Basin Environmental Service Technologies, LLC

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# **REMEDIATION SUMMARY**

# AND RISK-BASED SITE CLOSURE REQUEST

**BOPCO, LP** 

POKER LAKE UNIT #261/78 10" Mainline 10-29-13 Eddy County, New Mexico Unit Letter "H" (SE/NE), Section 19, Township 24 South, Range 30 East Latitude 32.205853° North, Longitude 103.913044° West NMOCD Reference #2RP-<u>704</u>

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

November 2013

Project Manager

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## **1.0 INTRODUCTION & BACKGROUND INFORMATION**

Basin Environmental Service Technologies, LLC (Basin), on behalf of BOPCO, LP (BOPCO), has prepared this *Remediation Summary & Risk-Based Site Closure Request* for the release site known as Poker Lake Unit #261/78 10" Mainline 10-29-13 (PLU #261/78 10"). The legal description of the release site is Unit Letter "H" (SE/NE), Section 19, Township 24 South, Range 30 East, in Eddy County, New Mexico. The geographic coordinates of the release site are 32.205853° North latitude and 103.913044 West longitude. The property affected by the release is owned by the United States Department of the Interior - Bureau of Land Management (BLM). A "Site Location Map" is provided as Figure 1.

On October 29, 2013, BOPCO discovered a release had occurred on a ten-inch (10") produced water transfer line near the PLU #236 pumping well. The failure was attributed to lose bolts on a flange. The release was reported to the New Mexico Oil Conservation Division (NMOCD) Artesia District Office on October 29, 2013. The "Release Notification and Corrective Action" (Form C-141) indicated approximately thirty barrels (30 bbls) of produced water were released with no recovery. The initial Form C-141 indicated the release affected approximately five thousand square feet (5,000 ft<sup>2</sup>) of pasture. During initial response activities, saturated soil around the spill area was excavated and stockpiled on-site, pending final disposition, and the affected flange was removed. The Form C-141 is provided as Appendix A.

## 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 information was unavailable for Section 19, Township 24 South, Range 30 East. A depth to groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately two hundred and twenty-five feet (225') 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 1,000 feet 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 1,000 feet 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 #261/78 10" 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)
- BTEX 50 mg/Kg (ppm)
- 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 November 8, 2013, Basin began delineation activities at the release site. A delineation trench was advanced at the release point an effort to determine the vertical extent of soil impact. Delineation trench RP Trench was advanced to approximately nineteen feet (19') bgs. During the advancement of the delineation trench, four (4) soil samples (RP @ 4', RP @ 9', RP @ 14' and RP @ 19') were collected and submitted to Cardinal Laboratories, of Hobbs, New Mexico, for analysis of chloride concentrations by EPA Method 4500 Cl-B. Laboratory analytical results indicated chloride concentrations ranged from 24,800 ppm for soil sample RP @ 4' to 1,860 ppm for soil sample RP@ 19'. Soil sample RP @ 19' was also analyzed for concentrations of benzene, ethylbenzene, toluene, and xylene (BTEX) using EPA Method SW-846-8021b and total petroleum hydrocarbon (TPH) using EPA SW-846 8015M. Laboratory analytical results indicate BTEX and TPH concentrations were less than the appropriate laboratory method detection limit (MDL). A "Site and Sample Location Map" is provided as Figure 2. A table summarizing "Concentrations of Benzene, BTEX, TPH and Chloride in Soil" is provided as Table 1. Laboratory analytical reports are provided as Appendix C.

Following the advancement of the delineation trench, excavation of impacted soil commenced at the release site. The floor of the excavation was advanced to approximately five feet (5') bgs in the western portion of the release site. The sidewalls of the excavation were advanced until field tests suggested concentrations of BTEX, TPH and chloride were less than NMOCD Regulatory Standards. Excavated soil was stockpiled on-site atop an impermeable liner, pending final disposition. One (1) confirmation soil sample (WSW #1) was collected from the west sidewall of the excavation and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated the concentration of chloride was 96.0 ppm.

On November 12, 2013, three (3) confirmation soil samples (W. Floor @ 5', NSW #1 and SSW #1) were collected from the excavation and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 672 ppm for soil sample NWS #1 to 64.0 ppm for soil sample SSW #1. Soil sample W. Floor @ 5' was also analyzed for concentrations of BTEX and TPH, which were determined to be less than the appropriate laboratory MDL. BTEX, TPH and chloride concentrations were below NMOCD Regulatory Standards in each of the submitted soil samples. The excavation was advanced to the east.

