCD SITE CLASSIFICATION	1
3.0	SUMMARY OF SOIL REMEDIATION ACTIVITIES	2
4.0	QA/QC PROCEDURES	4
	4.1 Soil Sampling	4
	4.2 Decontamination of Equipment	5
	4.3 Laboratory Protocol	5
5.0	SITE CLOSURE REQUEST	5
6.0	LIMITATIONS	6
7.0	DISTRIBUTION	7

## **FIGURES**

Figure 1	_	Site Location Map
Figure 2	_	Site & Sample Location Map (Pasture)
Figure 3	_	Site & Sample Location Map (Well Pad)

## **TABLES**

1

Table 1 - Concentrations of Benzene, BTEX, TPH & Chloride in Soil

## APPENDICES

Appendix A – Release Notification and Corrective Action (Form C-141)

Appendix B – Photographs

Appendix C – Laboratory Analytical Reports

## **1.0 INTRODUCTION & BACKGROUND INFORMATION**

Basin Environmental Service Technologies, LLC (Basin), on behalf of BOPCO, LP (BOPCO), has prepared this *Remediation Summary and Site Closure Request* for the release site known as Poker Lake Unit (PLU) #341H. The legal description of the release site is Unit Letter "D" (NW/NW), Section 23, Township 24 South, Range 30 East, in Eddy County, New Mexico. The geographic coordinates of the release site are 32.208112° North latitude and 103.856698° West longitude. The property affected by the release is owned by the United States Department of the Interior and administered by the Bureau of Land Management (BLM) A "Site Location Map" is provided as Figure 1.

On September 6, 2013, Quality Transport (QT) discovered a release had occurred at the PLU #341H Well Pad. A produced water treatment process they were overseeing on the PLU #341H well pad for a "frac" job on the PLU Big Sinks 15-24-30 USA #1H, overflowed undetected and breached the plastic-lined containment on the back side of the "frac tanks". BOPCO reported the release to the New Mexico Oil Conservation Division (NMOCD) Artesia District Office on September 10, 2013, immediately upon being informed of the release. The "Release Notification and Corrective Action" (Form C-141) indicated greater than fifty barrels (>50 bbls) of produced water was released, with no recovery. The initial Form C-141 indicated the release affected approximately nineteen thousand, four hundred square feet (18,250 ft<sup>2</sup>) of pasture. The Form C-141 is provided as Appendix A. General photographs of the release site are provided as Appendix B.

Prior to beginning excavation activities, Boone Archaeological Services of New Mexico (Boone) conducted a cultural survey of the affected area. Boone noted that remediation activities could affect registered Archaeological Site LA 147531.

On September 23, 2013, BLM representatives gave permission to begin remediation activities. Flagging was positioned to prevent entrance into the protected area. No excavation activities were permitted beyond this point without on-site observation.

### 2.0 NMOCD SITE CLASSIFICATION

A search of the New Mexico Water Rights Reporting System (NMWRRS) database maintained by the New Mexico Office of the State Engineer (NMOSE) indicated the average depth to groundwater for Section 23, Township 24 South, Range 30 East is approximately four hundred feet (400') below ground surface (bgs). Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

A search of the NMWRRS database indicated there are no water wells within one thousand feet  $(1,000^{\circ})$  of the release. Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

There are no surface water bodies within one thousand feet (1,000') of the release. Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

NMOCD guidelines indicate the PLU #341H release site has an initial ranking score of zero (0) points. The soil remediation levels for a site with a ranking score of zero (0) points are as follows:

- Benzene -10 mg/Kg (ppm)
- Benzene, ethylbenzene, toluene and xylene (BTEX) 50 mg/Kg (ppm)
- Total petroleum hydrocarbon (TPH) 5,000 mg/Kg (ppm)

The New Mexico Administrative Code (NMAC) does not currently specify a remediation level for chloride concentrations in soil. Chloride remediation levels are set by the NMOCD on a site-specific basis.

## 3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES

On September 23, 2013, QT began excavation activities at the release site. Visibly impacted material was excavated from the affected pasture and stockpiled on-site, pending final disposition. Please reference Figure 2, "Site & Sample Location Map (Pasture)".

On November 21, 2013, Basin assumed remediation responsibilities at the PLU #341H release site. Twenty-seven (27) soil samples (SP #1 through SP #27) were collected from the floor and sidewalls of the existing excavation and submitted to Cardinal Laboratories, of Hobbs, New Mexico, for analysis of chloride concentrations by EPA Method 4500 Cl-B. Laboratory analytical results indicate chloride concentrations ranged from less than the laboratory method detection limit (MDL) for soil samples SP #2-SP#8, SP#11, SP #12, SP #14-SP #16 and SP #19 to 10,300 ppm for soil sample SP #23. Soil samples collected from the excavation floor (SP #3, SP #6, SP #9, SP #10, SP #13, SP #14, SP #17, SP #18, SP #20, SP #22 and SP #25) were also analyzed for concentrations of BTEX using EPA Method SW-846-8021b and TPH using EPA Method SW-846 8015M. Laboratory analytical results indicated BTEX and TPH concentrations were less than the appropriate laboratory MDL in each of the submitted soil samples. A summary of "Concentrations of BEEX, TPH and Chloride in Soil" is provided in Table 1. Laboratory analytical reports are provided as Appendix C.

On December 2, 2013, Basin began excavation activities at the release site. The floor and sidewalls of the existing exavation were advanced until field tests suggested concentrations of BTEX, TPH and chloride were less than NMOCD Regulatory Standards. Excavated material was stockpiled on-site, pending final disposition.

On December 3, 2013, seven (7) confirmation soil samples (SP #10b, SP #13b, SP #22b, SP #24b, SP #25b, SP #26b and SP #27b) were collected from the floor and sidewalls of the excavation and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from less than the laboratory MDL for soil samples SP #10b and SP #13b to 528 ppm for soil sample SP #25b. Soil sample #13b was also analyzed for concentrations of TPH, which was determined to be less than the laboratory MDL.

On December 4, 2013, one (1) confirmation soil sample (SP #17b) was collected from the floor of the excavation and submitted to the laboratory for analysis of chloride concentrations.

Laboratory analytical results indicated the chloride concentration was 608 ppm. Chloride concentrations were below NMOCD Regulatory Standards in soil sample SP #17b.

Upon receiving laboratory analytical results from confirmation soil samples, the excavated area in the pasture was backfilled with locally purchased, non-impacted material. Following backfilling, the site was contoured to match the surrounding topography.

On December 16, 2013, Basin began excavation activities on the impacted well pad. The floor and sidewalls of the exavation were advanced until field tests suggested concentrations of BTEX, TPH and chloride were less than NMOCD Regulatory Standards. Excavated material was stockpiled on-site, pending final disposition. Please reference Figure 3, "Site & Sample Location Map (Well Pad)".

On December 17, 2013, eleven (11) confirmation soil samples (N SW #1 through N SW #3, N SW #4, S SW #2, Pad Floor @ 1', Pad SE SW, Floor #1 @ 3.5', Floor #3 @ 1', Floor #4 @ 1' and ESW #1) were collected from the floor and sidewalls of the excavation and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 32.0 ppm for soil sample NSW #4 to 832 ppm for soil sample S SW #2. Soil samples Pad Floor @ 1', Floor #1 @ 3.5' and Floor #3 @ 1' were also analyzed for concentrations of BTEX and TPH, which were determined to be less than the appropriate laboratory MDL in each of the submitted soil samples. Chloride, BTEX and TPH concentrations were below NMOCD Regulatory Standards in each of the submitted soil samples. The excavation was advanced toward the south and the west.

On December 19, 2013, three (3) confirmation soil samples (Sect. #1 WSW, Sect. #1 SSW and ESW #2) were collected from sidewalls of the excavation and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 80.0 ppm for soil sample Sect. #1 WSW to 272 ppm for soil sample ESW #2. Chloride concentrations were below NMOCD Regulatory Standards in each of the submitted soil samples. The excavation was advanced toward the west.

On December 23, 2013, two (2) confirmation soil samples (West Floor and South East Floor) were collected from floor of the excavation and submitted to the laboratory for analysis of chloride and TPH concentrations. Laboratory analytical results indicated chloride concentrations ranged from 192 ppm for soil sample South East Floor to 432 ppm for soil sample West Floor. Analytical results indicated TPH concentrations were less than the laboratory MDL in each of the submitted soil samples. Chloride and TPH concentrations were below NMOCD Regulatory Standards in each of the submitted soil samples. The excavation was advanced toward the west.

On December 30, 2013, three (3) confirmation soil samples (Sec. 8 WSW #1 through Sec. 8 WSW #3) were collected from sidewalls of the excavation and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 320 ppm for soil samples Sec. 8 WSW #1 and Sec. 8 WSW #3 to 480 ppm for soil sample Sec. 8 WSW #2. Chloride concentrations were below NMOCD Regulatory Standards in each of the submitted soil samples.

On January 3, 2014, four (4) confirmation soil samples (Sec. 8 NSW, Sec. 8 SSW, Sec. 7 NSW and Sec. 7 SSW) were collected from sidewalls of the excavation and submitted to the laboratory

for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 16.0 ppm for soil sample Sec. 8 NSW to 528 ppm for soil sample Sec. 7 SSW. Chloride concentrations were below NMOCD Regulatory Standards in each of the submitted soil samples.

On January 7, 2014, six (6) confirmation soil samples (Sec. 7 Floor A through Sec. 7 Floor C, Sec. 8 Floor A through Sec. 8 Floor C) were collected from the floor of the excavation and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 352 ppm for soil sample Sec. 8 Floor B to 960 ppm for soil sample Sec. 8 Floor A. Soil samples Sec. 7 Floor B and Sec. 8 Floor B were also analyzed for concentrations of BTEX and TPH, which were determined to be less than the appropriate laboratory MDL. Chloride, BTEX and TPH concentrations were below NMOCD Regulatory Standards in each of the submitted soil samples. The excavation was advanced toward the east.

On January 10, 2014, six (6) confirmation soil samples (Sec. 6 NSW, Sec. 6 Floor B, Sec. 6 SSW, Sec. 5 NSW, Sec. 5 Floor A and Sec. 5 SSW) were collected from the floor and sidewalls of the excavation and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 48.0 ppm for soil samples Sec. 5 NSW and Sec. 5 SSW to 944 ppm for soil sample Sec. 6 Floor B. Chloride concentrations were below NMOCD Regulatory Standards in each of the submitted soil samples.

Between November 27, 2013 and January 14, 2014, approximately six thousand, and forty cubic yards (6,040 yd<sup>3</sup>) of impacted material was transported to Lea Land, LLC (NMOCD Permit #WM-01-035) for disposal. The final dimensions of the excavated area within the pasture were approximately fifteen (15) to eighty feet (80') in width, three hundred and fifty feet (350') in length and one (1) to two feet (2') in depth. The final dimensions of the excavated area on the PLU #341H well pad were approximately sixty (60) to one hundred feet (100') in width, three hundred and eighty feet (380') in length and one (1) to seven feet (7') in depth.

On January 14, 2014, upon receiving laboratory analytical data from confirmation soil samples, the excavated areas were backfilled with locally purchased, non-impacted material. Following backfilling, the caliche well pad was repaired, and areas affected by the remediation activities were contoured to fit the surrounding topography.

## 4.0 QA/QC PROCEDURES

### 4.1 Soil Sampling

Soil samples were delivered to Cardinal Laboratories, Inc., in Hobbs, New Mexico, for BTEX, TPH and/or chloride analyses using the methods described below:

- BTEX concentrations in accordance with EPA Method SW-846 8021b
- TPH concentrations in accordance with EPA Method SW-846 8015M
- Chloride concentrations in accordance with EPA Method 4500 Cl-B

## 4.2 Decontamination of Equipment

Cleaning of the sampling equipment was the responsibility of the environmental technician. Prior to use, and between each sample, the sampling equipment was cleaned with Liqui-Nox® detergent and rinsed with distilled water.

## 4.3 Laboratory Protocol

The laboratory was responsible for proper QA/QC procedures after signing the chain-of-custody form(s). These procedures were either transmitted with the laboratory reports or are on file at the laboratory.

## 5.0 SITE CLOSURE REQUEST

Soil samples collected from the floors and sidewalls of the PLU #341H excavations were analyzed by an NMOCD-approved laboratory. Laboratory analytical results indicated concentrations of BTEX, TPH and chloride were below NMOCD Regulatory Remediation Action Levels established for the site. Based on these laboratory analytical results, Basin recommends BOPCO provide the NMOCD Artesia District Office and the BLM a copy of this *Remediation Summary and Site Closure Request* and request the NMOCD grant site closure to the PLU #341H release site.

### 6.0 LIMITATIONS

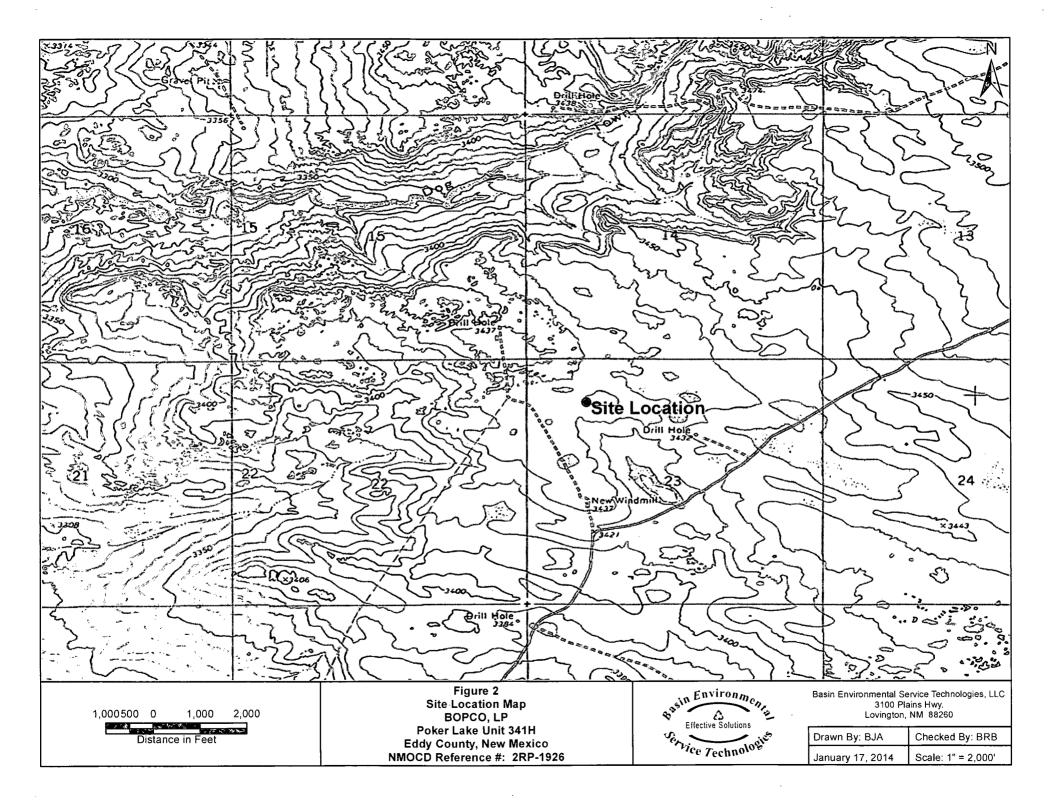
Basin Environmental Service Technologies, LLC, has prepared this *Remediation Summary and Site Closure Request* to the best of its ability. No other warranty, expressed or implied, is made or intended. Basin has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Basin has not conducted an independent examination of the facts contained in referenced materials and statements. Basin has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Basin has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

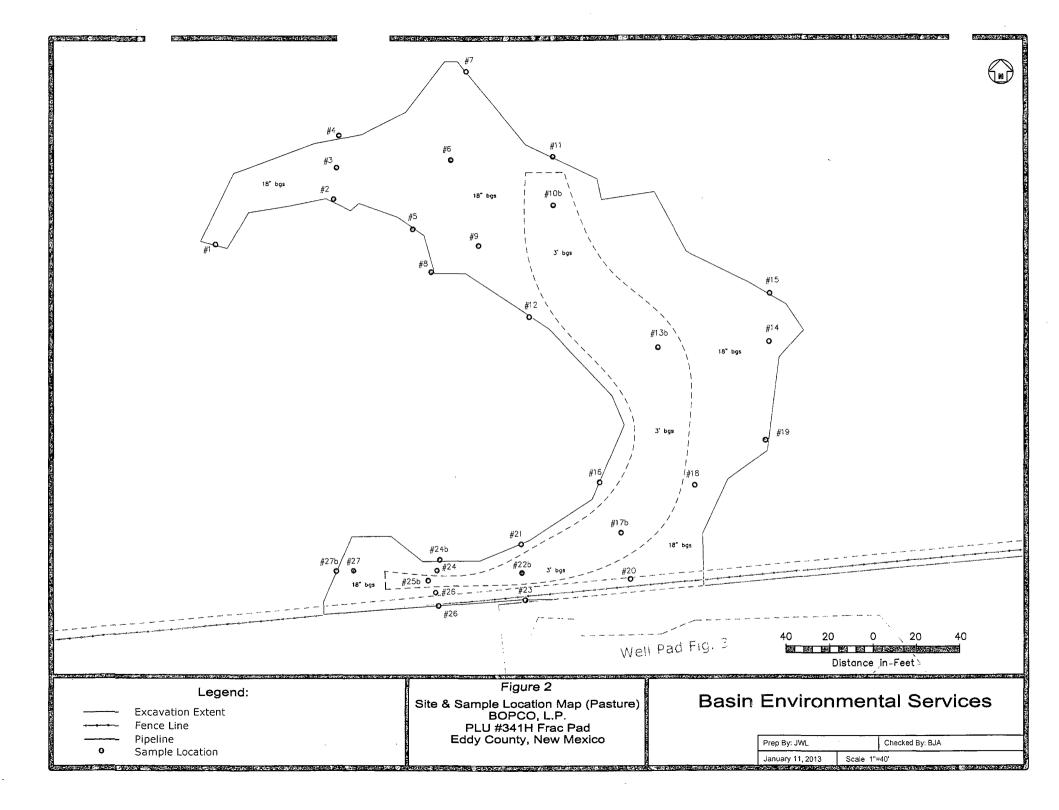
This report has been prepared for the benefit of BOPCO, LP. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or BOPCO, LP.

