

# *Basin Environmental Service Technologies, LLC*

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## **REMEDIATION SUMMARY AND RISK-BASED SITE CLOSURE REQUEST**

**BOPCO, LP  
POKER LAKE UNIT #123 ILLEGAL DUMP  
Eddy County, New Mexico  
Unit Letter "K" (NE/SW), Section 22, Township 24 South, Range 31 East  
Latitude 32.200863° North, Longitude 103.767542° West  
NMOCD Reference #2RP-2134**

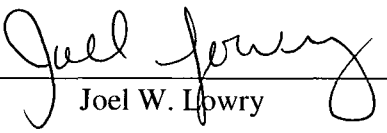
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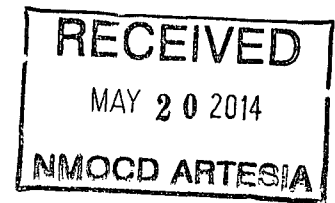
**BOPCO, LP  
522 W. Mermod, Suite 704  
Carlsbad, New Mexico 88220**

Prepared By:

**Basin Environmental Service Technologies, LLC  
3100 Plains Highway  
Lovington, New Mexico 88260**

**May 2014**

  
Joel W. Lowry  
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 and Risk-Based Site Closure Request* for the release site known as Poker Lake Unit #123 Illegal Dump (PLU #123). The legal description of the release site is Unit Letter "K" (NE/SW), Section 22, Township 24 South, Range 31 East, in Eddy County, New Mexico. The geographic coordinates of the release site are 32.2008630° North latitude and 103.767542° 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 December 22, 2013, during a routine inspection, BOPCO discovered a produced water transport truck illegally dumped approximately one hundred (100 bbls) of produced water at the PLU #123 well location. The New Mexico Oil Conservation Division (NMOCD)-Artesia District Office and BLM were notified immediately upon discovery. The "Release Notification and Corrective Action" (Form C-141) indicated approximately 6,858 ft<sup>2</sup> of an area just east of the well that had recently been remediated and reclaimed from a release that occurred on May 28, 2012. The Form C-141 is provided as Appendix A. General photographs of the release site are provided as Appendix B.

## 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 22, Township 24 South, Range 31 East. A depth to groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately two hundred and seventy-five feet (275') 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 #123 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, Toluene, Ethylbenzene, and Xylenes (BTEX) – 50 mg/Kg (ppm)
- Total Petroleum Hydrocarbons (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 April 27, 2014, Basin began delineation activities at the release site. A test trench (TT-1) was advanced in the center of the inferred primary pooling area. During the advancement of the test trench, three (3) soil samples (TT-1 @ 6', TT-1 @ 10' and TT-1 @ 14') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated the chloride concentrations of soil samples TT-1 @ 6', TT-1 @ 10' and TT-1 @ 14' were 2,040 ppm, 3,680 ppm and 3,000 ppm, respectively. Soil sample TT-1 @ 6' was also analyzed for concentrations of TPH which were determined to be less than the laboratory method detection limit (MDL). Further advancement of the delineation trench was limited by instability of the sand. A summary of "Concentrations of Benzene, BTEX, TPH & Chloride in Soil" is provided in Table 1. A "Site and Sample Location Map" is provided as Figure 2. Laboratory analytical reports are provided as Appendix C.

On April 28, 2014, Basin began excavating impacted soil at the release site. The floor of the excavation was advanced to approximately five feet (5') bgs. Excavation sidewalls were advanced until field tests suggested concentrations of BTEX, TPH and chloride were below NMOCD regulatory standards. Excavated soil was stockpiled on-site, pending final disposition.

On April 29, 2014, seven (7) confirmation soil samples (NSW #1, NSW #2, NSW #3, SSW #1, SSW #2, Floor #1 and Floor #3) were collected from the excavated area and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 48.0 ppm for soil sample Floor #1 to 464 ppm for soil sample SSW #2. Soil sample Floor #3 was also analyzed for concentrations of BTEX and TPH, which were determined to be less than the appropriate laboratory MDL. The excavation was advanced toward the west.

On April 30, 2014, seven (7) confirmation soil samples (SSW #3, SSW #4, WSW #1, WSW #2, NSW #4, Floor #4 and Floor #5) were collected from the excavated area and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 32.0 ppm for soil sample WSW #1 to 3,720 ppm for soil sample Floor #4. Soil sample Floor #5 was also analyzed for concentrations of BTEX and TPH, which were determined to be less than the appropriate laboratory MDL.