On November 15, 2013, three (3) confirmation soil samples (NSW #2 @ 6', ESW #1 @ 6' and SSW #2 @ 6') were collected from the sidewalls of the excavation and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 208 ppm for soil sample SSW #2 @ 6' to 64.0 ppm for soil sample NSW #2 @ 6'. Chloride concentrations were below NMOCD Regulatory Standards in each of the submitted soil samples.

On November 21, 2013, upon receiving NMOCD and BLM approval, a 20-mil polyurethane liner was installed in the floor of the excavation at approximately seven feet (7') bgs in the area

defined by RP Trench. A one-foot (1') layer of non-impacted pad sand was installed both above and below the liner to maintain its integrity during installation and backfilling activities. This engineering control is designed to inhibit the vertical migration of contaminants left in-situ.

Between November 13 and 18, 2013, approximately five hundred and eighty cubic yards (580 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 excavation were approximately forty feet (40') in width, one hundred feet (100') in length and five (5) to seven feet (7') in depth. Upon receiving NMOCD and BLM approval, the excavated area was backfilled with locally purchased, non-impacted material. Following the backfilling of the excavation, areas affected by the remediation activities were contoured to fit the surrounding topography. The site will be reseeded at a time more conducive to germination.

# 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

Laboratory analytical results from confirmation soil samples collected from the sidewalls of the PLU #261/78 10" excavation indicated concentrations of benzene, BTEX, TPH and chloride were less than NMOCD regulatory standards. An approved twenty-millimeter (20mm) polyurethane liner was installed in the floor of the excavation at approximately seven feet (7') bgs in the area characterized by soil samples collected from the RP Trench. This engineering control is designed to inhibit the vertical migration of contaminants left in-situ. Based on these laboratory analytical results and the installation of an approved engineering control, Basin recommends BOPCO provide the NMOCD Artesia District Office and BLM a copy of this *Remediation Summary and Risk-Based Sit Closure Request* and request the NMOCD grant site closure to the PLU #261/78 10" release site.

## 6.0 **LIMITATIONS**

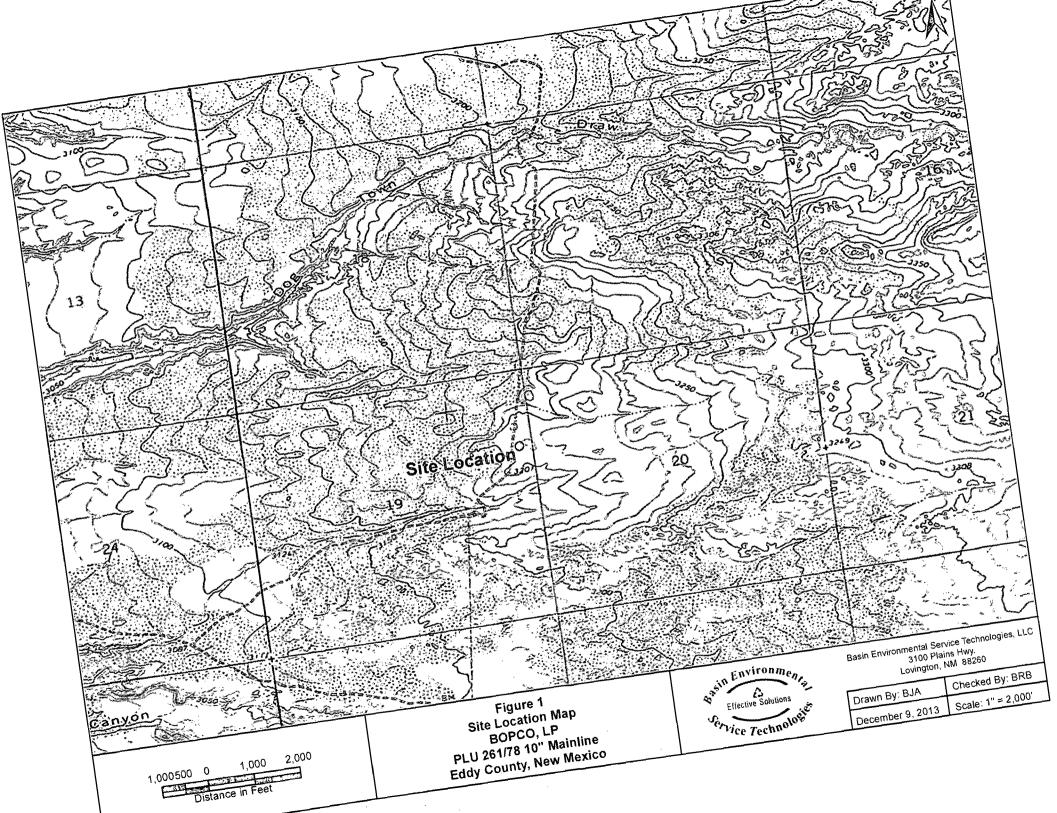
Basin Environmental Service Technologies, LLC, has prepared this *Remediation Summary and Risk-Based Site Closure Request* to the best of its ability. No other warranty, expressed or implied, is made or intended. Basin has examined and relied upon documents referenced in the report and on oral statements 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.