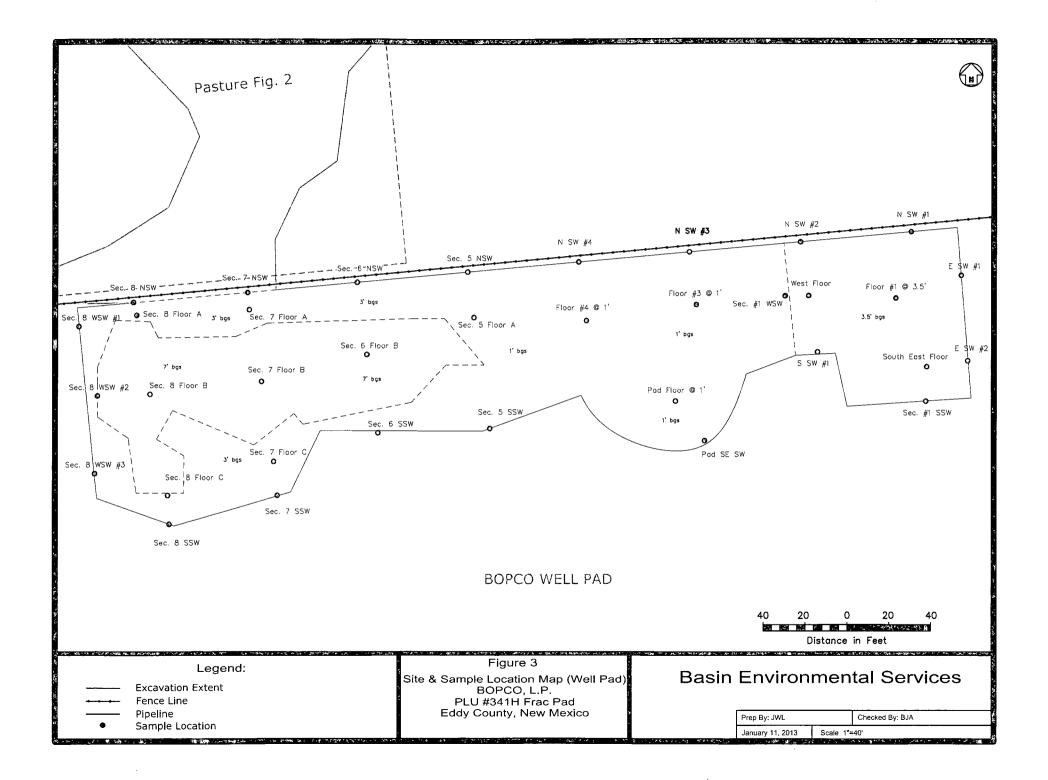
## 7.0 **DISTRIBUTION:**

- Copy 1: Mike Bratcher New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division (District 2) 1301 E. Grand Avenue Artesia, NM 88210
- Copy 2: James Amos Bureau of Land Management 602 E. Greene Street Carlsbad, New Mexico 88220
- Copy 3: Tony Savoie BOPCO, LP 522 W. Mermod, Suite 704 Carlsbad, NM 88220
- Copy 4: Basin Environmental Service Technologies, LLC P.O. Box 301 Lovington, NM 88260

# **FIGURES**







# **TABLES**

#### TABLE 1

#### CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDES IN SOIL

#### BOPCO, LP PLU #341 H FRAC PAD EDDY COUNTY, NEW MEXICO

				METHOD: EPA SW 846-8021B, 5030				METHOD: 8015M			TOTAL	4500 CI-B	
	SAMPLE	SAMPLE	SOIL			ETHYL-	TOTAL	TOTAL	GRO	DRO	ORO	TPH	
SAMPLE LOCATION	DEPTH	DATE	STATUS	BENZENE		BENZENE	XYLENES	BTEX	Ca-C12	C12 C28	C <sub>28</sub> -C <sub>35</sub>	Ce-C35	CHLORIDE
	(BGS)			(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
SP #1	1'	11/21/2013	In-Situ	-	-	-	-	-	-	-	-	-	96.0
SP #2	1'	11/21/2013	In-Situ	-	-	-		•			-	-	<16.0
SP #3	18"	11/21/2013	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<16.0 <16.0
SP #4 SP #5	1' 1'	11/21/2013	In-Situ In-Situ		· · ·	-		-	-	-			<16.0
SP #6	18"	11/21/2013	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<16.0
SP #7	1'	11/21/2013	In-Situ	-	-		•	•	-	-	-	-	<16.0
SP #8	1'	11/21/2013	In-Situ	-	-	-	-	-	•	-	-		<16.0
SP #9	18"	11/21/2013	In-Situ	<0.050	<0.050	<0.050	<0.150	< 0.300	<10.0	<10.0	<10.0	<10.0	304
SP #10 SP #11	18" 1'	11/21/2013	In-Situ In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	1,790 <16.0
SP #12	1'	11/21/2013	In-Situ										<16.0
SP #13	18"	11/21/2013	In-Situ	<0.050	< 0.050	< 0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	6,080
SP #14	18"	11/21/2013	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	-	<16.0
SP #15	_1'	11/21/2013	In-Situ		-	-	-		· ·	-		-	<16.0
SP #16	1'	11/21/2013	In-Situ	-	-		-	-		-	- <10.0	<10.0	<16.0 9,200
SP #17 SP #18	18" 18"	11/21/2013	In-Situ In-Situ	<0.050 <0.050	<0.050 <0.050	<0.050 <0.050	<0.150 <0.150	<0.300	<10.0 <10.0	<10.0 <10.0	<10.0	<10.0	80.0
SP #19	1'	11/21/2013	In-Situ	-0.000	~0.000	-0.050	-0.150	-0.500			- 10.0		<16.0
SP #20	18"	11/21/2013	In-Situ	< 0.050	<0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0	<10.0	768
SP #21	1'	11/21/2013	In-Situ	•	····	-	-	-	-	-	-	-	176
SP #22	18"	11/21/2013	In-Situ	<0.050	< 0.050	< 0.050	<0.150	<0.300	<10.0	<10.0	<10,0	<10.0	3,400
SP #23	1'	11/21/2013	In-Situ	-		-	-	-	•	•	· •	-	10,300
SP #24	1' 18"	11/21/2013	In-Situ		-	- <0.050	<0.150	- <0.300	- <10.0	- <10.0	- <10.0	<10.0	5,360 2,640
SP #25 SP #26	18	11/21/2013 11/21/2013	In-Situ In-Situ	< 0.050	<0.050	<0.050	<0.150	<0.300		-	-		1,920
SP #20 SP #27	1'	11/21/2013	In-Situ In-Situ		-					-			8,930
	· · · · ·			[									
SP #10b	2'	12/3/2013	In-Situ	-	-	-	•	-	-	-	•	· ·	<16.0
SP #13b	2'	12/3/2013	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<16.0
SP #22b	2'	12/3/2013	In-Situ	-	-		-	-	:			•	368
SP #24b SP #25b	<u>1'</u> 2'	12/3/2013 12/3/2013	In-Situ In-Situ			-		-	<u> </u>		-	-	<u>416</u> 528
SP #26b	1'	12/3/2013	In-Situ		-			-		-			32
SP #27b	1'	12/3/2013	In-Situ	-		-	-	-			-	-	48
SP #17b	2'	12/4/2013	In-Situ	-	-	-	-	-		-		-	608
		10/17/00/10											170
N SW #1 N SW #2	<u>1'</u>	12/17/2013	In-Situ In-Situ					-	<u>·</u>				<u>176</u> 352
N SW #3	1'	12/17/2013	In-Situ		-				<u> </u>	<u> </u>			48.0
N SW #4	1'	12/17/2013	In-Situ	-		-		-		-	-	-	32.0
S SW #2	1'	12/17/2013	In-Situ	-	-	•	-	•		-	-	-	832
Pad Floor @ 1'	1'	12/17/2013	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	768
Pad SE SW	6"	12/17/2013	In-Situ	-	•	· ·		<u> </u>	<u> </u>	. <u></u>	-	-	544
Floor #1 @ 3.5 Floor #3 @ 1'	3.5'	12/17/2013	In-Situ In-Situ	<0.050 <0.050	<0.050 <0.050	<0.050 <0.050	<0.150 <0.150	<0.300 <0.300	<10.0	<10.0	<10.0 <10.0	<10.0 <10.0	256 352
Floor #4 @ 1'	1'	12/17/2013	In-Situ		~0.050	~0.050		-0.300	-10.0	- 10.0			592
ESW #1	1'	12/17/2013	In-Situ				-	-			-	-	208
Sect. #1 WSW	1'	12/19/2013	In-Situ		-			-	-	· ·		•	80.0
Sect. #1 SSW	1'	12/19/2013	In-Situ		-		. <u> </u>	-			-		96.0
ESW #2	1'	12/19/2013	In-Situ			-	-	-	·	· ·		-	272
West Floor	3.5'	12/23/2013	In-Situ						<10.0	<10.0	<10.0	<10.0	432
South East Floor	3.5	12/23/2013	In-Situ		-	-		-	<10.0	<10.0	<10.0	<10.0	192
Sec. 8 WSW #1	2'	12/30/2013	In-Situ	•		-	-	-	-	-	-	-	320
Sec. 8 WSW #2	5'	12/30/2013	In-Situ		-			·		· -		-	480 320
Sec. 8 WSW #3 Sec. 8 NSW	2' 2'	12/30/2013	In-Situ In-Situ	<u> </u>	<u> </u>	<u> </u>	<u> </u>	-	<u> </u>	-	-		16.0
Sec. 8 SSW	2'	1/3/2014	In-Situ		-				<u> </u>	-	-		192
Sec. 7 NSW	2'	1/3/2014	In-Situ		-	-	-	-	-			-	80.0
Sec. 7 SSW	2'	1/3/2014	In-Situ		-	-		-	-	-	-		528
	<u> </u>			L									
Sec. 7 Floor A	3'	1/7/2014	In-Situ	-	-	-0.050		-	-	-			608
Sec. 7 Floor B Sec. 7 Floor C	7'	1/7/2014	In-Situ In-Situ	< 0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	640 944
Sec. 8 Floor A	3'	1/7/2014	In-Situ In-Situ	+ <u> </u>			<u> </u>		<u> </u>	+	· ·	-	944
Sec. 8 Floor B	7'	1/7/2014	In-Situ	<0.050	<0.050	< 0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	352
Sec. 8 Floor C	3'	1/7/2014	In-Situ	-	-	-	-	-	-	-	-	-	464
Sec. 6 NSW	2'	1/10/2014	In-Situ	•	-	-	-	•	-	-	-		400
Sec. 6 Floor B	7'	1/10/2014	In-Situ		-	-	-		- :	-	-	-	944
Sec. 6 SSW Sec. 5 NSW	2'	1/10/2014	In-Situ In-Situ	-		-	- <u>-</u>					-	192 48.0
Sec. 5 Floor A	3'	1/10/2014	In-Situ	-	-		-		<u> </u>		-		64.0
Sec. 5 SSW	2'	1/10/2014	In-Situ	-	-		-	- "	-		-	-	48.0
NMOCD Criteria		1		10				50				5,000	1,000

## **APPENDICES**

,

# Appendix A

# **Release Notification and Corrective Action**

# (Form C-141)

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.

.

<b>Release Notification and Corrective Action</b>										
NJMW1326653626	<b>OPERATOR</b> Initial Report I Final Report									
Name of Company: BOPCO, L.P. Z60737	Contact: Tony Savoie									
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329									
Facility Name: Poker Lake Unit 341H	Facility Type: Exploration and Production									
Surface Owner: Federal Mineral Owner	ner: Federal API No. 30-015-39486									
	ION OF RELEASE									
	orth/South Line         Feet from the         East/West Line         County           North         1110         West         Eddy									
Latitude <u>N 32.208</u>	<u>8112_Longitude_W_103.856698</u>									
NATUR	RE OF RELEASE									
Type of Release: Produced water	Volume of Release: >50 bbls Volume Recovered: none									
Source of Release: Frac tanks	Date and Hour of OccurrenceDate and Hour of Discovery: By Q.T.8/24(31) approximately 5:00 a.m.9/6/13 time unknown									
Was Immediate Notice Given?	If YES, To Whom? BOPCO notified the NMOCD and BLM immediately									
🗌 Yes 🛛 No 🗌 Not Requir										
By Whom? Tony Savoie	Date and Hour 9/11/13 10:00 a.m.									
Was a Watercourse Reached?	If YES, Volume Impacting the Watercourse.									
☐ Yes ⊠ No	RECEIVED									
If a Watercourse was Impacted, Describe Fully.*										
	SEP 20 2013									
	NMOCD ARTESIA									
plastic lined containment. The tanks overflowed undetected and breach out onto the well pad and pasture. The cause of the overflow was corre Describe Area Affected and Cleanup Action Taken.*	·									
the impact area on the pad and pasture area and the vertical extent in the	imately 18,250 sq.f t. of pasture. Soil samples were collected on 9/11/13 to determine the pasture. Quality Trucking will be performing the dirt work, BOPCO and a project on will be done in accordance to the NMOCD and BLM guidelines for the remediation									
regulations all operators are required to report and/or file certain releas public health or the environment. The acceptance of a C-141 report by should their operations have failed to adequately investigate and remed	to the best of my knowledge and understand that pursuant to NMOCD rules and ase notifications and perform corrective actions for releases which may endanger by the NMOCD marked as "Final Report" does not relieve the operator of liability ediate contamination that pose a threat to ground water, surface water, human health ort does not relieve the operator of responsibility for compliance with any other									
	OIL CONSERVATION DIVISION									
Signature: 6m curro	A I									
Printed Name: Tony Savoie	Approved by Environmental Specialist: Signed By Mile Bearence									
Title: Waste Management and Remediation Specialist	SEP 2 3 2013 Approval Date: Expiration Date:									
E-mail Address: tasavoic@basspet.com	Conditions of Approval:									
Date: 9/20/13 Phone: 432-556-8730	Remediation per OCD Rule & Guidelines, &         0       like approval by BLM. SUBMIT REMEDIATION									
Attach Additional Sheets If Necessary	PROPOSAL NO LATER THAN: October 23, 2013 2RP-1926									