On May 1, 2014, one (1) confirmation soil samples (ESW) was collected from the east sidewall of the excavation and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated the chloride concentration was 144 ppm.

On May 2, 2014, upon receiving NMOCD approval, a one-foot (1') layer of caliche was installed and compacted in the floor of the excavation in the areas represented by soil sample Floor #4 and TT-1. This engineering control was designed to inhibit the vertical migration of contaminants left in-situ. Upon installing the approved layer of caliche, the remaining portion of the excavation was backfilled with locally purchase, non-impacted material.

Between April 29 and May 2, 2014, approximately six hundred and eighty cubic yards (680 yd<sup>3</sup>) of impacted material was transported to Lea Land, Inc. (NMOCD Permit #WM-01-035), for disposal. The final dimensions of the excavation were approximately twelve (12) to fifty feet (50') in width, one hundred feet (100') in length and four (4) to five feet (5') in depth.

Following backfilling, areas affected by the remediation activities were compacted and contoured to match the surrounding topography. The site will be reseeded with a BLM-approved seed mixture 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**

Confirmation soil samples collected from the floor and sidewalls of the PLU #123 excavation were analyzed by an NMOCD-approved laboratory, which determined concentrations of BTEX, TPH and chloride were less than NMOCD regulatory standards in each of the submitted soil samples, with the exception of the soil samples collected from test trench TT-1 and Floor #4. As per the NMOCD, a one-foot (1') layer of compacted caliche was installed in the floor of the excavation atop areas exhibiting elevated chloride concentrations. Based on these laboratory analytical results and the installation of an approved engineering control, Basin recommends BOPCO provide the NMOCD-Artesia District Office and the BLM a copy of this *Remediation Summary and Risk-Based Site Closure Request* and request the NMOCD grant site closure to the PLU #123 Illegal Dump 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.

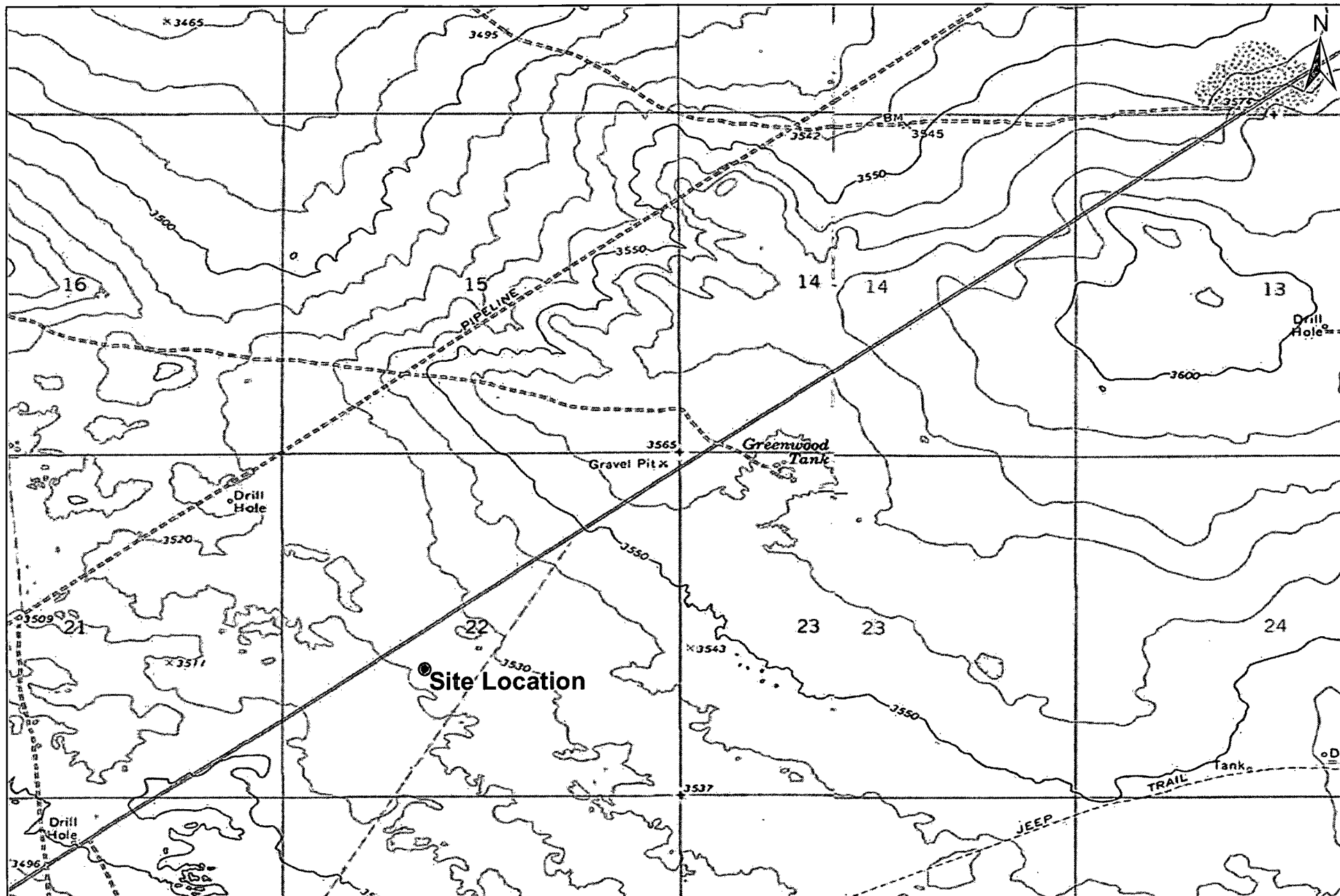
This report has been prepared for the benefit of BOPCO, LP. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or BOPCO, LP.