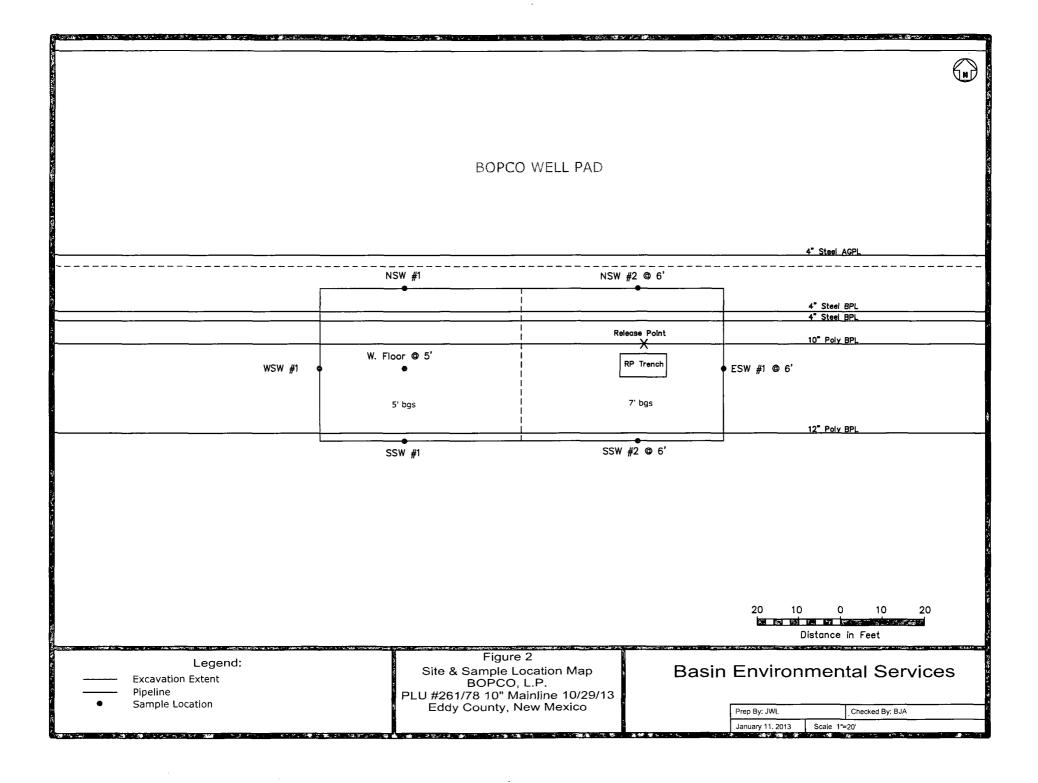
This report has been prepared for the benefit of BOPCO, LP. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or BOPCO, LP.

# 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 261/78 10" MAINLINE 10-29-13 EDDY COUNTY, NEW MEXICO

	SAMPLE DEPTH (BGS)			METHOD: EPA SW 846-8021B, 5030						'HOD: 80'	15M	TOTAL	4500 CI-B
SAMPLE LOCATION		DEPTH	SAMPLE DATE	SOIL STATUS	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TPH C₅-C <sub>35</sub> (mg/Kg)
RP @ 4'	4'	11/8/2013	Excavated	-	-	-	-	-	-	-	-	-	24,800
RP @ 9'	9'	11/8/2013	In-Situ	-	-	-	-	-	-	-	-	-	12,500
RP @ 14'	14'	11/8/2013	In-Situ	-	-	-	-	_	-	-	-		5,600
RP @ 19'	19'	11/8/2013	In-Situ	< 0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	1,860
WSW #1	3'	11/8/2013	In-Situ	-	-	-	-		-	-	-	-	96.0
W. Floor @ 5'	5'	11/12/2013	In-Situ	< 0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	128
NSW #1	4'	11/12/2013	In-Situ	-	-	-	-		-	-	-	-	672
SSW #1	4'	11/12/2013	In-Situ	-	-	-	-	-	-	-	-	-	64.0
NSW #2 @ 6'	6'	11/15/2013	In-Situ	-	-		-	-				-	64.0
ESW #1 @ 6'	6'	11/15/2013	In-Situ	-	-	-	-	-	-		-	-	176
SSW #2 @ 6'	6'	11/15/2013	In-Situ			-	-	-	-	-	-	-	208
NMOCD Criteria				10				50				5,000	1,000

- = Not analyzed.