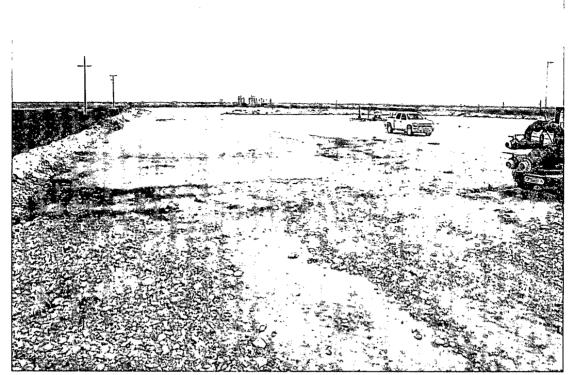
1625 N. French Dr., Hobbs, NM 88240 CEIVLE         District III         1301 W. Grand Avenue, Artesia, NM 88210         District III         MAR 07 2014         Oil Conse         District III         District III         District III         District III         District IV         District IV         District IV         District IV         District IV         District IV	f New Mexico s and Natural Resources ervation Division th St. Francis Dr. Fe, NM 87505 Form C-141 Revised October 10, 2003 Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form								
	Release Notification and Corrective Action								
OPEI	RATOR Initial Report I Final Report								
Name of Company BOPCO, LP	Contact Tony Savoie								
Address522 W. Mermod, Suite 704, Carlsbad, NM 88220Facility NamePoker Lake Unit 341H <b>28P</b> -1 <b>926</b>	Telephone No.       432-556-8730         Facility Type       Exploration and Production								
Surface Owner Federal Mineral Owner									
	DN OF RELEASE								
Unit Letter Section Township Range Feet from the North	h/South Line Feet from the East/West Line County North 1110 West Eddy								
Latitude 32.208112° Nort	h Longitude 103.856698° West								
NATURI	E OF RELEASE								
Type of Release Produced water	Volume of Release >50 bbls         Volume Recovered: none								
Source of Release Frac tanks	Date and Hour of OccurrenceDate and Hour of Discovery: By Q.T.8/24/13 approximately 5:00 a.m.9/6/13								
Was Immediate Notice Given?	If YES, To Whom? BOPCO notified the NMOCD and BLM immediately upon their discovery of the spill on 9/10/13.								
By Whom? Tony Savoie Was a Watercourse Reached?  Yes No	Date and Hour 9/11/13 10:00 a.m.         If YES, Volume Impacting the Watercourse.								
If a Watercourse was Impacted, Describe Fully.*									
	the frac job on the PLU-Big Sinks 15-24-30 USA #1H, The frac tanks were placed reached the containment on the back side of the frac tanks, the produced water as corrected when it was discovered.								
the impact area on the pad and pasture area and the vertical extent in the manager will be overseeing the remediation activities. The remediation of leaks and spills.	nately 18,250 sq. ft. of pasture. Soil samples were collected on 9/11/13 to determine e pasture. Quality Trucking will be performing the dirt work, BOPCO and a project will be done in accordance to the NMOCD and BLM guidelines for the remediation net the objectives set forth by the NMOCD and BLM. Soil samples collected from								
Chloride were less than NMOCD Regulatory Standards. Between Septe	DCD-approved laboratory which determined concentrations of BTEX, TPH and mber 23, 2013, and January 14, 2014, approximately 6,040 cy of impacted soil was <b>Please reference the attached Basin Environmental Services Technologies ation activities.</b>								
I hereby certify that the information given above is true and complete regulations all operators are required to report and/or file certain releat public health or the environment. The acceptance of a C-141 report b should their operations have failed to adequately investigate and remed	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								
Signature. Bry Dare	OIL CONSERVATION DIVISION								
Printed Name: Tony Savoie	Approved by District Supervisor:								
Title: Waste Mgmt. & Remediation Specialist	Approval Date: Expiration Date:								
E-mail Address: TASavoie@BassPet.com	Conditions of Approval:								

Phone: (432)556-8730

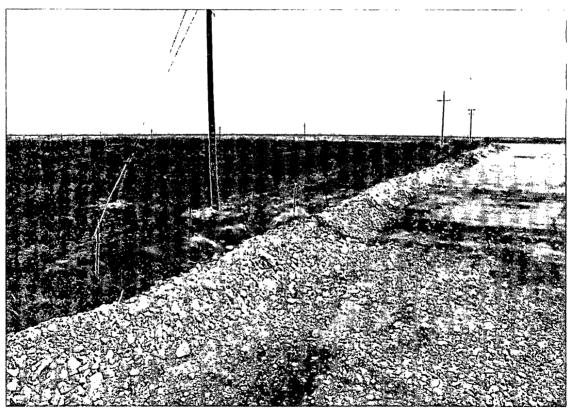
Date: 12	/6/2011	

# Appendix B

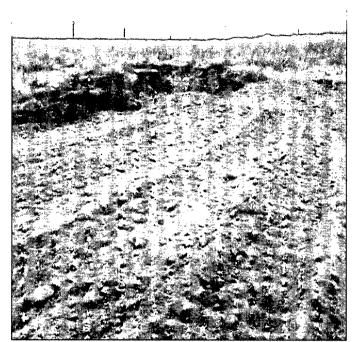
# Photographs



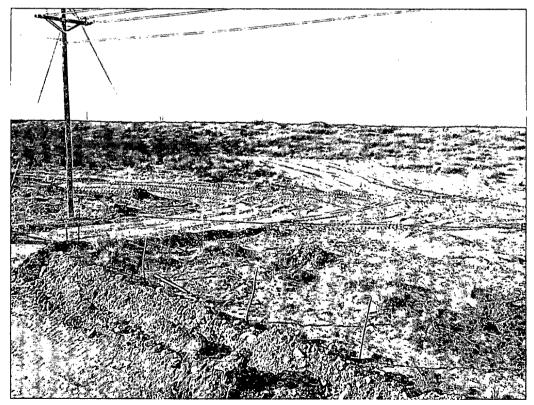
Photograph of surface staining from the initial release at the PLU #341H Release Site.



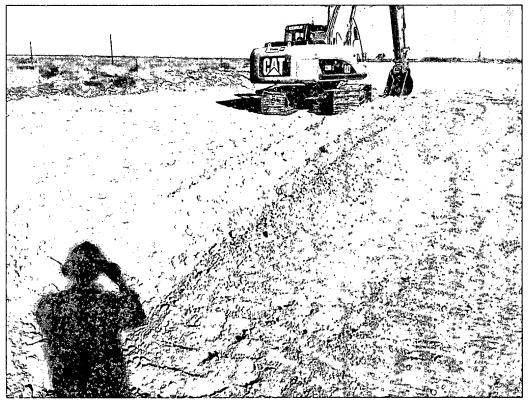
Photograph of surface staining and the impacted pasture area at the PLU #341H Release Site.



Photograph of excavation activities within the impacted pasture area at the PLU #342H Release Site.



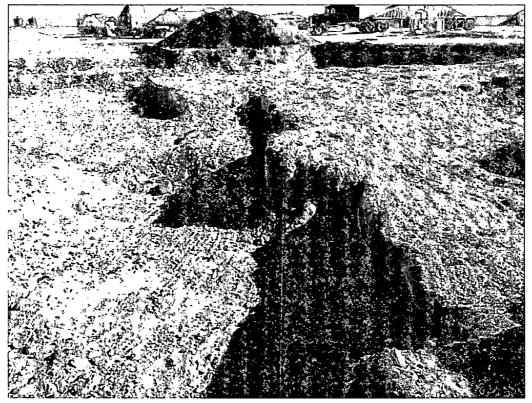
Photograph of the pasture area after backfilling activities at the PLU #341H Release Site.



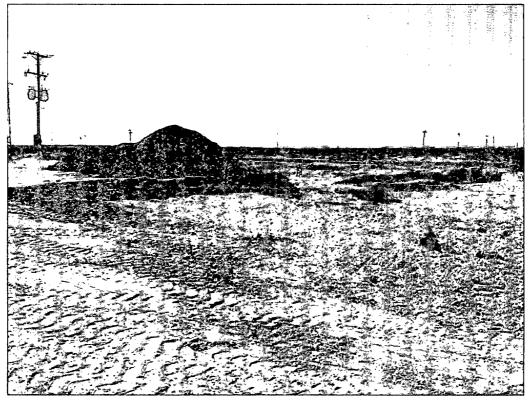
Photograph of excavation activities on the impacted well pad at the PLU #341H Release Site.



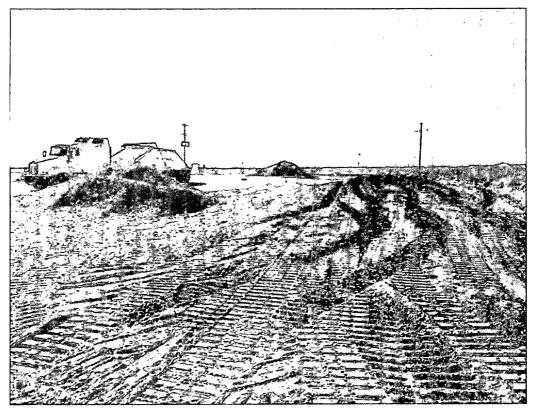
Photograph of the excavated area on the well pad at the PLU #341H Release Site.



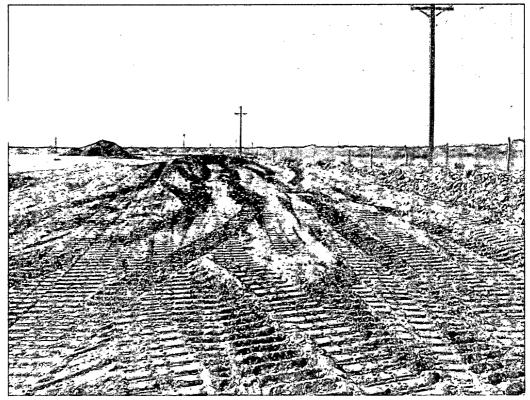
Photograph of the excavated area on the well pad at the PLU #341H Release Site.



Photograph of backfilling activities at the PLU #341H Release Site.



Photograph of backfilling activities at the PLU #341H Release Site.



Photograph of the PLU #341H Release Site after remediation activities.

# Appendix C

# Laboratory Analytical Reports



November 26, 2013

BEN J. ARGUIJO Basin Environmental Service P.O. Box 301 Lovington, NM 88260

RE: 341 H FRAC PAD

Enclosed are the results of analyses for samples received by the laboratory on 11/21/13 17:45.

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/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited certif.html

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Whe Singh

Mike Snyder Organic Supervisor



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	11/21/2013	Sampling Date:	11/21/2013
Reported:	11/26/2013	Sampling Type:	Soil
Project Name:	341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

#### Sample ID: SP #1 (H302869-01)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	11/26/2013	ND	416	104	400	0.00	

#### Sample ID: SP #2 (H302869-02)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	11/26/2013	ND	416	104	400	0.00		

#### Sample ID: SP #3 (H302869-03)

BTEX 8021B	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/25/2013	ND	2.14	107	2.00	0.779	
Toluene*	<0.050	0.050	11/25/2013	ND	2.10	105	2.00	0.448	
Ethylbenzene*	<0.050	0.050	11/25/2013	ND	2.05	103	2.00	0.544	
Total Xylenes*	<0.150	0.150	11/25/2013	ND	6.00	99.9	6.00	0.513	
Total BTEX	<0.300	0.300	11/25/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	112 %	6 89.4-12	6		_ ,				
Chloride, SM4500Cl-B	mg/l	kg	Analyze	d By: AP					

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/26/2013	ND	416	104	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

#### Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors ansing out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

mite Singh

Mike Snyder, Organic Supervisor



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	11/21/2013	Sampling Date:	11/21/2013
Reported:	11/26/2013	Sampling Type:	Soil
Project Name:	341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

#### Sample ID: SP #3 (H302869-03)

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	11/25/2013	ND	213	107	200	2.70	
DRO >C10-C28	<10.0	10.0	11/25/2013	ND	217	108	200	1.78	
EXT DRO >C28-C35	<10.0	10.0	11/25/2013	ND					
Surrogate: 1-Chlorooctane	111	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	109	% 63.6-15	4						

#### Sample ID: SP #4 (H302869-04)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/26/2013	ND	416	104	400	0.00	

#### Sample ID: SP #5 (H302869-05)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/26/2013	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 whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be lable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

mite Sigh

Mike Snyder, Organic Supervisor



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	11/21/2013	Sampling Date:	11/21/2013
Reported:	11/26/2013	Sampling Type:	Soil
Project Name:	341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

#### Sample ID: SP #6 (H302869-06)

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	11/25/2013	ND	2.14	107	2.00	0.779	
Toluene*	<0.050	0.050	11/25/2013	ND	2.10	105	2.00	0.448	
Ethylbenzene*	<0.050	0.050	11/25/2013	ND	2.05	103	2.00	0.544	
Total Xylenes*	<0.150	0.150	11/25/2013	ND	6.00	99.9	6.00	0.513	
Total BTEX	<0.300	0.300	11/25/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIC 113 % 89.4-126

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/26/2013	ND	416	104	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	11/25/2013	ND	213	107	200	2.70	
DRO >C10-C28	<10.0	10.0	11/25/2013	ND	217	108	200	1.78	
EXT DRO >C28-C35	<10.0	10.0	11/25/2013	ND					
Surrogate: 1-Chlorooctane		% 65.2-14	0				· · ·		
Surrogate: 1-Chlorooctadecane	101	% 63.6-15	4						

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be lable for incidental or consequential damages, including, whithing thirty (30) days after completion of the applicable service. In no event shall Cardinal be lable for incidental or consequential damages, including, which is sublidaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal laboratores.

mite Sugh

Mike Snyder, Organic Supervisor



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	11/21/2013	Sampling Date:	11/21/2013
Reported:	11/26/2013	Sampling Type:	Soil
Project Name:	341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

#### Sample ID: SP #7 (H302869-07)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/26/2013	ND	416	104	400	0.00	

#### Sample ID: SP #8 (H302869-08)

Chloride, SM4500CI-B	B mg/kg Analyzed By: AP		Analyzed By: AP				mg/kg Analyzed				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Chloride	<16.0	16.0	11/26/2013	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 ansing, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waved 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 claims based upon any of the above stated reasons or otherwise. Results relate only to the samplesi identified above. This reproduced excepts in full with writen approval of Cardinal Laboratories.

whe Singh

Mike Snyder, Organic Supervisor



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	11/21/2013	Sampling Date:	11/21/2013
Reported:	11/26/2013	Sampling Type:	Soil
Project Name:	341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

#### Sample ID: SP #9 (H302869-09)

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	11/25/2013	ND	2.14	107	2.00	0.779	
Toluene*	<0.050	0.050	11/25/2013	ND	2.10	105	2.00	0.448	
Ethylbenzene*	<0.050	0.050	11/25/2013	ND	2.05	103	2.00	0.544	
Total Xylenes*	<0.150	0.150	11/25/2013	ND	6.00	99.9	6.00	0.513	
Total BTEX	<0.300	0.300	11/25/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIE 112 % 89.4-126

Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	11/26/2013	ND	416	104	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS		<u> </u>			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/25/2013	ND	213	107	200	2.70	
DRO >C10-C28	<10.0	10.0	11/25/2013	ND	217	108	200	1.78	
EXT DRO >C28-C35	<10.0	10.0	11/25/2013	ND					
Surrogate: 1-Chlorooctane	103 9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	96.9	% 63.6-15	4						

#### Cardinal Laboratories

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whistoever shall be deemed valved 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, utitout limitation, business interruptions, loss of or profis incidented by client, its subsidiaries, affiliates or successors anong out or or client to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratores.

whe Sigh

Mike Snyder, Organic Supervisor



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	11/21/2013	Sampling Date:	11/21/2013
Reported:	11/26/2013	Sampling Type:	Soil
Project Name:	341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

#### Sample ID: SP #10 (H302869-10)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/26/2013	ND	2.14	107	2.00	0.779	
Toluene*	<0.050	0.050	11/26/2013	ND	2.10	105	2.00	0.448	
Ethylbenzene*	<0.050	0.050	11/26/2013	ND	2.05	103	2.00	0.544	
Total Xylenes*	<0.150	0.150	11/26/2013	ND	6,00	99.9	6.00	0.513	
Total BTEX	<0.300	0.300	11/26/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL 112 % 89.4-126

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP			- <u>-</u>		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1790	16.0	11/26/2013	ND	416	104	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	11/25/2013	ND	213	107	200	2.70	
DRO >C10-C28	<10.0	10.0	11/25/2013	ND	217	108	200	1.78	
EXT DRO >C28-C35	<10.0	10.0	11/25/2013	ND					
Surrogate: 1-Chlorooctane	105	% 65.2-14	0			<u> </u>			
Surrogate: 1-Chlorooctadecane	103	% 63.6-15	4						