## **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**





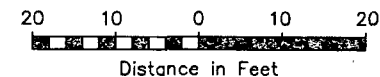
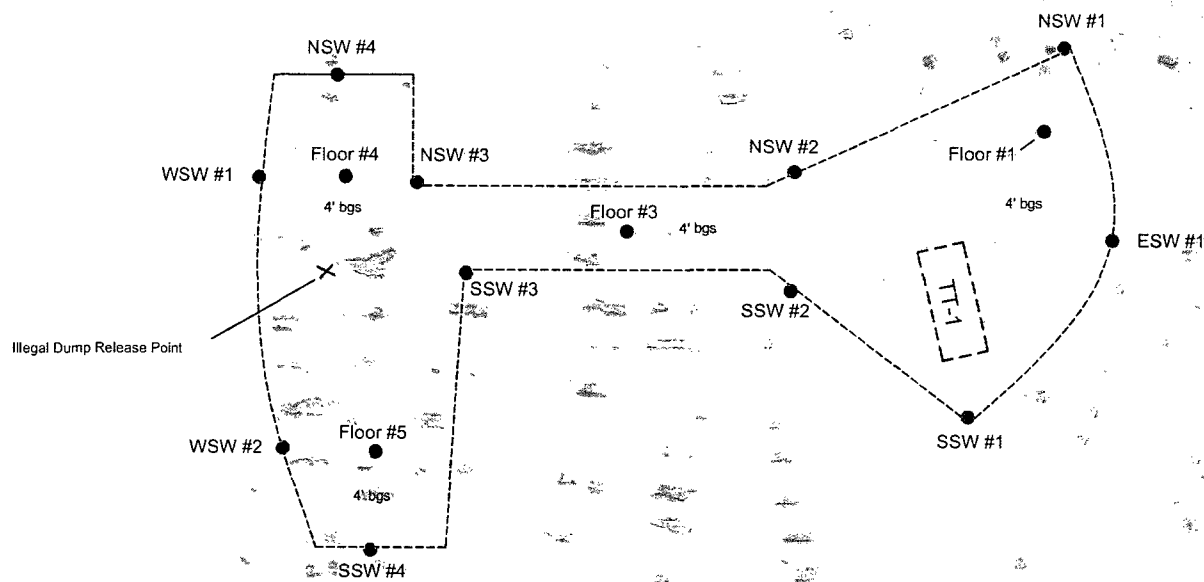
1,000 500 0 1,000 2,000  
Distance in Feet

**Figure 1**  
**Site Location Map**  
**BOPCO, LP**  
**Poker Lake Unit #123**  
**Eddy County, New Mexico**  
**NMOCD Reference #: 2RP-1203**



Basin Environmental Service Technologies, LLC  
3100 Plains Hwy.  
Lovington, NM 88260

Drawn By: BJA	Checked By: BRB
December 23, 2013	Scale: 1" = 2,000'



**Legend:**

- Excavation Extent
- Field Sample Location
- x Illegal Release Point

Figure 2  
Site and Sample Location Map  
BOPCO, L.P.  
PLU #123 Illegal Dump  
Eddy County, New Mexico

**Basin Environmental Services**

Prep By: JWL

Checked By: BJA

May 7, 2014

Scale 1"=20'