# APPENDICES

# Appendix A

# **Release Notification and Corrective Action**

# (Form C-141)

# State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised August 8, 2011

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

# Santa Fe, NM 87505 OLM 11/1/13 Release Notification and Corrective Action

		OPERATOR	$\boxtimes$	Initial Report		Final Report
Name of Company: BOPCO, L.P.		Contact: Tony Savoie				
Address: 522 W. Mermod, Suite 704	Carlsbad, N.M. 88220	Telephone No. 575-887-732	.9			
Facility Name: 10" Water transfer ma located 155 ft. S.W. of the PLU-236		Facility Type: Exploration a	nd Produ	ction		
Surface Owner: Federal	Mineral Own	er: Federal		API No. 30-015-3	4419	

## LOCATION OF RELEASE

Unit Letter Section Township Range H 19 24S 30E	Feet from the	North/South Line	Feet from the	East/West Line	County: Eddy
					L

Latitude N 32.205853 Longitude W. 103.913044

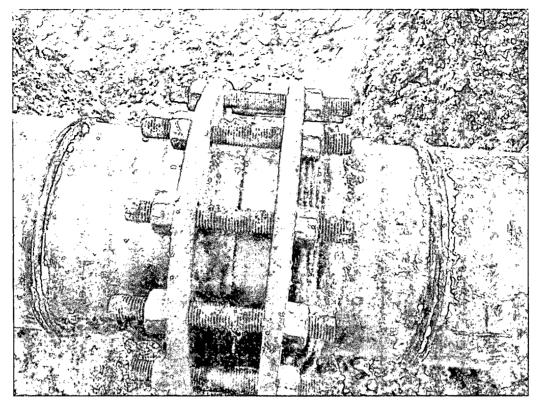
## NATURE OF RELEASE

Type of Release: Produced water       Volume of Release: 30 bbs.       Volume Recovered: 0 bbs.         Source of Release: 10° Flange connection       Date and Hour of Occurrence:       10/29/13 time unknown       2:20 p.m.         Was Immediate Notice Given?       If YES, To Whom?       NMOCD emergency response #104         By Whom? Jody Walters       Date and Hour: 10/29/13 at 4:16 p.m.       1         1 a Watercourse Reached?       Yes I No       Not Required       NMOCD emergency response #104         By Whom? Jody Walters       Date and Hour: 10/29/13 at 4:16 p.m.       If a Watercourse Reached?       If a Watercourse was Impacted, Describe Fully.*         If a Watercourse was Impacted, Describe Fully.*       NUV 0 1 2013       NUV 0 1 2013         Describe Cause of Problem and Remedial Action Taken.*       A flange on the 10° mainline developed a leak due to loose flange bolts, the bolts were re-torqued and the line was pressure tested.         Describe Area Affected and Cleanup Action Taken.*       A flange on the 10° mainline developed a leak due to loose flange bolts, the bolts one cordance to the NMOCD and BLM guidelles.         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 responsibility								
IO2913 time unknown       2:20 p.m.         Was Immediate Notice Given?       Yes       No       Not Required         If YES, To Whom?       If YES, To Whom?       If YES, To Whom?         By Whom? Jody Walters       Date and Hour: 10/29/13 at 4:16 p.m.       If YES, Volume Impacting the Watercourse: IVED         1 a Watercourse Reached?       If YES, No       If YES, Volume Impacting the Watercourse: IVED         If a Watercourse was Impacted, Describe Fully.*       NUV 01 2013         Describe Cause of Problem and Remedial Action Taken.*       A flange on the 10" mainline developed a leak due to loose flange bolts, the bolts were re-torqued and the line was pressure tested.         Describe Area Affected and Cleanup Action Taken.*       Approximately 5,000 sq.ft. of pasture was affected by the release, all of the fluid soaked into the ground. The saturated soil around the spill area was excavated and stockpiled on-site pending disposal. The remediation will be in accordance to the NMOCD and BLM guidelines.         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 he NMOCD marked as "Final Report" does not relieve the operator of labelity is struce and contailet to adquately investigate and remediate containniation that pose a threat to ground water, surface water, human health or the environment. In addition, MMOCD acceptance of a C-141 report d	Type of Release: Produced water	Volume of Release: 30 bbls.	the second se					
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E-mail Address: tasavoie@basspet.com Conditions of Approval: Attached	Title, Waste Menagement and Demodiation Specialist	Provident Data						
	The: waste Management and Remediation Specialist	Approval Date:	Expliation Di	ait.				
	F-mail Address: tasavoie@bassnet.com	Conditions of Approval:						
Date: 10/31/13 Phone: 432-556-8730		Conditions of Approval.	Attached [_]					
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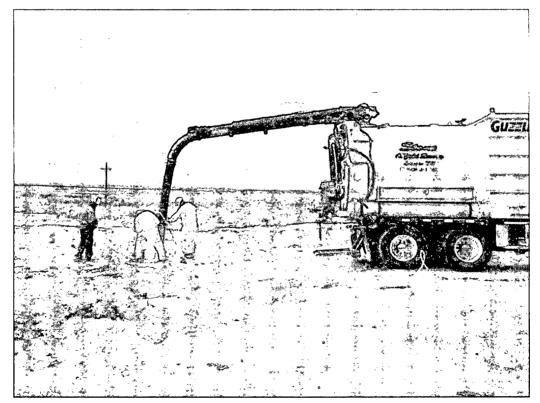
\* Attach Additional Sheets If Necessary