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waved unless made in writing and received by clarinal 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 claims based upon any of the subve stated reasons or otherwise. Results related by the the samples terified above. This reproduced except in full with written approval of Cardinal Laborators.

und Sigh

Mike Snyder, Organic Supervisor



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	11/21/2013	Sampling Date:	11/21/2013
Reported:	11/26/2013	Sampling Type:	Soil
Project Name:	341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

#### Sample ID: SP #11 (H302869-11)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/26/2013	ND	416	104	400	0.00	

#### Sample ID: SP #12 (H302869-12)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: A₽					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/26/2013	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 whatsoever shall be deemed valved 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 consequencial damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidianes, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

whe Sinch

Mike Snyder, Organic Supervisor



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	11/21/2013	Sampling Date:	11/21/2013
Reported:	11/26/2013	Sampling Type:	Soil
Project Name:	341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

#### Sample ID: SP #13 (H302869-13)

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	11/26/2013	ND	2.14	107	2.00	0.779	
Toluene*	<0.050	0.050	11/26/2013	ND	2.10	105	2.00	0.448	
Ethylbenzene*	<0.050	0.050	11/26/2013	ND	2.05	103	2.00	0.544	
Total Xylenes*	<0.150	0.150	11/26/2013	ND	6.00	99.9	6.00	0.513	
Total BTEX	<0.300	0.300	11/26/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIC 114 % 89.4-126

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6080	16.0	11/26/2013	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	11/25/2013	ND	213	107	200	2.70	
DRO >C10-C28	<10.0	10.0	11/25/2013	ND	217	108	200	1.78	
EXT DRO >C28-C35	<10.0	10.0	11/25/2013	ND					
Surrogate: 1-Chlorooctane	99.9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	94.7	% 63.6-15	4						

#### Cardinal Laboratories

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waiwed 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 clent, its subsidiaries, affliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This applicable except in full with written approval of Cardinal Laboratories.

mite Sigh

Mike Snyder, Organic Supervisor



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	11/21/2013	Sampling Date:	11/21/2013
Reported:	11/26/2013	Sampling Type:	Soil
Project Name:	341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

#### Sample ID: SP #14 (H302869-14)

BTEX 8021B	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/26/2013	ND	2.14	107	2.00	0.779	
Toluene*	<0.050	0.050	11/26/2013	ND	2.10	105	2.00	0.448	
Ethylbenzene*	<0.050	0.050	11/26/2013	ND	2.05	103	2.00	0.544	
Total Xylenes*	<0.150	0.150	11/26/2013	ND	6.00	99.9	6.00	0.513	
Total BTEX	<0.300	0.300	11/26/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIE 112 % 89.4-126

Chloride, SM4500CI-B Analyte	mg/kg		Analyzed By: AP		. <u></u>	- ·			
	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/26/2013	ND	416	104	400	3.92	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/25/2013	ND	213	107	200	2.70	
DRO >C10-C28	<10.0	10.0	11/25/2013	ND	217	108	200	1.78	
EXT DRO >C28-C35	<10.0	10.0	11/25/2013	ND					
Surrogate: 1-Chlorooctane	109	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	104	% 63.6-15	4						

#### Cardinal Laboratories

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidianes, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims is based unover stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced exercise in full with written approval of Cardinal Laboratories.

mite Sough

Mike Snyder, Organic Supervisor



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	11/21/2013	Sampling Date:	11/21/2013
Reported:	11/26/2013	Sampling Type:	Soil
Project Name:	341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

## Sample ID: SP #15 (H302869-15)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/26/2013	ND	416	104	400	3.92	

# Sample ID: SP #16 (H302869-16)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/26/2013	ND	416	104	400	3.92	

#### **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 whatscever shall be deemed waved unless made in writing and received by claimal, within (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 ansing out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This reproduced exception in full with written approval of Cardinal Laboratories.

whe Singh

Mike Snyder, Organic Supervisor



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	11/21/2013	Sampling Date:	11/21/2013
Reported:	11/26/2013	Sampling Type:	Soil
Project Name:	341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

# Sample ID: SP #17 (H302869-17)

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	11/26/2013	ND	2.14	107	2.00	0.779	
Toluene*	<0.050	0.050	11/26/2013	ND	2.10	105	2.00	0.448	
Ethylbenzene*	<0.050	0.050	11/26/2013	ND	2.05	103	2.00	0.544	
Total Xylenes*	<0.150	0.150	11/26/2013	ND	6.00	99.9	6.00	0.513	
Total BTEX	<0.300	0.300	11/26/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL 114 % 89.4-126

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9200	16.0	11/26/2013	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	11/25/2013	ND	213	107	200	2.70	
DRO >C10-C28	<10.0	10.0	11/25/2013	ND	217	108	200	1.78	
EXT DRO >C28-C35	<10.0	10.0	11/25/2013	ND					
Surrogate: 1-Chlorooctane	102	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	97.1	% 63.6-15	4						

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyzes. All claims, including those for negligence and any other cause whätsbeever shall be deemed waived unless made in writing and received by claims, including those for angularity and the stable for incidental or consequential damages, including, through multiply (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, through multiply (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 claims based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This reports shall not be reproduced except in full with writen approval of Cardinal Laboratories.

mite Singh

Mike Snyder, Organic Supervisor



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	11/21/2013	Sampling Date:	11/21/2013
Reported:	11/26/2013	Sampling Type:	Soil
Project Name:	341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

## Sample ID: SP #18 (H302869-18)

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	11/26/2013	ND	2.14	107	2.00	0.779	
Toluene*	<0.050	0.050	11/26/2013	ND	2.10	105	2.00	0.448	
Ethylbenzene*	<0.050	0.050	11/26/2013	ND	2.05	103	2,00	0.544	
Total Xylenes*	<0,150	0.150	11/26/2013	ND	6.00	99.9	6.00	0.513	
Total BTEX	<0.300	0.300	11/26/2013	ND					

. .

Surrogate: 4-Bromofluorobenzene (PIC 112 % 89.4-126

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	11/26/2013	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	11/25/2013	ND	213	107	200	2.70	
DRO >C10-C28	<10.0	10.0	11/25/2013	ND	217	108	200	1.78	
EXT DRO >C28-C35	<10.0	10.0	11/25/2013	ND					
Surrogate: 1-Chlorooctane	106	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	102	% 63.6-15	4						

#### Cardinal Laboratories

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whats/bever 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 or ports incrumed by dilent, its subsidiaries, affikiates or successoria arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such climits based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This reports shall not be reproduced except in full with written approval of Cardinal Laboratories.

mite Singh

Mike Snyder, Organic Supervisor



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	11/21/2013	Sampling Date:	11/21/2013
Reported:	11/26/2013	Sampling Type:	Soil
Project Name:	341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

## Sample ID: SP #19 (H302869-19)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/26/2013	ND	416	104	400	3.92	

## **Cardinal Laboratories**

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including those for negligence and uncluding those service. In subjects interpretions, loss of or profits incrudently automated by client, its subjects and incrudent of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

mite Sigh

Mike Snyder, Organic Supervisor



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	11/21/2013	Sampling Date:	11/21/2013
Reported:	11/26/2013	Sampling Type:	Soil
Project Name:	341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

# Sample ID: SP #20 (H302869-20)

BTEX 8021B	mg/kg		Analyze	Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/26/2013	ND	2.14	107	2.00	0.779	
Toluene*	<0.050	0.050	11/26/2013	ND	2.10	105	2.00	0.448	
Ethylbenzene*	<0.050	0.050	11/26/2013	ND	2.05	103	2.00	0.544	
Total Xylenes*	<0.150	0.150	11/26/2013	ND	6.00	99.9	6.00	0.513	
Total BTEX	<0.300	0.300	11/26/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIE 113 % 89.4-126

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	768	16.0	11/26/2013	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	11/25/2013	ND	213	107	200	2.70	
DRO >C10-C28	<10.0	10.0	11/25/2013	ND	217	108	200	1.78	
EXT DRO >C28-C35	<10.0	10.0	11/25/2013	ND					
Surrogate: 1-Chlorooctane		% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	93.4	% 63.6-15	4						

#### **Cardinal Laboratories**

### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed walved unless made in writing and received by Claimal within (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 profics incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This reproduced exception full with written approval of Cardinal Laboratories.

whe Sigh

Mike Snyder, Organic Supervisor



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	11/21/2013	Sampling Date:	11/21/2013
Reported:	11/26/2013	Sampling Type:	Soil
Project Name:	341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

# Sample ID: SP #21 (H302869-21)

Chloride, SM4500Cl-B mg/kg		Analyzed By: AP							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	11/26/2013	ND	416	104	400	3.92	

#### **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 analyzes. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

mite Singh

Mike Snyder, Organic Supervisor



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	11/21/2013	Sampling Date:	11/21/2013
Reported:	11/26/2013	Sampling Type:	Soil
Project Name:	341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

# Sample ID: SP #22 (H302869-22)

BTEX 8021B	mg/kg		Analyze	Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/26/2013	ND	2.14	107	2.00	0.779	
Toluene*	<0.050	0.050	11/26/2013	ND	2.10	105	2.00	0.448	
Ethylbenzene*	<0.050	0.050	11/26/2013	ND	2.05	103	2.00	0.544	
Total Xylenes*	<0.150	0.150	11/26/2013	ND	6.00	99.9	6.00	0.513	
Total BTEX	<0.300	0.300	11/26/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIC 113 % 89.4-126

Chloride, SM4500Cl-B	mg/kg		Analyze	Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3400	16.0	11/26/2013	ND	416	104	400	3.92	
ТРН 8015М	3015M mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/25/2013	ND	213	107	200	2.70	
DRØ >C10-C28	<10.0	10.0	11/25/2013	ND	217	108	200	1.78	
EXT DRO >C28-C35	<10.0	10.0	11/25/2013	ND					
Surrogate: 1-Chlorooctane	97.9	% 65.2-14	0	······			· · · · · · · · · · · · · · · · · · ·		
Surrogate: 1-Chlorooctadecane	94.6	% 63.6-15	4						

#### Cardinal Laboratories

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be lable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

mite Singh

Mike Snyder, Organic Supervisor



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	11/21/2013	Sampling Date:	11/21/2013
Reported:	11/26/2013	Sampling Type:	Soil
Project Name:	341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

## Sample ID: SP #23 (H302869-23)

Chloride, SM4500Cl-B mg/kg		Analyzed By: AP							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10300	16.0	11/26/2013	ND	416	104	400	3.92	

# Sample ID: SP #24 (H302869-24)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5360	16.0	11/26/2013	ND	416	104	400	3.92	

#### **Cardinal Laboratories**

\*=Accredited Analyte

PLEASE NOTE: Llability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waved 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's based upon any of the above stated reasons or otherwise. Results relate only to the samples thall not be reproduced except in full with writen approval of Cardinal Laboratories.

mite South

Mike Snyder, Organic Supervisor



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	11/21/2013	Sampling Date:	11/21/2013
Reported:	11/26/2013	Sampling Type:	Soil
Project Name:	341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

## Sample ID: SP #25 (H302869-25)

BTEX 8021B	mg/kg		Analyze	Analyzed By: MS					<u> </u>
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/26/2013	ND	2.14	107	2.00	0.779	
Toluene*	<0.050	0.050	11/26/2013	ND	2.10	105	2.00	0.448	
Ethylbenzene*	<0.050	0.050	11/26/2013	ND	2.05	103	2.00	0.544	
Total Xylenes*	<0.150	0.150	11/26/2013	ND	6.00	99.9	6.00	0.513	
Total BTEX	<0.300	0.300	11/26/2013	ND					

Surrogate: 4-Bromofluorobenzene (PID 113 % 89.4-126

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2640	16.0	11/26/2013	ND	416	104	400	3.92	
TPH 8015M	mg,	/kg	Analyzed By: MS					at a	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/25/2013	ND	213	107	200	2.70	
DRO >C10-C28	<10.0	10.0	11/25/2013	ND	217	108	200	1.78	
EXT DRO >C28-C35	<10.0	10.0	11/25/2013	ND					
Surrogate: 1-Chlorooctane	108	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	100	% 63.6-15	4						

#### **Cardinal Laboratories**

## \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any daim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed walved 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 ressons or otherwise. Results relate only to the sample's identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

mite Sigh

Mike Snyder, Organic Supervisor



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	11/21/2013	Sampling Date:	11/21/2013
Reported:	11/26/2013	Sampling Type:	Soil
Project Name:	341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

#### Sample ID: SP #26 (H302869-26)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP					<u> </u>
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1920	16.0	11/26/2013	ND	416	104	400	3.92	

# Sample ID: SP #27 (H302869-27)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8930	16.0	11/26/2013	ND	416	104	400	3.92	

**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 whitsbeever shall be deemed waves 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, whot they are under the services arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal aborstories.

mite Sigh

Mike Snyder, Organic Supervisor



## **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

PLEASE NOTE: Liability and Damages, Cardinal's liability and client's exclusive remedy for any darm arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliantes or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

mite Singh

Mike Snyder, Organic Supervisor

Page 21 of 24

CARDINAL Laboratories

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 22 of 24

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

<b>Company Name:</b> Basin Environmental Servic	e Tec	hnc	log	ies,	LLC				Bl	IL.	l to						ANA	LYSIS	RE	QUE	ST			
Project Manager: Ben J. Arguijo							P.0	). #:			!									· - ·				:
Address: P.O. Box 301				:	: :		Cor	npar	ný: <sup>1</sup>	во	PCO, LI	2										1. 		
City: Lovington State: N	a Zi	<b>p:</b> ε	826	 0			Attr	n: 3	Tony	 7 S	Savoie					: ·		ľ		. · · ·	· · · ·	· ·		
Phone #: (575) 396-2378 Fax #:(575						:	Add	dress	s: 52	22	W. Mei	mod	1		:				÷	÷ :.	- 11 -			1
Project #: Project Ow	ner: E	OPC	0, LI	2			City	/: Ca	arls	ba	ad ·			1	. :					·	:		1	
Project Name:				-			Sta	te: N	M	ż	ip: 8822	20	1						·	-				
Project Location: 341 H Frac Pad	· ·:	-					Pho	one #	<b>#:</b> (4:		) 556-8	•			:	. :	:		:	•	.:			
Sampler Name: SOLL LOWRY							Fax							E E		· ·		· · · ·	:	:				1
FOR LAB USE ONLY				N	IAŢRI	X	I	PRES	SERV		SAMPL	ING					i							
	E AM		2			:									· · ;	•	::		:					
	- 20	ERS	ATE	TER																1			·	
Lab I.D. Sample I.D.	ac	IAIN	GROUNDWATER	.WA		щ		ACID/BASE	5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					:	12							· ·		
1000010	- AP	Ň	l D	ASTE		SLUDGE	НЩ	B/D	~   #	ľ		:	$\overline{O}$	Hd.	<u>B7</u>			ľ						1. ·
H302869	aley (		ъ	≷		5	5	_		-	DATE	TIME				ŀ			;					<u> </u>
1 SP#1	6	<u>   </u>	·		<u>X</u>			2		Ľ	11/21/13	1	1		:		·			<u> </u>		·	<u> </u>	<u> </u>
Z SPHZ	$-\Pi$	-11	_	· ·	<b>\</b>  ∸	<u>   </u>			\	Ŀ		7:05	X.	:.:			ļ			ļ		· · ·	ļ	<u> </u>
3 5P#3					$\parallel$				$\left  \right $			7:10	(	X	K :		<u> .</u>	┨───┤			. :	i	<u> </u>	<u>  .</u>
<u>4</u> <u>5</u> <u>7</u> <u>4</u> <u>4</u>				ŀ		·			1-	•	<u></u>	2:15	ĿĶ				·							
<u>5</u> 3P#5			-	   ·	-  -					-		7:70	. X											
6 <u>3</u> P#6			+	-		<u> </u>		<u>.</u>		┢		7:25		x	K_				•					<u> </u>
7 58H7 6 58H8	-H	┨┨	-		+	· ·			$\parallel$	┝		2:30	<u>X</u>	· .	· ·				:			<u> </u>		·
<u>9</u> 39#9		+	1.		<u>   ::</u>				$\parallel$	┢		2:35	<u>.e</u> .	X	:. 		<u> </u>					<u> </u>		
	- 1	IJ			$\downarrow \vdash$		÷	<u>.</u>	╂┼─	┢	₩	7:40	v v	X	K.,		:	<u> </u>		:		·		+
PLEASE NOTE: Liability and Damages. Cardinats liability and client's exclusive remed			sina wh	ether bi	w sed in c	ontract	or tort.	shall b	e limited	i to t	the amount pa	2:45	7 The	L K	14-	<u> </u>	Ľ,	1			. :.	L	L	<u>i i i i i i i i i i i i i i i i i i i </u>

PLEASE NOTE: Liability and Damages. Cardinats liability and dient's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinial within 30 days after completion of the applicable

service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries,

	ce of services hereunder by Cardinal, regaratess of whether such claim is based upon any of the above stated re	asons of otherwise.
Relinquished By:	Date: Received By:	Phone Result: 🗋 Yes 🖾 No Add'l Phone #:
	11/21/13 // 0 / 1	Fax Result:  Ves  No Add'l Fax #:
Jul Jon	Time: 4-00 hoo hat	REMARKS:
Relinguished By: // U	Date: Refeived By:	
1 bolutato	TIME 45 Wai Senson	Please email results to pm@basinenv.com
Delivered By: (Circle One)	Sample Condition CHECKED BY:	
	Cool Intact (Mitals)	La TASAVOIE@BassPet.com & Jody
Sampler - UPS - Bus - Other:		
the cardinal cannot accept verba	I changes. Please fax written changes to 505-393-2476	

#51





Page 23 of 24

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

:	
	•
	•
	;
<u> </u>	

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 the client for the

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 service. In no event shall Cardinal be liable for incidental or consequental 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated ns or otherwise.

Relinguished By: Date: Received By Phone Result: 117 Fax Result: REMARKS: Time: Relinquished By: Delivered By: (Circle One) Sample Condition CHEC Cool Intact Ves Ves Sampler - UPS - Bus - Other:

Please email results to pm@basinenv.com & TAsavoie@BassPet.com

Add'l Phone #:

Add'l Fax #:

Yes

Yes

D No

🗆 No

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

**CARDINAL** Laboratories

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

(575) 555-2526 1 AX (676) 556-2476	the second state of the second	
Company Name: Basin Environmental Service Technologies, LLC	BILL TO	ANALYSIS REQUEST
Project Manager: Ben J. Arguijo	P.O. #:	
Address: P.O. Box 301	Company: BOPCO, LP	
City: Lovington State: NM Zip: 88260	Attn: Tony Savoie	
Phone #: (575) 396-2378 Fax #: (575) 396-1429	Address: 522 W. Mermod	
Project #: Project Owner: BOPCO, LP	City: Carlsbad	
Project Name:	State: NM Zip: 88220	
Project Location: 341 H Frac Pad	Phone #: (432) 556-8730	
Sampler Name: JOEC LOWRY	Fax #:	
FOR LAB USE ONLY MATRIX	PRESERV SAMPLING	
W DOMP		
Tap I.D.       Sample I.D.         ##CONTAINERS       MASTEWATER         WASTEWATER       Solit	ASE:	1917 - 19
H30286	OTHER: DOTHER: DOTHER: DOTHER:	$\frac{1}{2}\int \frac{1}{2}\int \frac$
21 $4P#21$ $611$ $X$	1 11/21/13 3:40	
27 SP#22	3:45	X X /
33 SP#22 33 SP#23	3:50	
24 SP#24	3:55	1
25 58425	<u> </u>	
26 SP#26	u:05	<b>X</b>
27 SP077 VV V	N V 4:10	

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 the client for the

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 service. In no event shall Cardinal be liable for incidental or consequental 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reaso Relinguished By: Date: Received By: K(Z)(1= Time: 4:00 Relinquished By: Date Sample Condition Delivered By: (Circle One) CHECKED B Cool Intact 0 Sampler - UPS - Bus - Other:

ons of binerwise.				· .
Phone Result:	: 🗆 Yes 🗆 No	Add'l Phone #:	· · · · ·	
Fax Result:	Ves No	Add'I Fax #:		
REMARKS:				
		· · ·		
	14 A			
•	• •	• • •		
:. : . <u>.</u>				
Ple	ase email resu	lts to pm@basin	env.com	
		-		•
· & T.	Asavoie@BassPe	t.com		
			· .	

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

24 of 24

Page

3



December 09, 2013

JOEL LOWRY Basin Environmental Service P.O. Box 301 Lovington, NM 88260

RE: PLU #341 H FRAC PAD

Enclosed are the results of analyses for samples received by the laboratory on 12/04/13 10:20.

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/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	12/04/2013	Sampling Date:	12/02/2013
Reported:	12/09/2013	Sampling Type:	Soil
Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

## Sample ID: SP #10 B (H302934-01)

Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	12/09/2013	ND	416	104	400	3.77	

# Sample ID: SP #13 B (H302934-02)

BS	% Recovery	True Value OC	000	
		The velocity of	RPD	Qualifier
2.11	105	2.00	0.576	
2.11	106	2.00	1.07	
2.09	105	2.00	1.21	
5.21	104	6.00	0.415	
2.	.11 .09	.11 106 .09 105	111062.00.091052.00	.111062.001.07.091052.001.21

Surrogate: 4-Bromofluorobenzene (PIL) 122 % 89.4-126

Chloride, SM4500CI-B	mg.	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	12/09/2013	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	d By: ck		•			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/04/2013	ND	193	96.6	200	3.60	
DRO >C10-C28	<10.0	10.0	12/04/2013	ND	190	95.0	200	6.49	
EXT DRO >C28-C35	<10.0	10.0	12/04/2013	ND					

Surrogate: I-Chlorooctane

92.7 % 65.2-140

### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and chent'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 whatsbeever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey Di Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	12/04/2013	Sampling Date:	12/02/2013
Reported:	12/09/2013	Sampling Type:	Soil
Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

#### Sample ID: SP #13 B (H302934-02)

TPH 8015M	mg,	/kg	Analyzed By: ck						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Surrogate: 1-Chlorooctadecane	93.1	% 63.6-154							

## Sample ID: SP #22 B (H302934-03)

Chloride, SM4500CI-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	12/09/2013	ND	416	104	400	3.77	

#### Sample ID: SP #24 B (H302934-04)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP				<u> </u>	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	12/09/2013	ND	416	104	400	3.77	

## Sample ID: SP #25 B (H302934-05)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	12/09/2013	ND	416	104	400	3.77	

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and clerit's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidential or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	12/04/2013	Sampling Date:	12/03/2013
Reported:	12/09/2013	Sampling Type:	Soil
Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

## Sample ID: SP #26 B (H302934-06)

Chloride, SM4500Cl-B	mg	/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	12/09/2013	ND	416	104	400	3.77	

## Sample ID: SP #27 B (H302934-07)

Chloride, SM4500CI-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	12/09/2013	ND	416	104	400	3.77	

### **Cardinal Laboratories**

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waved unless made in writing and received by claims, including those for negligence and dimiduling, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidianes, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such dimin is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This reproduced except in hill with written approval of Cardinal Laboratores.

Celleg Di Kune

Celey D. Keene, Lab Director/Quality Manager



# **Notes and Definitions**

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500CI-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's lability and client's exclusive remedy for any claim ansing, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed valved unless made in writing and received by Cardinal writin thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including under the subscittants, received by Cardinal writing thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including under to the subscittants, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg D. Kune

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM (575) 393-2326 FAX (575) 39										· · ·	:	:									<u>.</u>	· .		· .
ompany Name: Basin Environmental Service		ies, L	ĻC		_	_			B	ILL TO						ANA	LYSI	S RE	QUE	ST			<del></del>	7 ::
roject Manager: Joel Lowry							P.	9.0. #				1		· · ·		Ī			<u> </u>	ľ		· · ·	· · ·	1
ddress: P.O. Box 301						· .	_ c	omp	any:	BOPCO	O, LP	1	1.1				:.	· · ·				· .		
ity: Lovington State:	NM Z	'ip:	8826	60				ttn:		Толу Savo	······································	1				·:				: .				
hone #: (575)396-2378 Fax #:	575)396-1	1429	· ·					ddre	ss:	522 W. Me	· · · ·	]	· · .			· · .	• • • • •	-		:	· .	: :		1 .
roject #: Project	Owner:				······································	· .		ity:		Carlsbad		].	::				1.1	· ·		ľ		1		1
roject Name: PLU #341H Frack Pad									NM		- 88220		5M)	7 <b>B</b> )		:			· [ :		1		[	
roject Location: Eddy County	· · · ·			_				hone		432 556 8		Chloride	TPH (8015M)	BTEX (8021B)				. ·	·  :	:  :		·		
ampler Name:						····	·	ax #:			· · · ·	] Ť	Hd	EX I		<b> </b> . :	[ <sup>1</sup>			<b> </b> .		1 . T	1	
FOR LAB USE ONLY		T	-		MATE	ŔIX	 		ESER	SAMPLING		1	F.	<b>6</b>	:				· ·		· ·		: 	
		- HM	i.	ŀ			•					:								ŀ				:
		(C)OM ERS	VTER	' [£				ĺ					· · · · · · · · · · · · · · · · · · ·	1				· ·	1					
Lab I.D. Sample I.D.	18	3 OR (	Ma	WAT		u	ц :-	ASE:	Ы.			11		. ÷	:	. :-	1							<b>f</b>
2010211		(G)RAB OR (C)( # CONTAINERS	GROUNDWATER	VASTEWATER	SOIL		SLUDGE OTHER	ACID/BASE	ICE / COOL	DATE				: : I							· . ·		ŀ	
<u>302934</u>			$+\frac{1}{5}$	<u>i și</u>	1		<u>9 ¦p</u>	シᡰᢩᢩᡷ	T			$\vdash$	+	<u>⊦     </u>		<u> </u>	+	<u> </u>	┼──	—	·		<u> </u>	<b>-</b> .
I SP #10b 2 SP #13b		G 1 G 1	-	$\frac{1}{1}$	x			-+	×	12/2/2013	1230	X	v	X		+	+	<b> </b>	+	+	╂	╂────	<u> </u> .	1 :
2 SP #13b 3 SP #22b		G 1 G 1	<b>!</b>	+	x		·	+	X ·	12/2/2013	1200	x				+ ·	<u> </u>	<u> </u>	· · ·		<u> </u>	  : ·	· · ·	1.
4 SP #220 4 SP #24b		G	-	-	x			Ť	x	12/3/2013	1240	x	<u>;                                    </u>	<u> </u>	<u> </u>	+	+	+	1	<u>†                                    </u>	<u> </u>	+		1
<u>9 57 #245</u> S SP #25b		G 1			x		-	1	x	12/3/2013	1230	· · X	<u> </u>		<u> </u>	1.	1	<u>†                                    </u>	<u> </u>	<u> </u>	†	†	†	1
6 SP #26b	<b>f</b> :	G 1	1	<u>t</u>	x		·	T	x	12/3/2013	1235	× x					<u> </u> .	ļ	<u>†</u>	1	<u> </u>	<u>t</u>		1
7 SP #27b		G 1	<u>, , , , , , , , , , , , , , , , , , , </u>		x				×	12/2/2013	1220	x			<u> </u>	<u></u>		<u> </u>		<u> </u>			· · · · · · ·	] '
		1	T	$\left[ \begin{array}{c} \cdot \\ \cdot \end{array} \right]$				Ē																]
		T		ŀ				Ē	ĿĪ															1
		Ţ	L	Ļ				L	Ш					آ			<u> </u>							]
EASE NOTE: Liablilty and Damages. Cardinal's liability and client's excli lyses. Al claims including those for negligence and any other cause whatsoever s	all be deemed v	waived u	uniess ma	nade in w	writing a	and rece	eived by	y Cardina	al within 3	30 days after completion of	of the applicable	ald by th	e client fc	r the	÷	: :								÷
vice. In no event shall Cardinal be liable for incidental or consequental damages, in lates or successors arising out of or related to the performance of services hereun	ler by Cardinal, i	regardle	ess of wh	vhether su							nerwise.		<b>—</b> • •		bl - <sup>1</sup>		 DF			· .		<u> </u>		7
elinquished By:	113	riece	eived	т Ву: -//	•	<b>j</b> /	•		_		Phone Res Fax Resul	lt:	Yes     Yes		No No	Add'i Add'i	Phone # Fax #:	#:			;			-
Jul Jour	:20	UN	K	U	ب	XL	e	12	10	n	REMARKS									. :				
elinquished By Date:		Refe	eived	By:		•			<u> </u>												• •			Ľ
Time:						• , •				:					_	معا			L -					
Delivered By: (Circle One)	<u>     l    </u>	•			ple C				CHEC	KED BY:	Please e	mail	resuit	s to T	ony :	savoi	e, Jod	y Wal	ters a	and Pl	M@ps	sinen	v.com	
		0	ŀ	Cool	vi / ir Yes	ntact	t,		A	iniara)			• .							•				1
ampler - UPS - Bus - Other: FORM-006	, L	.8	Ļ	Ľ	Yes   No		ies No		Ut	YY									÷.,		÷.,			1

1



December 10, 2013

JOEL LOWRY Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: PLU #341 H FRAC PAD

Enclosed are the results of analyses for samples received by the laboratory on 12/05/13 8:45.

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/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	12/05/2013	Sampling Date:	12/04/2013
Reported:	12/10/2013	Sampling Type:	Soil
Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

## Sample ID: SP #17B (H302948-01)

Chloride, SM4500Cl-B mg/kg		Analyze							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	12/09/2013	ND	432	108	400	3.64	

## **Cardinal Laboratories**

## \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim ansing, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celez D. Kune

Celey D. Keene, Lab Director/Quality Manager



# **Notes and Definitions**

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500CI-B does not require samples be received at or below $6^{\circ}C$
	Samples reported on an as received basis (wet) unless otherwise noted on report

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and rubbic control to control to control to the performance of the services hereunder to any set control to a service of the control to any set of the service o claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories,

Celeg Di Kune

Celey D. Keene, Lab Director/Quality Manager

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 4 of 4

ARDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240

ĺ	575	393-2326	FAX (575)	393-2476

ompany Name: Basin Environmental Service Technologies, LLC	BILL TO	ANALYSIS REQUEST
roject Manager: Joel Lowry	P.O. #:	
ddress: P.O. Box 301	Company: BOPCO, LP	
ty: Lovington State: NM Zip: 88260	Attn: Tony Savoie	
none #: (575)396-2378 Fax #: (575)396-1429	Address: 522 W. Mermod	
roject #: Project Owner:	City: Carlsbad	
roject Name: PLU #341H Frack Pad	State: NM Zip: 88220 g	
roject Location: Eddy County	State:         NM         ZIP:         36220         g           Phone #:         432 556 8730         2         2           Fax #:         C         C         C	CINCLER (8015M)
ampler Name: Wellow	Fax #:	
FOR LAB USE ONLY	PRESERV SAMPLING	
Tap I.D. Sample I.D. (c) MAR OR (C) OMF		
Tap I.D.     Sample I.D.       BIRAB OR (C)C     6)RAB OR (C)C       BIRAB OR (C)C     01L	OTHER: ACID/BASE: OTHER COOL OTHER: BWILT BUILT	
(G)RAB O (G)RAB O GROUND WASTEW WASTEW Soll	OTHER : ACIDIBASE OTHER : OTHER : BWILL BAUD	
G 1 x	x 12/4/2013 1315 >	
EASE NOTE: Llability and Damages, Cardina's lability and client's exclusive remedy for any daim arising whether bas lyses. Al daims including those for regignere and any othar cause whatsoever shall be deemed waived unless made in writing and receiv rise. In one event shall Cardinal be lable for inclused and or course including without limitation, business hiermptions, less of	d by Cardinal within 30 days after completion of the applicable	
nze. In no event stratic carring be leade for mediated to the performance of censequenia diaminges, including windbut animation, consistent and the set of the performance of services hereinder by Cardinal, regardless of swhether such claim is base linguished By: Date: Received By:	d upon any of the above stated reasons or otherwise. Phone Result:	□ Yes □ No: Add'l Phone #:
12/5/13 7	Fax Result:	□ Yes □ No Add'I Fax #:
Jel var 100 Jung lock	REMARKS:	
Date: 12/3/13 Received By:		
time welde Time 2:45 LOI	endon piesce ama	il results to Tony Savoie, Jody Walters and PM@basinenv.com
Delivered By: (Circle One) Sample Condit	on CHECKED BY:	an osaile to rony savore, souy walters and rivebasilienv.com
Sampler - UPS - Bus - Other: - 4,60 Cool Intact FORM-006 No : N		
FORM-006		



December 27, 2013

JOEL LOWRY Basin Environmental Service P.O. Box 301 Lovington, NM 88260

RE: PLU #341 H FRAC PAD

Enclosed are the results of analyses for samples received by the laboratory on 12/18/13 8:15.