Appendix B Photographs

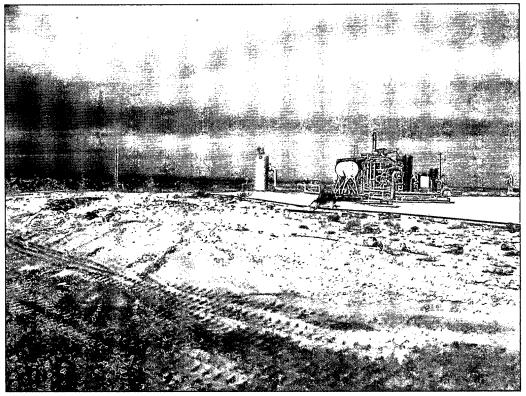
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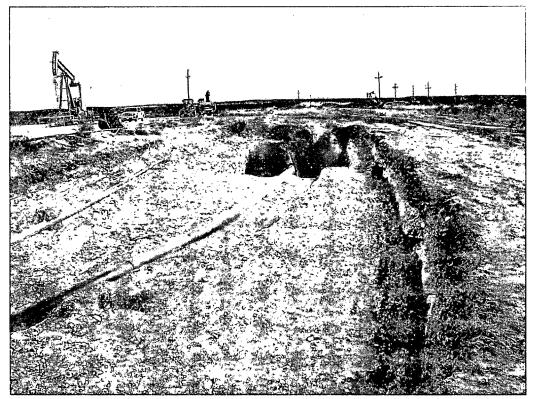
Photograph of the affected 10" pipeline flange at the PLU #261/78 10" Mainline Release Site.



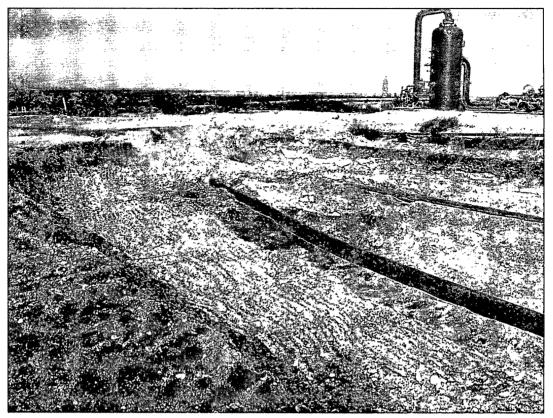
Photograph surface damages and hydroexcavation activities at the PLU #261/78 10" Mainline Release Site.



Photograph excavation activities at the PLU #261/78 10" Mainline Release Site.



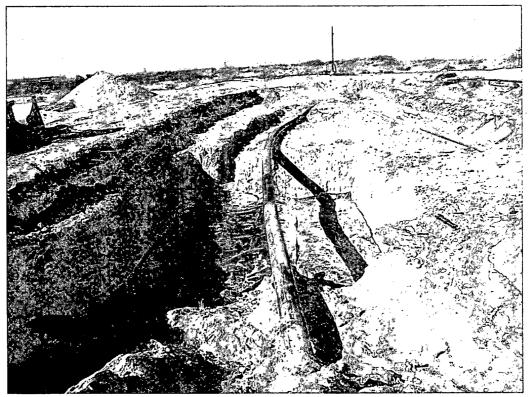
Photograph of the excavation and sample locations at the PLU #261/78 10" Mainline Release Site.



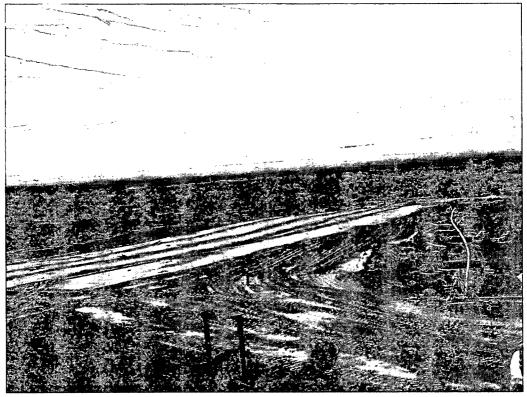
Photograph of the excavation and sample locations at the PLU #261/78 10" Mainline Release Site.



Photograph of the liner installation at the PLU #261/78 10" Mainline Release Site.



Photograph of the liner installation in the eastern portion of the excavation at the PLU #261/78 10" Mainline Release Site.



Photograph of the PLU #261/78 10" Mainline Release Site after remediation activities.

# Appendix C

# Laboratory Analytical Reports



November 19, 2013

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

RE: POKER LAKE UNIT #261

Enclosed are the results of analyses for samples received by the laboratory on 11/12/13 13:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/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 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:	11/12/2013	Sampling Date:	11/08/2013
Reported:	11/19/2013	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #261	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

#### Sample ID: RP @ 4' (H302752-01)

Chloride, SM4500CI-B	mg/kg Analyzed By: AP			d By: AP	y: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	24800	16.0	11/14/2013	ND	400	100	400	0.00		

#### Sample ID: RP @ 9' (H302752-02)

Chloride, SM4500Cl-B	mg,	/kg	I By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	12500	16.0	11/14/2013	ND	400	100	400	0.00	

#### Sample ID: RP @ 14' (H302752-03)

Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5600	16.0	11/14/2013	ND	400	100	400	0.00	

#### **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 whatspeever shall be deemed waived unless made in writing and received by claimal, within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without Amitation, business interruptions, loss of use, or loss of profits incurred by cleint, its subsidiaries, affiliates or successons 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 othewise. Results relate only to the sample's identified above. This report shall not be 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:	11/12/2013	Sampling Date:	11/08/2013
Reported:	11/19/2013	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #261	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

#### Sample ID: RP @ 19' (H302752-04)

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	11/18/2013	ND	1.98	99.2	2.00	5.01	
Toluene*	<0.050	0.050	11/18/2013	ND	1.96	98.2	2.00	5.59	
Ethylbenzene*	<0.050	0.050	11/18/2013	ND	1.95	97.4	2.00	5.81	
Total Xylenes*	<0.150	0.150	11/18/2013	ND	5.71	95.2	6.00	5.49	
Total BTEX	<0.300	0.300	11/18/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL 108 % 89.4-126

Chloride, SM4500CI-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1860	16.0	11/14/2013	ND	400	100	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	11/13/2013	ND	217	108	200	4.00	
DRO >C10-C28	<10.0	10.0	11/13/2013	ND	215	107	200	6.89	
EXT DRO >C28-C35	<10.0	10.0	11/13/2013	ND					
Surrogate: 1-Chlorooctane	123	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	138	% 63.6-15	4						

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#### \*=Accredited Analyte

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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:	11/12/2013	Sampling Date:	11/08/2013
Reported:	11/19/2013	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #261	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

#### Sample ID: WSW #1 (H302752-05)

Chloride, SM4500Cl-B mg/kg		Analyzed By: AP				· · · · · · · · · · · · · · · · · · ·		<u> </u>	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	11/14/2013	ND	400	100	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager



#### **Notes and Definitions**

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

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Celeg D. Kune

Celey D. Keene, Lab Director/Quality Manager

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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Page 6 of