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/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited analytes.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	12/18/2013	Sampling Date:	12/17/2013
Reported:	12/27/2013	Sampling Type:	Soil
Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	EDDY COUNTY, NM		

## Sample ID: N SW #1 (H303060-01)

Chloride, SM4500Cl-B	mg	/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	12/23/2013	ND	400	100	400	3.92	

## Sample ID: N SW #2 (H303060-02)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	12/23/2013	ND	400	100	400	3.92	

#### Sample ID: N SW #3 (H303060-03)

Chloride, SM4500CI-B	mg	/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	12/23/2013	ND	400	100	400	3.92	

## Sample ID: N SW #4 (H303060-04)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	12/23/2013	ND	400	100	400	3.92	

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without immation, business interruptions, loss of use, or loss of profits incurred by client, its subadiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim s based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above, This reproduced except in full with writtene approval of Cardinal Laboratores.

Celeg Di Kune

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	12/18/2013	Sampling Date:	12/17/2013
Reported:	12/27/2013	Sampling Type:	Soil
Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	EDDY COUNTY, NM		

# Sample ID: S SW #2 (H303060-05)

Chloride, SM4500CI-B	mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	832	16.0	12/23/2013	ND	432	108	400	3.77	

### **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 chent for analyses. All claims, including those for negligence and any other cause whatscever shall be deemed waved 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 or profits incurred by client, its sublidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with writen approval of Cardinal Laboratories.

Celleg Di Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	12/18/2013	Sampling Date:	12/17/2013
Reported:	12/27/2013	Sampling Type:	Soil
Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	EDDY COUNTY, NM		

# Sample ID: PAD FLOOR @ 1' (H303060-06)

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	12/26/2013	ND	1.70	84.9	2.00	1.99	
Toluene*	<0.050	0.050	12/26/2013	ND	1.69	84.6	2.00	1.61	
Ethylbenzene*	<0.050	0.050	12/26/2013	ND	1.67	83.6	2.00	0.763	
Total Xylenes*	<0.150	0.150	12/26/2013	ND	4.87	81.1	6.00	0.841	
Total BTEX	<0.300	0.300	12/26/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL 104 % 89.4-126

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	768	16.0	12/23/2013	ND	432	108	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/23/2013	ND	191	95.3	200	5.17	
DRO >C10-C28	<10.0	10.0	12/23/2013	ND	191	95.6	200	8.25	
EXT DRO >C28-C35	<10.0	10.0	12/23/2013	ND					
Surrogate: 1-Chlorooctane	98.8	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	93.6	% 63.6-15	4						

#### Cardinal Laboratories

## \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg Di Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	12/18/2013	Sampling Date:	12/17/2013
Reported:	12/27/2013	Sampling Type:	Soil
Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	EDDY COUNTY, NM		

## Sample ID: PAD SE SW (H303060-07)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	12/23/2013	ND	432	108	400	3.77	

#### Cardinal Laboratories

### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidianes, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celez Di Kune

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	12/18/2013	Sampling Date:	12/17/2013
Reported:	12/27/2013	Sampling Type:	Soil
Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	EDDY COUNTY, NM		

# Sample ID: FLOOR #1 @ 3.5' (H303060-08)

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	12/26/2013	ND	2.16	108	2.00	1.36	
Toluene*	<0.050	0.050	12/26/2013	ND	2.16	108	2.00	1.36	
Ethylbenzene*	<0.050	0.050	12/26/2013	ND	2.15	107	2.00	1.82	
Total Xylenes*	<0.150	0.150	12/26/2013	ND	6.27	104	6.00	2.42	
Total BTEX	<0.300	0.300	12/26/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL 100 % 89.4-126

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	12/23/2013	ND	432	108	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/23/2013	ND	191	95.3	200	5.17	
DRO >C10-C28	<10.0	10.0	12/23/2013	ND	191	95.6	200	8.25	
EXT DRO >C28-C35	<10.0	10.0	12/23/2013	ND					
Surrogate: 1-Chlorooctane	99,1	% 65.2-14	0				··· -		
Surrogate: 1-Chlorooctadecane	97.0	% 63.6-15	4						

#### Cardinal Laboratories

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any daim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed walved unless made in writing and received by claims, including those for negligence and 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 daim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This reproduced except in full with writen approval of Cardinal laboratories.

Celeg Di Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	12/18/2013	Sampling Date:	12/17/2013
Reported:	12/27/2013	Sampling Type:	Soil
Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	EDDY COUNTY, NM		

# Sample ID: FLOOR #3 @ 1' (H303060-09)

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	12/26/2013	ND	2.16	108	2.00	1.36	
Toluene*	<0.050	0.050	12/26/2013	ND	2.16	108	2.00	1.36	
Ethylbenzene*	<0.050	0.050	12/26/2013	ND	2.15	107	2.00	1.82	
Total Xylenes*	<0.150	0.150	12/26/2013	ND	6.27	104	6.00	2.42	
Total BTEX	<0.300	0.300	12/26/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL 101 % 89.4-126

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	12/23/2013	ND	432	108	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/23/2013	ND	191	95.3	200	5.17	
DRO >C10-C28	<10.0	10.0	12/23/2013	ND	191	95.6	200	8.25	
EXT DRO >C28-C35	<10.0	10.0	12/23/2013	ND					
Surrogate: 1-Chlorooctane	99.7	% 65.2-14	0						<u> </u>
Surrogate: 1-Chlorooctadecane	94.6	% 63.6-15	4						

#### **Cardinal Laboratories**

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, which unlimitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with writen approved of Cardinal Laboratories.

Celey Di Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	12/18/2013	Sampling Date:	12/17/2013
Reported:	12/27/2013	Sampling Type:	Soil
Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	EDDY COUNTY, NM		

# Sample ID: FLOOR #4 @ 1' (H303060-10)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	592	16.0	12/23/2013	ND	432	108	400	3.77	

# Sample ID: ESW #1 (H303060-11)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	12/23/2013	ND	432	108	400	3.77	

#### **Cardinal Laboratories**

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and clent's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services thereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celez D. Kune

Celey D. Keene, Lab Director/Quality Manager



## **Notes and Definitions**

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500CI-B does not require samples be received at or below $6^{\circ}\text{C}$
	Samples reported on an as received basis (wet) unless otherwise noted on report

**Cardinal Laboratories** 

\*=Accredited Analyte

.

PLEASE NOTE: Lability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, whother cause whatsoever shall be deemed waived unless interactions, loss of profits incurred by client, its sublicities, and lines or substallations and incurses arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celecy Di Kerne

Celey D. Keene, Lab Director/Quality Manager

Page 9 of 11

( ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

Company Name: Basin Environmental Service Technologies, LLC								B	IL	l to		ANALYSIS REQUEST											
Project Manager:	Joel Lowry						Ρ.	O. #:															
Address: P.O. B	lox 301						c	Company: BOPCO, LP															
City: Lovington	ovington State: NM Zip: 88260					At	tn:			Tony Sav	oie												
Phone #: (575)3	96-2378 Fax #: (575)39	6-142	9				A	idre	ss:		522 W. N												
Project #:	Project Owner:			_		***	Ci	ty:			Carlsba												
Project Name:	PLU #341H Frac Pad								NM	z		88220		()	BTEX (8021B)								
Project Location:								none			(432)556		Chloride	TPH (8015M)	802								
Sampler Name:	feel form							x #:			(		Ť	E H	EX								
FOR LAB USE ONLY	the first of the second				MAT	RIX		_	ESERV	/.	SAMPLI	NG	1	4	81								
Lab I.D. H303060-	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER SOIL	OIL	SLUDGE OTHER :	ACID/BASE:	ICE / COOL OTHER :		DATE	TIME											
01	N. 5W #1	6	1		(				X		2/17	9:35	X										
S	N. SW #2	6	1		l				1	_	לו/2	9:40	λ										
03	1V. SW # 3	6	1		1				L		רון 21	<u>4:45</u>	X										
54	N 3W #4	6	1		1			_	1		12/17	9:50	1										
<u> </u>	5.5W #2	6	1		2				1		12/17	4:55	X										
0.6	Pad Floor @1'	b	1		1			_	1		12/17	10:00	X	X	X								
	Pad SE. SW	6	1		٨			_	X	_[	12/17	10:05	X	<u> </u>									ļ
58	Floor #1 @3.5'	6	1		X				1		12/17	10:10	1	×	1			L					
<u> </u>	Floo: #3 @1'	6	$\bot$		1				X	$-\mathbf{L}$	12/17	10:15	X	×	X		L	L		L			
	Floor # 4@1	6	1	[	11				11		12/17_	10:20	y .					[					

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 the client for the

analyses, All claims including those for negligence and any other cause weatspewer shall be deemed waived unless made in writing and received by Cardinal wattin 20 days star completon of the applicable

service. In no event shall Cardinal be fable for encidential or consequential damages, including without Embation, business informptions, loss of use, or loss of profils incurred by clarif, its subsidiaries,

	attaists or successors anising out or related to the performance di	I Services resources by Carcines, recardiess of whether sign claim is based upon any of the above screek reasons of t	
	Relinquished By:	Date: , Received By	Phone Result: D Yes D Noj Add'l Phone #:
		3/18/13 and and	Fax Result: 🛛 Yes 🗆 No. Add'I Fax #:
	- ful found	Time: 7.25 Com P	REMARKS:
	Relinquisted By:	Date: Received By:	
		12/18/13 // //	
	In Home	Time 5115 (1 un ll N	Please email results to pm@basinenv.com,
			TASavoie@BassPet.com & SJWalters@BassPet.com
P	Delivered By: (Circle One)	Sample Condition CHECKED BY:	
	Sampler - UPS - Bus - Other: FORM-006	$\mathcal{H}, \mathcal{F} \subset \mathcal{I} $	
	Revision 1.0	† Cardinal cannot accept verbal changes. Please fax	written chappens to 575.303.2476
		Caromai Cambraccept Verbar changes. Flease ia	a millen changes to 37 53352470
		PCH	

1012

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

.

2012



ARDINAL LABORATORIES

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

Company Name: Basin Environmental Service Technologies, LLC								81	LL TO		ANALYSIS REQUEST										
Project Manager:	Joel Lowry					P.O.	#:				1	[					Γ			1	
Address: P.O. B	ox 301					Company: BOPCO, LP				1											
City: Lovington State: NM Zip: 88260						Attn	:		Tony Sav	oie											
Phone #: (575)3	96-2378 Fax #: (575)396	5-1429				Add	ress:		522 W. N												
Project #:	Project Owner:		-			City	:		Carlsba			1								(	
Project Name:	PLU #341H Frac Pad						e: N	IM	Zip:	88220		(WS	18)								
Project Location:	Eddy Co., NM						ne #:		(432)556	-8730	Chloride	TPH (8015M)	BTEX (8021B)								
Sampler Name:	all four.					Fax	#:				с <sup>Р</sup>	Hd	ТЕХ								
FOR LAB USE ONLY	J 8		_	MATRI	×,		PRESE	RV.	SAMPLI	NG	1	F	6								
Lab I.D. H 303060-	Sample I.D.	(G)RAB OR (C)OMP	PONIMIENS	GROUNDWATER WASTEWATER SOIL OIL	SLUDGE	OTHER :	ACID/BASE: ICE / COOL	OTHER :	DATE	TIME											
	ESW #1	<u>6</u> j		1			X		12/17	10:25	X										
							_														
		-									ļ	ļ								$ \square $	
											ļ	ļ							 		
		-									<b> </b>	<b> </b>					ļ				
					<u> </u> _	<b></b> ].											<b> </b>				
		-			+-					<b> </b>									 		
		-	- -		+			$\left  - \right $													
		-	- -		+																
		1 I		<u>, , , i</u>	1		t	1	L	L		L					1	L			

PLEASE NOTE: Uability and Damages. Cardina's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the

analyses. All chains including those for negligence and any other cause whatsoever shall be deemed wolved unless made in writing and received by Cardinal within 30 days after completion of the applicable

service. In no event shell Cardinal be lipite for incidental or consequental damages, including without instation, business interruptions, loss of use, or loss of profile incurred by client, as subsidiaries,

	STLEASE OF SOLCESSORS MISHIG OCA OF OF IGESSED TO DEFORTED DE SE	nces nereuroer by calculat, recardiess or an earth such calculation of upo	20 Strand of the spoke stand respond of on	101 W13-9.				
	Relinquished By:	Date: / Received By:20		Phone Result:	O Yes	D No	Add'l Phone #:	
		12/18/13 Received BC3		Fax Result:	O Yes	D No	Add'l Fax #;	
- 6		Time: 7:25	lenn	REMARKS:				
	- Mul hum	1.25						
	Relinquished By:	Date: Received By:	-					
		4/17/13	1 A					
	the langer	Sister IV.	$(I \land I \lor I)$				asinenv.com,	
k			VV4	IASavole@	gBassPet	.com & S	JWalters@BassPet.com	
	Delivered By: (Circle One)	Sample Condition						
		Cool Intact	(Initials)					
	Sampler - UPS - Bus - Other: FORM-006	4 3 THE Pres	1 C.da					
	Revision 1.0	t Cardinal cannot accept vert	oal changes. Please fax v	written changes	to 575-393	3-2476		
		161	<b>.</b>	. J.				
		<del>#</del> SY						



December 26, 2013

JOEL LOWRY Basin Environmental Service P.O. Box 301 Lovington, NM 88260

RE: PLU #341 H FRAC PAD

Enclosed are the results of analyses for samples received by the laboratory on 12/20/13 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.tceg.texas.gov/field/ga/lab">www.tceg.texas.gov/field/ga/lab</a> accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceg.texas.gov/field/ga/lab">www.tceg.texas.gov/field/ga/lab</a> accredited certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celeg D. Kune

Celey D. Keene Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	12/20/2013	Sampling Date:	12/19/2013
Reported:	12/26/2013	Sampling Type:	Soil
Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

# Sample ID: SECT #1 WSW (H303094-01)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	12/26/2013	ND	400	100	400	7.69	

# Sample ID: SECT #1 SSW (H303094-02)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: CK			<u> </u>		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	12/26/2013	ND	400	100	400	7.69	

### Sample ID: ESW #2 (H303094-03)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	12/26/2013	ND	400	100	400	7.69	

#### Cardinal Laboratories

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg D. Kune

Celey D. Keene, Lab Director/Quality Manager



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 SM4500CI-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

#### Cardinal Laboratories

.

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatscover shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This reproduced excepts in full with mitten approval of Cardinal Laboratories.

aleg Li Keine

Celey D. Keene, Lab Director/Quality Manager

ð

age 4

۵.

ARDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

Company Name: Basin Environm	nental Service Technologies,	LLC	<i>BILL</i> 7	0	::		:	ANA	LYSIS	RE	QUES	Т		
Project Manager: Joel Lowry	· · · · · · · · · · · · · · · · · · ·		P.O. #:			:		· ·	:					
Address: P.O. Box 301			Company:	BOPCO, LP								···· · .		
City: Lovington	State: NM Zip:	88260	Attn: To	ny Savoie				1						
Phone #: (575)396-2378	Fax #: (575)396-1429	9		2 W. Mermod										
Project #:	Project Owner:	· · · · ·		arlsbad										
Project Name: PLU #341 H Frac Pa	ad .	·	State: NM Zip:	88220		ŝ	Ê .			:	· · ·			
Project Location: Eddy County	· · · · ·	<u>.</u>		32 556 8730	Chloride	TPH (8015M)	(8021B)							
Sampler Name: VIO	in m		Fax #:		ਤੁ	е Н				·				
FOR LAB USE ONLY	ΧΠ	MATRIX	PRESERV SAM	IPLING		1							:	
	() <u>e</u>				· .									
	C)	ER TER		* *					•••				: 	
Lab I.D. Sampl	e I.D. ອ		J J VSE		·									
Mazzaul	G)RAB	# CONTAINERS GROUNDWATER MASTEWATER SOIL DIL	OTHER : ACID/BASE: ICE / COOL OTHER :		•					*				
H303094		# CO GRO WAS SOIL OIL		· · · · ·		<u>·. i</u>	<u>;</u>		· · ·	:			<u> </u>	<b></b>
I sect. #1 WSW	G	1 x		0/2013 1115	` <b>`</b> X				-		<u> </u>			· · · · ·
2 Sect. #1 SSW	G	1 x		0/2013 1120	 X		•			• •				
3 ESW #2	G	1 x	x 12/19	)/2013 1125	<b>X</b>			·	·	•		<u> </u>		
							· · · ·	•	•					<u> </u>
		··· · · · · · · · · · · · · · · · · ·									· · ·	<u> </u>	<u> </u>	· · · · ·
							<u>·</u>		. : *					+
							<u> </u>					; ;   ·	- <del>  ·</del>	+
								+		•	<del> </del>			·
				: ' :			-	+		<u> </u>	+		· · · ·	+

PLEASE NOTE: Llability and Damages. Cardinal's llability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 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 profile incurred by client, its subsidiaries,

affitiates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise Phone Result: Date **Received By:** Yes No Add'l Phone #: Relinguished By: 12 Fax Result: □ Yés D No Add'l Fax #: Time: 7:00 REMARKS: E Received By: Date: 12 Time: Please email results to Tony Savoie, Jody Walters and PM@basinenv.com Delivered By: (Circle One) Sample Condition CHECKED BY: Cool Initact / (Initials Sampler - UPS - Bus - Other: FORM-006 Tes Aves 10 **Revision 1.0** † Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476



January 03, 2014

JOEL LOWRY Basin Environmental Service P.O. Box 301 Lovington, NM 88260

RE: PLU #341 H FRAC PAD

Enclosed are the results of analyses for samples received by the laboratory on 12/27/13 9:46.

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/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	12/27/2013	Sampling Date:	12/23/2013
Reported:	01/03/2014	Sampling Type:	Soil
Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	EDDY COUNTY, NM		

# Sample ID: WEST FLOOR (H303135-01)

Chloride, SM4500Cl-B mg/kg Analyzed By: AP Analyte Result Reporting Limit Analyzed Method Blank % Recovery True Value QC RPD Qualifier BS Chloride 16.0 01/02/2014 432 104 400 0.00 ND 416 TPH 8015M mg/kg Analyzed By: ms Analyte Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD Qualifier GRO C6-C10 10.0 <10.0 12/27/2013 ND 189 94.6 200 5.41 DRO >C10-C28 <10.0 10.0 12/27/2013 ND 184 91.9 200 10.3 EXT DRO >C28-C35 <10.0 10.0 12/27/2013 ND Surrogate: I-Chlorooctane 112 % 65.2-140 108 % Surrogate: 1-Chlorooctadecane 63.6-154

# Sample ID: SOUTH EAST FLOOR (H303135-02)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP			<u> </u>		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	01/02/2014	ND	416	104	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	12/28/2013	ND	189	94.6	200	5.41	
DRO >C10-C28	<10.0	10.0	12/28/2013	ND	184	91.9	200	10.3	
EXT DRO >C28-C35	<10.0	10.0	12/28/2013	ND					
Surrogate: 1-Chlorooctane	88.6	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	75.2	% 63.6-15	4						

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based to influence in full with mitten approval of Cardinal Laboratories.

Celecz D. Kerne

Celey D. Keene, Lab Director/Quality Manager



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 SM4500CI-B does not require samples be received at or below $6^{\circ}$ C Samples reported on an as received basis (wet) unless otherwise noted on report

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsbeever 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 incidential 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 claims is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg D. Kune

Celey D. Keene, Lab Director/Quality Manager

S

4 of

Page .

ARDINAL LABORATORIES

**Revision 1.0** 

101 East Marland, Hobbs, NM 88240

	(575) 393-2326 FAX	(575) 393-2476	<b>i</b> .												• •					·				. <u>.</u>		
Company Name:	Basin Environmental	Service Technolog	gies,	LLC		je se					8/	LL TO				·		ANA	LYSIS	REC	QUES	T				1
Project Manager:	Joel Lowry		Januarda mag	- فند مارو	d.Constants			F	<b>?.0</b> .	#:												T	<u> </u>	T		1
Address: P.O.I	3ox 301	والمستشيرة وارور المتحدول والإراب			د لیست شده			c	om	ipany:		BOP	CO, LP	]					ŀ							l.
City: Lovington	ور النام مع مان المانية المراجع من المراجع المانية المراجع المانية المراجع المراجع المراجع المراجع ا	State: NM	Zip	88	3260	( 		A	ttn:			Tony Sav	oie			ŀ	1.			:		F .	ľ			
Phone #: (575)	396-2378	Fax #: (575)396	-142	29	سېست راټېنۍ			A	ddr	'ess:		522 W. N	farland									1	ĺ			
Project #:		Project Owner:	ماستسنا			يتسترد بعد معاسم		C	ity:	La caracteria		Carisba	<u>d</u>						ŀ	1			ľ			
Project Name: p L	U 341H Fran	Part						s	tate	i N	M	Zip:	88220	٩	5 <u>R</u>	BTEX (8021B)									·····	
Project Location:	Eddy Co., NM	ann daga ya sa						P	hor	ne#:		(432)556	-8730	Chloride	TPH (8015M)	(80			ł	Į.	-				-	
Sampler Name:	Joel Lowry					• • ••		F	ax #	<b>#:</b> ``				5	H	EX			ŀ				l:			
FOR LAB USE ONLY	Sample Li	<b>D</b> .	(G)RAB OR (C)OMP.	CONTAINERS	GROUNDWATER MASTEWATER	2		SLUDGE	чт	CE / COOL	omer. `≺	SAMPLI			F			an e an								
1303135			6	#	03	<u>š                                    </u>	ō	<u>ज</u> c				DATE	TIME			1.		-	-			 				
2	West Floor South East	na canada a series El cano	<u>.</u> 16		الأحد				شي الم	i i i	÷	12/23/13 12/23/13	12:30	<u>. X.</u>	<u>X</u>	<u></u> 1:	<u>.</u>	· [·	<u> </u>	- <mark>1993 - 1997 - 1</mark> 997 - 1997	·			i		
	South East	<u>-1007</u>	2	.:L	en fr							1+16-113	19.15	<u> </u>	x	-		+	<u> </u>	<u> </u>			<u></u>			
1						in the second			1	-		·····				:		+	<u>† – – – – – – – – – – – – – – – – – – –</u>		<u> </u>	<u>.</u>				
- مختصب معبد ما محمود المحمد المحمد المحمود الم : :	n All Confliction in a grant of the street and and an initiality on the party of the street of the second street of the	دە راپ بېرىسىۋىسە بىرىپىدىرى بەلۇرىغىنىڭ						i I I		- i- f			[			1	,	1	1				:			
and environments the principal and sufficiently of a sufficient				·	Ĩ				Ĩ							1.		-	1	<u>.</u>						
······································	ىرى بىرى يىرى يىرى يېرىشى يېرىشى بىرى يېرى يېرى يېرى يېرى يېرى يېرى يېرى ي	······														* <b>*</b>										
		entra de la composition de la	نده <u>اندان</u>									*******	1914 H		 							· · ·		1797 C		
en niteta integra participation		مىلىكى بىر مۇرىكە ئۇغۇرىيىتى مىلىسى ئىلىتى							_	14					<u> </u>	<u> </u> :	<u> </u>	<u> </u>					-			
	Panages Coeffects Dability and e		607.17	, date	, adtio		ier ba	cart in i				hall be limited				1		<u> </u>	<u> </u>					Ŀ		1
analyses. All claims. Including D Service: In no event shall Cerdin affiliates of succassors arising o	l Damages, Candinal's liability and c use for regigence and any other cause w si be rable for incidental of consequental 11 of or related to the performance of sen	haiscever shall be deemed v damagas, including without i ices hereunder by Cardinal	narad milata regardi	uniess i n. bušin ess of v	mada in 1 ess inter vhathers	witing an ruplions, ruchicialy	d iscel loss of	lvad by ( luse, cr	ardina Iossi al	al witten 30 5 profila in	) days curred	alter completion d by client, its sub	ci lhe appicable skilaries, nervise.													
Relinquished By: A Relinquished By:	<u>~</u> ~	Date: 17[77]13 Time: Date: Time:	(	/} L	d By	ļi	le	N	l	7 			Phone Res Fax Result REMARKS Please TASay			ns 🗆	No No m@ba m & S	Add'i	C							
Delivered By: (	Circle One)	_			Sa	mple ool_	Con	dition				ED BY: pals)	· ·								=					
Sampler - UPS - E FORM-006	Bus - Other:	5.5	? <b>'</b> C			Yes No	B	Yes	i vitera di	$\sim$	d		• 			•	• ••									

† Cardinal cannot accept verbal phanger. Please fax written changes to 575-393-2476

ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

Company Name:							BILL TO									ANA	LÝSIS	RE	QUES	Т			
Project Manager:	Joel Lowry						P.0	), #:		-								<u> </u>		ŀ			
Address: P.O. E	lox 301						Co	mpan	y:	BOP	CO, LP				1								
City: Lovington	State: NM	Zip:	8826	60			Attı	n;		Tony Sav	oie	]	1		1					1		.	
Phone #: (575)3	96-2378 Fax #: (575)39	6-1429				·	Ado	dress	:	522 W. N	larland	1								·			} · ·
Project #:	Project Owner	:					City	y:		Cartsba	d.	] ·			}					1 · .		ļ	
Project Name:	PLU #341H Frac Pad						Sta	te:	NM	Zip:	88220		(M)	<b>(10)</b>	·	1					1		
Project Location:	Eddy Co., NM						Pho	one #	:	(432)556	6-8730	Chloride	TPH (8015M)	BTEX (8021B)		· [· · · ·	· [·	· [ · · · · · ·					{
Sampler Name:			~~~				Fax	(#:				ਤਿ	E	Ĕ							1	-	
FOR LAB USE ONLY		TT	Τ		MATR	X		PRES	SERV	. SAMPLI	NG	]	F	6	Hd			ŀ					
Lab I.D. H303118	Sample I.D.	G)RAB OR (C)OMP.	GROUNDWATER	NASTEWATER	SOIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL OTHER :	DATE	TIME												
	Sample !	G			2					12-23-1	7:45	V	V	1	7			1-	1				
23	Sample 1 South East Floor	6			1			·	ľ	12-23-13	T	V	1	ŀ				1.	1.	1			
3	west Floor	G			V.					12-23-13		1											
										<u> </u>			· ·										
	· · · · · · · · · · · · · · · · · · ·					_			· ·	<u> </u>			Ľ	Ŀ									
						_					<b> </b>	ļ	<u> </u>		ļ	<u> </u>	$\bot$	<u> </u>		<u> </u>			<u> </u>
		$\downarrow$		_							ļ	<u> </u>	<u> </u>	<b> </b>	ļ	ļ	<u> </u>		<u> </u>	<b> </b>	<b> </b>	L	Ļ
-	· · · · · · · · · · · · · · · · · · ·	$\downarrow$									<b>_</b>	<u> </u>		· ·	<u> </u>	<u> </u>	· ·	<u> </u>	<u> </u>	ļ	<u> </u>	ļ	Ļ
							ļ			<b>_</b>	<u> </u>		<u> </u>	<b> </b>	<u> </u>		<u> </u>	<u> </u>			<u> </u>		<b> </b>
analyses. All claims including the service, in no event shall Cardi	d Damages. Cardinal's llability and client's exclusive remer ose for negigence and any other cause whatsoever shall be deame ral be lable for incidental or consequential damages, including withou auf or related to the performance of services horeunder by Cardin	d waived un It limitation	less mad business	lə in wit internış	ling and r bions, los	eceived is of use	by Car , or los	dinal with a of proj	hin 30 da līts incun	iys after completion red by client, its sul	n of the applicable baidiaries,		the client	for the	L		<u> </u>			<u> </u>			<u> </u>
Relinquished By: <u> Mathematical By:</u> Relinquished By:	Date:	Rec	eived Oc eived	By: <u>U</u> By:		A	e	18	0	N	Phone Re Fax Resul REMARKS Pleas	lt: 5:	U Ye		żzh	Addi	Phone Fax #:	00	~				
Delivered By: Sampler - UPS - FORM-000 Revision	Circle One) Bus - Other:	5.8°			ple Column Yes [ No [	tact Yes	s >		<u>a</u>	KED BY: tials)	TAS:	avoie@	Bass	Pet.co	m & S.	JWalt	ers@B	iassPo	et.com			. `	
KCA131OH	···· †	Cardi	nal ca	innot	acce	pt ve	rbal	t chạr	ngës.	Please fax H	written ch	anges	to 575	-393-24	476	• .							

Page 5 of 5



January 09, 2014

JOEL LOWRY Basin Environmental Service P.O. Box 301 Lovington, NM 88260

RE: PLU #341 H FRAC PAD

Enclosed are the results of analyses for samples received by the laboratory on 01/06/14 8:10.

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/qa/lab\_accred\_certif.html">www.tceq.texas.gov/field/qa/lab\_accred\_certif.html</a>.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

	Received:	01/06/2014	Sampling Date:	12/30/2013
•	Reported:	01/09/2014	Sampling Type:	Soil
	Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
	Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
	Project Location:	EDDY COUNTY, NM		

### Sample ID: SEC. 8 WSW #1 (H400023-01)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP			<u> </u>		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	01/08/2014	ND	416	104	400	3.77	

### Sample ID: SEC. 8 WSW #2 (H400023-02)

Chloride, SM4500CI-B	mg	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	01/08/2014	ND	416	104	400	3.77	

#### Sample ID: SEC. 8 WSW #3 (H400023-03)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	01/08/2014	ND	416	104	400	3.77	

#### Sample ID: SEC. 8 NWS (H400023-04)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	01/07/2014	ND	416	104	400	3.77	

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other Cause whatsoever shall be deemed waved unless made in writing and received by client, its subsidiaries, affiliates or completion of the applicable service. In no event shall Cardinal be liability and client's exclusive remedy by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims based unon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This reproduced exception in full univertienes.

Celeg Di Kune

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	01/06/2014	Sampling Date:	01/03/2014
Reported:	01/09/2014	Sampling Type:	Soil
Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

# Sample ID: SEC. 8 SSW (H400023-05)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	01/07/2014	ND	416	104	400	3.77	

# Sample ID: SEC. 7 NSW (H400023-06)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	01/07/2014	ND	416	104	400	3.77	

### Sample ID: SEC. 7 SSW (H400023-07)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	01/07/2014	ND	416	104	400	3.77	

#### **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 whetsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be lable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, is subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg Di Keine

Celey D. Keene, Lab Director/Quality Manager



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 SM4500CI-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such chain is based upon any of the above stated resons or otherwise. Results relate only to the samples identified above. This reproduced except in full with writem approval of Cardinal Laboratories.

Celeg D. Kune

Celey D. Keene, Lab Director/Quality Manager

S

đ S

age

RDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 1575) 393-2326 FAX (575) 393-2476

Company Name: Basin Environmental Service Technol	ogies,	LLC	5						81	LL TO					· · ·	ANAI	YSIS	REG	QUES	T ·			. ]
Project Manager: Joel Lowry	•				لر ور در و مر مر ا	ļ	Þ.O.	#:	:						ľ –	T		. :					
Address: P.O. Box 301						- 6	Com	pany	:	BOPC	:O. LP	1	. ·	].		].		:		1	]:		
City: Lovington State: NM	Zip:	8	8260	<u>כ</u>			Attn:		·	Tony Savo			· ·		:			1.	1			[	: -
Phone #: (575)396-2378 Fax #: (575)39	6-142	29						ess:		522 W. M		1	Į		: ···				{			l.	÷
Project #: Project Owne	:			:			City:			Carlsbac		-											
Project Name: PLU 341 H Frac Pad			: '			· · · · ·			JIN A		88220		Î	â		ι.			·				
Project Location: Eddy Co., NM								ne #:				Chloride	FPH (8015M)	ЗТЕХ (8021B)	. :	ļi · ·	l			l I			
Sampler Name: Joel Lowry							- 110/ Fax #			(432)556	-8730	욽	Н (8					-			ľ		::
FOR LAB USE ONLY			r -	MA	TRD	and the second se	_	RESE	RV.	SAMPLI	NG.		đ	BTE	:							·	
Lab I.D. Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER Soll	OIL	SLUDGE	li	ICE / COOL		DATE	ТІМЕ										:		
Sec. 8 WSW #1	G	1	<u> </u>	X		.	Τ	X	1	12/30/13	1130	X					1	· · ·	T		<u> </u>	· · ·	
2 Sec. 8 WSW #2	G	1		×				x		12/30/13	1140	X					1	1	<u> </u>				· ·
<b>3</b> Sec. 8 WSW #3	G	1		. X	(			x		12/30/13	1150	<b>x</b> .				-	<u> </u>	: :				<u> </u>	
Y Sec. 8 NWS	G	1		X	( <sup>1</sup>			X		1/3/13	. 900 .	. x					: .				::		
Sec. 8 SSW	G	1		x				X		1/3/13	: 910	x				· · · · · · · · · · · · · · · · · · ·							
Sec. 7 NSW	G	1		. X				x		.1/3/13	920	x						1					1
Sec. 7 SSW	G	1		x				x		1/3/13	930	x						1	1				
						:			:							: :	1		1	1			
		Ì						1				·					1.	1	1			<u> </u>	
													- -				1						1

PLEASE NOTE: Liability and Damages. Cardinars liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the

analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable

service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profils incurred by client, its subsidiaries.

affliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise Relinguished By: Date: Receivee Phone Result: Yes D No Add'l Phone #: 1-6 Fax Result: Yes D No Add'l Fax #: Time: REMARKS: Received By: Rellnguis Ad Rv Date: Time: Please email results to pm@basinenv.com, TASavoie@BassPet.com & SJWalters@BassPet.com Sample Condition Delivered By: (Circle One) CHECKED BY: Cool Intact Sampler - UPS - Bus - Other: FORM-006 I res res Ð 6 No 🗔 No **Revision 1.0** 

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476



January 15, 2014

JOEL LOWRY Basin Environmental Service P.O. Box 301 Lovington, NM 88260

RE: PLU #341 H FRAC PAD

Enclosed are the results of analyses for samples received by the laboratory on 01/09/14 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/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/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.