-	A	R	DI	N	AL	LA	BO	RA	το	RIES	5

101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476		
Company Name: Basin Environmental Service Technologies, LLC	BILL TO	ANALYSIS REQUEST
Project Manager: Joel Lowry	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. Marland	
Project #: Project Owner:	City: Carlsbad	
Project Name: PLU #261/78 10-Inch Mainline 10-29-13	State: NH 7: 99990	
Project Location: Eddy Co., NM	State:         NM         ZIP:         66220         6           Phone #:         (432)556-8730         5         5           Fax #:         C         C         C	TPH (8015M)
Sampler Name: J. Lowry	Fax #:	
FOR LAB USE ONLY MATRIX	PRESERV. SAMPLING	
		$= \left\{ \begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $
ATER COMP		
Tap I.D.     Sample I.D.       #3021299     Solit	ACIDIERA:	
RP @ 4'         G 1         X           7         RP @ 9'         G 1         X	X 11/8/13 1130 x	
	X 11/8/13 1140 x	
	X 11/8/13 1150 x	
G         I         x           5         WSW #1         G         1         x	x <u>11/8/13</u> 1200 x X <u>11/8/13</u> 1300 x	
	A 11/0/13 1300 X	
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether base analyses. All claims including those for negligence and any other cause whatsoever shall be deemed valved unless made in writing and receive		y the client for the
service. In no event shall Cardinal be liable for incidental or consequential damages, Including without limitation, business interruptions, loss of u ifficiales or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is base		
Relinquished By: Date 2/13 Received By:	Phone Result:	□ Yes □ No Add'I Phone #: □ Yes □ No Add'I Fax #:
Matt-Tralm	enson Remarks:	
Relinquished By: Date: Received By:		en an an Arran an an Arra an Arra an Arra an Arra

Please email results to bjarguijo@basinenv.com, TASavoie@BassPet.com & SJWalters@BassPet.com

Delivered By: (Circle One) Sampler - UPS - Bus - Other: FORM-006 Time:

Revision 1.0

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476 #54

CHECKED BY:

(Lpitials)

Sample Condition

Cool Intact Yes // Yes

0

10°C



November 21, 2013

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

RE: POKER LAKE UNIT #261

Enclosed are the results of analyses for samples received by the laboratory on 11/14/13 11:55.

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:	11/14/2013	Sampling Date:	11/12/2013
Reported:	11/21/2013	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #261	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

## Sample ID: W. FLOOR @ 5' (H302781-01)

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	11/18/2013	ND	1.98	99.2	2.00	5.01	
Toluene*	<0.050	0.050	11/18/2013	ND	1.96	98.2	2.00	5.59	
Ethylbenzene*	<0.050	0.050	11/18/2013	ND	1.95	97.4	2.00	5.81	
Total Xylenes*	<0.150	0.150	11/18/2013	ND	5.71	95.2	6.00	5.49	
Total BTEX	<0.300	0.300	11/18/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL 109 % 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	128	16.0	11/15/2013	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/15/2013	ND	182	91.1	200	5.05	
DRO >C10-C28	<10.0	10.0	11/15/2013	ND	182	90.8	200	6.00	
EXT DRO >C28-C35	<10.0	10.0	11/15/2013	ND					
Surrogate: 1-Chlorooctane	90.0	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	88.6	% 63.6-15	4						

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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:	11/14/2013	Sampling Date:	11/12/2013
Reported:	11/21/2013	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #261	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

#### Sample ID: NSW #1 (H302781-02)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	672	16.0	11/15/2013	ND	432	108	400	0.00	

#### Sample ID: SSW #1 (H302781-03)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	11/15/2013	ND	432	108	400	0.00	

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Celley D. Kene

Celey D. Keene, Lab Director/Quality Manager



#### **Notes and Definitions**

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

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Celey Di Keine

Celey D. Keene, Lab Director/Quality Manager

Page 4 of 5

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

oject Manager:       Joel Lowry       P.O. #:         tdress:       P.O. Box 301       Company:       BOPCO, LP         ty:       Lovington       State:       NM       Zip:       88260         none #:       (575)396-2378       Fax #:       (575)396-1429       Address:       522 W. Marland         oject #:       Project Owner:       City:       Carlsbad         oject Name:       PLU #261/78 10-Inch Mainline 10-29-13       State:       NM       Zip:       88220         oject Location:       Eddy Co., NM       Phone #:       (432)556-8730       Fax #:       Fax #:       Fax #:       Fax #:	Company Name:	يتحصد الأكريج الأستحد فيجهدن	26 FAX (575 onmental Service	والكائشة بتهويه الكائبة	فليج والمرجوي	es, L	LC	: .					81	LL TO		T				ANAL	YSIS	S RE	QUE	ST		-	
ty:       Lovington       State:       NM       Zip:       88260       Attn:       Tony Savoie         none #:       (575)396-2378       Fax #:       (575)396-1429       Address:       522 W. Mariand         oject #:       Project Owner:       City:       Carlsbad         oject Name:       PLU #261/78 10-Inch Mainline 10-29-13       State:       NM       Zip:       68220         oject Location:       Eddy Co., NM       Phone #:       (432)566-8730       Phone #:       (432)566-8730         onumpler Name:       J. Lowry       MATRIX       PRESERV       SAMPLING         Will Will Will Will Will Will Will Will	Project Manager:		 	· · · ·						/	P.O.	_								1							[ <u>.</u>
ty:       Lovington       State:       NM       Zip:       88260       Attr:       Tony Savoie         none #:       (575)396-2378       Fax #:       (575)396-1429       Address:       522 W. Mariand         oject #:       Project Owner:       City:       Carisbad         oject Name:       PLU #261/78 10-Inch Mainline 10-29-13       State:       NM       Zip:       88220         oject Location:       Eddy Co., NM.       Phone #:       (432)556-8730       Phone #:       (432)556-8730         mpler Name:       J. Lowry       MATRIX       PRESERV       SAMPLING         OR LAB USE ONLY       MATRIX       PRESERV       SAMPLING         (1)       W.M. Willing W.M										:	Com	pany	<i>ı</i> :	BOPC	'O, LP	1	1.1	۱. I.	···· .				· ·	:	1. 1		( · · ·
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November 21, 2013