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

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	01/09/2014	Sampling Date:	01/07/2014
Reported:	01/15/2014	Sampling Type:	Soil
Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

# Sample ID: SEC. 7 FLOOR A (H400076-01)

Chloride, SM4500CI-B	/kg	Analyzed By: AP							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	01/13/2014	ND	416	104	400	0.00	

# Sample ID: SEC. 7 FLOOR B (H400076-02)

mg,	mg/kg		Analyzed By: MS					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<0.050	0.050	01/14/2014	ND	1.97	98.7	2.00	5.22	
<0.050	0.050	01/14/2014	ND	1.91	95.6	2.00	6.25	
<0.050	0.050	01/14/2014	ND	1.95	97.7	2.00	5.02	
<0.150	0.150	01/14/2014	ND	5.73	95.4	6.00	4.47	
<0.300	0.300	01/14/2014	ND					
	Result <0.050 <0.050 <0.050 <0.150	Result         Reporting Limit           <0.050	Result         Reporting Limit         Analyzed           <0.050	Result         Reporting Limit         Analyzed         Method Blank           <0.050	Result         Reporting Limit         Analyzed         Method Blank         BS           <0.050	Result         Reporting Limit         Analyzed         Method Blank         BS         % Recovery           <0.050	Result         Reporting Limit         Analyzed         Method Blank         BS         % Recovery         True Value QC           <0.050	Result         Reporting Limit         Analyzed         Method Blank         BS         % Recovery         True Value QC         RPD           <0.050

Surrogate: 4-Bromofluorobenzene (PIE 106 %

Chloride, SM4500CI-B	m <u>g</u>	mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	01/13/2014	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/12/2014	ND	170	84.8	200	9.62	
DRO >C10-C28	<10.0	10.0	01/12/2014	ND	170	84.8	200	13.1	
EXT DRO >C28-C35	<10.0	10.0	01/12/2014	ND					

Surrogate: 1-Chlorooctane

100 % 65.2-140

89.4-126

#### **Cardinal Laboratories**

### \*=Accredited Analyte

PLEASE NOTE: Llability and Damages. Cardinal's lability 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 whatspever shall be deemed waved unless made in writing and received by claims, including those for angligence and including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, is subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	01/09/2014	Sampling Date:	01/07/2014
Reported:	01/15/2014	Sampling Type:	Soil
Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

# Sample ID: SEC. 7 FLOOR B (H400076-02)

TPH 8015M	/kg	Analyzed By: ms								
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Surrogate: 1-Chlorooctadecane	110 9	63.6-154								

# Sample ID: SEC. 7 FLOOR C (H400076-03)

Chloride, SM4500CI-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	944	16.0	01/13/2014	ND	416	104	400	0.00	

#### Sample ID: SEC. 8 FLOOR A (H400076-04)

Chloride, SM4500Cl-B mg/kg		Analyze	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	960	16.0	01/13/2014	ND	416	104	400	0.00	

#### **Cardinal Laboratories**

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's fability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within (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 claims based hows tatker reasons or otherwise. Results relate only to the samples influentified above. This reproduced excepts in full with mitten approval of Cardinal Laboratories.

Celez Di Kune

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	01/09/2014	Sampling Date:	01/07/2014
Reported:	01/15/2014	Sampling Type:	Soil
Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

# Sample ID: SEC. 8 FLOOR B (H400076-05)

BTEX 8021B	mg,	/kg	Analyze	Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/14/2014	ND	1.97	98.7	2.00	5.22	
Toluene*	<0.050	0.050	01/14/2014	ND	1.91	95.6	2.00	6.25	
Ethylbenzene*	<0.050	0.050	01/14/2014	ND	1.95	97.7	2.00	5.02	
Total Xylenes*	<0.150	0.150	01/14/2014	ND	5.73	95.4	6.00	4.47	
Total BTEX	<0.300	0.300	01/14/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIL 105 % 89.4-126

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	01/13/2014	ND	416	104	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	01/12/2014	ND	170	84.8	200	9.62	
DRO >C10-C28	<10.0	10.0	01/12/2014	ND	170	84.8	200	13.1	
EXT DRO >C28-C35	<10.0	10.0	01/12/2014	ND					
Surrogate: 1-Chlorooctane	111	65.2-14	0					<u></u>	
Surrogate: 1-Chlorooctadecane	110	% 63.6-15	4						

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	01/09/2014	Sampling Date:	01/07/2014
Reported:	01/15/2014	Sampling Type:	Soil
Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

# Sample ID: SEC. 8 FLOOR C (H400076-06)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	464	16.0	01/13/2014	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 whitstoever shall be deemed waived unless made in writing and received by Cardinal within (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This reproduced excepts in full with written approval of Cardinal Laboratories.

Celez Di Keine

Celey D. Keene, Lab Director/Quality Manager



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 SM4500CI-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

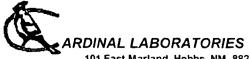
#### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim ansing, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal Whith thirty (30) days after completion of the applicable service. In no event shall be deemed waived unless made in writing and received by Cardinal Whith thirty (30) days after completion of the applicable service. In no event shall be deemed waived unless made in writing and received by Cardinal Whith thirty (30) days after completion of the applicable service. In no event shall be deemed waived unless of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg Di Keine

Celey D. Keene, Lab Director/Quality Manager



# 101 East Mariand, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

Company Name:	Basin Environmental Service Techno	logie	s, Ll	.c						81	LL TO					ANAI	LYSIS	S RE	QUES	бТ		
Project Manager:	Joel Lowry						- /	P.O.	#:					[			Τ	Γ	Τ			
Address: P.O. I	Box 301						_	Соп	pany	:	BOPC	ю, IP										
City: Lovington	State: NM	Zip	8	3260	1			Attn	:		Tony Save	xie										
Phone #: (575)	396-2378 Fax #: (575)39	6-14	29					Add	ress:		522 W. M	arland		ł								
Project #:	Project Owner	:						City	:		Cartsbac	1										
Project Name:	PLU 341 H Frac Pad							Stat	e: N	M	Zip:	88220		(W	18)	ł	ł	1				
Project Location:	Eddy Co., NM								ne #:		(432)556		Chloride	TPH (8015M)	BTEX (8021B)					ĺ		
Sampler Name:	Matt Taylor							Fax		-, <u>.</u>			CP	Ha	Ě							
FOR LAB USE ONLY		Γ			MA	TRIX			RESE	RV.	SAMPLI	NG	1	F	6		[		1			
Lab I.D. H400076	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	SOIL	OIL	SLUDGE	OTHER :	ICE / COOL	OTHER :	DATE	TIME										
1	Sec. 7 Floor A	G	1		X	1 1	1	Τ	x		1/7/14	215	×	*								
2	Sec. 7 Floor B	G	1		×				X		1/7/14	220	x	x	x							
3	Sec. 7 Floor C	G	1		×				X		1/7/14	225	x	-								
<u> </u>	Sec. 8 Floor A	G	1		×				X		1/7/14	230	×	-		 L	<u> </u>	<u> </u>	<u> </u>			
5	Sec. <b>S</b> Floor B	G	1		×				X		1/7/14	235	×	×	x							
6_	Sec. 🔀 Floor C	G	1		×				x		1/7/14	240	<u>×</u>	~		 		<u> </u>	ļ			ļ
	Damages, Cardinal's liability and client's exclusive remedy (																					

PLEASE NOTE: Liability and bamages. Candhai'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 the client for the

analyses. All claims including those for negagence 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

service, It no event shall Cardral be listle for incidential or consequential carages, inclusing without limitation, business interruptions, loss of use, or loss of profils incursed by dient, its subsidiaries.

	structed of successions arising but of or reason as the periodicative of ser	Wees hereinder by Caronas, receivers of whether such claims is based upon any or the above stated residents of do	Jegr water.
	Relinquished By:	Date: Received By:	Phone Result: 🖸 Yes 🛛 No Add'I Phone #:
		1-9-19	Fax Result: 🖸 Yes 🛛 No 🛛 Add'i Fax #:
	Matt Taylor	Time: 30 flen plation	REMARKS:
	Relinquished By:	Date: Received By:	
		Time: 4.2.2 (DQi Ale MADU	Please email results to pm@basinenv.com.
	am Alazon	Time: 8:30 GULL HENDON	TASavoie@BassPet.com & SJWatters@BassPet.com
D	Delivered By: (Circle One)	Sample Condition CHECKED BY:	
		EID Cool Intact (nitials)	
	Sampler - UPS - Bus - Other: FORM-006	J. G. C. Bres Difes OTA	
	Revision 10		

Page 7 of 7

Revision 1.0

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

.



January 21, 2014

JOEL LOWRY Basin Environmental Service P.O. Box 301 Lovington, NM 88260

RE: PLU #341 H FRAC PAD

Enclosed are the results of analyses for samples received by the laboratory on 01/13/14 11:35.

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/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	01/13/2014	Sampling Date:	01/10/2014
Reported:	01/21/2014	Sampling Type:	Soil
Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

# Sample ID: SEC. 6 NSW (H400101-01)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	01/17/2014	ND	400	100	400	3.92	

### Sample ID: SEC. 6 FLOOR B (H400101-02)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	944	16.0	01/17/2014	ND	400	100	400	3.92	

# Sample ID: SEC. 6 SSW (H400101-03)

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	01/17/2014	ND	400	100	400	3.92	

### Sample ID: SEC. 5 NSW (H400101-04)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	01/17/2014	ND	400	100	400	3.92	

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Labitry and Damages. Cardinal's labitity and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwse. Results relate only to the samplesi dentified above. This reproduced exception in full with mitten approval of Cardinal Laborationes.

Celez Di Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	01/13/2014	Sampling Date:	01/10/2014
Reported:	01/21/2014	Sampling Type:	Soil
Project Name:	PLU #341 H FRAC PAD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

# Sample ID: SEC. 5 FLOOR A (H400101-05)

Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	01/17/2014	ND	400	100	400	3.92	

# Sample ID: SEC. 5 SSW (H400101-06)

Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AP													
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier								
Chloride	48.0	16.0	01/17/2014	ND	400	100	400	3.92									

**Cardinal Laboratories** 

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waved unless made in writing and received by Cardinal within (32) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the sample's diretified above. This reproduced excepts in full with written approval of Cardinal Laboratories.

Celey Di Kune

Celey D. Keene, Lab Director/Quality Manager



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

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequencial damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager

Page 5 of 5

ARDINAL LABORATORIES

SampleDRMP906 Bus - Other:

101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

Company Name:	ne: Basin Environmental Service Technologies, LLC							BILL TO ANALYSIS REQUEST																	
Project Manager: Joel Lowry							F	P.Q.	0. #:												Γ				
Address: P.O. Box 301						c	Company: BOPCO, LP					1								ļ					
							Attn: Tony Savoie				1		}			1									
Phone #: (575)	396-2378 <b>Fax #</b> : (575)3	96-1	429	;	•				\ddi	ress	5:	522 W. I						l							
Project #:	Project Owne	er:							City:			Carlsba						1			1		1	· ·	İ
						_	-		NM	Zip:	88220		(W)	<b>1</b> B											
Project Location:	Eddy Co., NM							_		ne #		(432)55	<u>5</u> 5						}						) ·
Sampler Name:	Joel Lowry			~					ax		•	(402)00									ĺ.				
FOR LAB USE ONLY		T			Ň	ΛAT	RIX				ERV	SAMP				HE HE		1					1		
· · ·		MP		~					T					]											
1		l õ	ERS	ATEI	Шщ									<b>.</b> .					}						
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	GROUNDWATER	NASTEWATER			ш :	U U	ICE / COOL	\$						1								
		RAB	N	S	STE	_	OIL				OTHER			ł		ł						1		[	4
HYDDIDI	· · · · · · · · · · · · · · · · · · ·		-	5	¥.	SOIL	<u></u>	SLI	5 4		5 5	DATE	TIME									L			
1	Sec. 6 NSW	G	-	<b> </b>	+	x				X	<u>(</u>	1/10/14	930	×	ļ	ļ	ļ	ļ	<u> </u>	<u> </u>	<u> </u>		<u> </u>		ļ
2	Sec. 6 Floor B	G	-	<b> </b>		X				X		.1/10/14	950	×		ļ	<u> </u>		<u> </u>	ļ	<b> </b>	L		<u> </u>	<u> </u>
3	Sec. 6 SSW	G			+ +	X	_			X		1/10/14	1000	×	ļ		ļ	ļ	ļ		_	ļ	ļ		<b> </b>
Ч.	Sec. 5 NSW	G			1 1	X		_	_	<u> </u>		1/10/14	1010	×	ļ	ļ	·		<u> </u>	<u> </u>	_	ļ	ļ	<u> </u>	ļ
5	Sec. 5 Floor A	G		┞	+	X	_	_		×		1/10/14	1020	x			<b> </b>		<b>_</b>	ļ	ļ	<u>                                     </u>	ļ		ļ
	Sec. 5.SSW	G	1			X	• • •		-	X	(	1/10/14	1030	X											
·		-	1	╞		_	_						<b></b>	<u> </u>			<u> </u>	ļ	<u> </u>	<b> </b>	<u> </u>	ļ		ļ	
			<b>I</b>	<b> </b>		-+			╧	-				ļ	ļ	<b> </b>			<b> </b>	<b> </b>			┟──		<b> </b>
		╋		_		+	-+		_				<b>_</b>	<u> </u>	ļ	<u> </u>						<u> </u>	<u> </u>		<u> </u>
	······	$\vdash$	┨			-		-+-					<b> </b>	<u> </u>	<u> </u>			ļ			<u> </u>	· · ·	<u> </u>	[	
PLEASE NOTE: Liability and I	Damages. Cardinal's liability and client's exclusive remedy for any	claim a	uisina	wheth	er based	in co	Intract	or tort.	shail l	be limit	ted to th	e amount paid b	v the client for the				<u> </u>	l	L						
analyses. All claims including	those for negligence and any other cause whatsoever shall be de inal be liable for incidental or consequental damages, including w	emed w	vaived	uniess	made i	n writi	ng and	d receiv	/ed by	Cardin	nal withi	n 30 days after c	ompletion of the a												
	out of or related to the performance of services hereunder by Car	dinal, re	egardi	ess of										oult.	□ Ye		No	Addy	Phone		_				_
	1115/14		1,	مر ۲	Ωγ. ∦ ·			1			6		Fax Resu	lt;			No		Fax #:	· <b>FT.</b>					···
1 pello	my The 35	6	IC	Ø	U	c	J	Je	M	S	ØI	r	REMARK	5:											
Relinquished By:	Date:	R	cei	ved	By:	<b>`</b>							1												2
- -	Time:	1											Plea	se en	nail re	sults	to pm	@bas	inenv	.com,	ssPet				
Delivered By:				T	Sami		Con	ditio	<u></u>	<u></u>	JECK		I TAS	avoie	@Bas	sPet.	com 8	SJW	valters	s@Ва	ssPet	.com			

t Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

Cool Intact Yes Yes