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

RE: POKER LAKE UNIT #261

Enclosed are the results of analyses for samples received by the laboratory on 11/19/13 10:40.

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:	11/19/2013	Sampling Date:	11/15/2013
Reported:	11/21/2013	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #261	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY CO., NM		

#### Sample ID: NSW #2 @ 6' (H302817-01)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	11/21/2013	ND	432	108	400	0.00	

#### Sample ID: ESW #1 @ 6' (H302817-02)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	11/21/2013	ND	432	108	400	0.00	

#### Sample ID: SSW #2 @ 6' (H302817-03)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	11/21/2013	ND	432	108	400	0.00	

#### Cardinal Laboratories

#### \*=Accredited Analyte

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Celey Di Keine

Celey D. Keene, Lab Director/Quality Manager



#### **Notes and Definitions**

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by 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

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Celeg Di Keine

Celey D. Keene, Lab Director/Quality Manager

# ARDINAL LABORATORIES

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

• • • • • •

101 East Marland, Hobbs, NM 88240

(575) 393-2326	FAX	(575)	393-24	76

Company Name:	Basin Environmental Service Technolo	gies,	LLC					BILL TO								ANAL	YSIS	REC	UEST	r		
Project Manager:	Joel Lowry						Р.	O. #	:													
Address: P.O. B	3ox 301						Co	omp	any:	B	SOPC	O, LP										
City: Lovington	State: NM	Zip	o: 88260			At	tn:		Tony	Savo	ie						]					
Phone #: (575)3	396-2378 Fax #: (575)39	6-142	29				Ad	ldre	SS:	522 V	N. Mi	arland									ł	
Project #:	Project Owner						Ci	ty:		Car	Isbad											
Project Name:	PLU # 261/78 10" Mainline 10/29/13	* • • •	-						NM	Zip:	{	38220	0	ω.	18)							
Project Location:	Eddy Co., NM		-	-				none				8730	Chloride	TPH (8015M)	BTEX (8021B)							
Sampler Name:	Ben J. Arguijo		-				Fa	x #:			<u> </u>		с Р	Hd	ХЭ				ĺ			
FOR LAD USE ONLY					MAT	RIX	· •••••	PR	ESERV	SAN	PLIN	IG		F	6							
Lab I.D. H3028 <i>11</i> 6	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER MASTEWATER	SOIL	OIL	SLUDGE OTHER :	ACID/BASE:	ICE / COOL OTHER :	DAT	Ē	TIME										
1	NSW #2 @ 6'	G	1		X				x	11/15	/13	200	х									
2	ESW <i>∦</i> 1 @ 6'	G	1		x				x	11/15	/13	210	х									
3	SSW 🗗 @ 6' 枨	G	1		x				x	11/15	/13	220	x									
	#2															 	L	L				
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Relinquished By:	Date: / Received By:	Phone Result: 🖸 Yes 🖸 No 1Add1 Phone #:
	11/19/13	Fax Result:  Yes  No! Add1 Fax #:
Muy Jui	Time: 0830	REMARKS:
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Rel/nquished/By:	Date: / / Received By:	
	1/19/13	
1/1/20	Time: any A and A	Please email results to bjarguijo@basinenv.com,
/////	0995 JUNC LLCE	TASavoie@BassPet.com & SJWalters@BassPet.com
Delivered By: (Circle One)	And the service condition	HECKED BY:
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Sampler - UPS - Bus - Other:	44 Ares Pres	"THAT & Changed as pu Seel 11/20/13.
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Revision 1.0	11/19/12 tind and the total about	nges. Please fax written changes to 575-393-2476
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