# **TABLES**

**TABLE 1**  
**CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL**

**BOPCO, LP**  
**PLU #123 ILLEGAL DUMP**  
**EDDY COUNTY, NEW MEXICO**  
**NMOCD REFERENCE #: 2RP-2128**

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M			TOTAL TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	4500 Cl-B CHLORIDE (mg/Kg)
				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)		
TT-1 @ 6'	6'	4/28/2014	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	-	2,040
TT-1 @ 10'	10'	4/28/2014	In-Situ	-	-	-	-	-	-	-	-	-	3,680
TT-1 @ 14'	14'	4/28/2014	In-Situ	-	-	-	-	-	-	-	-	-	3,000
NSW #1	2'	4/29/2014	In-Situ	-	-	-	-	-	-	-	-	-	96.0
NSW #2	2'	4/29/2014	In-Situ	-	-	-	-	-	-	-	-	-	80.0
NSW #3	2'	4/29/2014	In-Situ	-	-	-	-	-	-	-	-	-	112
SSW #1	2'	4/29/2014	In-Situ	-	-	-	-	-	-	-	-	-	256
SSW #2	2'	4/29/2014	In-Situ	-	-	-	-	-	-	-	-	-	464
Floor #1	4'	4/29/2014	In-Situ	-	-	-	-	-	-	-	-	-	48.0
Floor #3	4'	4/29/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	64.0
SSW #3	2'	4/30/2014	In-Situ	-	-	-	-	-	-	-	-	-	80.0
SSW #4	2'	4/30/2014	In-Situ	-	-	-	-	-	-	-	-	-	288
WSW #1	2'	4/30/2014	In-Situ	-	-	-	-	-	-	-	-	-	32.0
WSW #2	2'	4/30/2014	In-Situ	-	-	-	-	-	-	-	-	-	80.0
NSW #4	2'	4/30/2014	In-Situ	-	-	-	-	-	-	-	-	-	64.0
Floor #4	4'	4/30/2014	In-Situ	-	-	-	-	-	-	-	-	-	3,720
Floor #5	4'	4/30/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	304
ESW	2'	5/1/2014	In-Situ	-	-	-	-	-	-	-	-	-	144
<b>NMOCD Criteria</b>				<b>10</b>				<b>50</b>				<b>5,000</b>	<b>1,000</b>

- = Not analyzed.

## **APPENDICES**

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

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

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

*nJMW 1400 335161*

Name of Company: BOPCO, L.P. <i>260737</i>		OPERATOR	<input checked="" type="checkbox"/> Initial Report	<input type="checkbox"/> Final Report
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220		Contact: Tony Savoie		
Facility Name: PLU-123		Telephone No. 575-887-7329		
		Facility Type: Exploration and Production		
Surface Owner: Federal		Mineral Owner: Federal	API No. 30-015-28526	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	22	24S	31E	1980	South	1980	West	Eddy

Latitude N 32.200863 Longitude W 103.767542

NATURE OF RELEASE

Type of Release: Produced water	Volume of Release: 100 bbls	Volume Recovered: None
Source of Release: Unknown transport truck "Illegal Dump"	Date and Hour of Occurrence: 12/22/13 Time unknown	Date and Hour of Discovery: 12/22/13 at 3:09 p.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? NMOCD emergency #104 and BLM	
By Whom? Tony Savoie	Date and Hour: 12/22/13 at 3:42 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

An unknown transport truck illegally dumped approximately 100 bbls of produced water at the well location.

Describe Area Affected and Cleanup Action Taken.\*

The release affected approximately 6858 sq. ft. of an area just east of the well that had been recently remediated from a release that occurred on 5/28/12, and an area that had been reclaimed during the remediation effort. The remediation and pad interim reclamation were completed in October 2013, the final closure report and C-141 will be filed for the spill event of 5/28/12. A new remediation plan will be submitted for the illegal dump. The remediation will be done 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 the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: <i>Tony Savoie</i>		OIL CONSERVATION DIVISION	
Printed Name: Tony Savoie		Approved by Environmental Specialist: <i>Alio Brancor</i>	
Title: Waste Management and Remediation Specialist		Approval Date: JAN 03 2014	Expiration Date:
E-mail Address: <a href="mailto:tasavoie@basspet.com">tasavoie@basspet.com</a>		Conditions of Approval: Remediation per OCD Rule & Guidelines, & like approval by BLM. SUBMIT REMEDIATION	Attached <input type="checkbox"/>
Date: 12/26/13	Phone: 432-556-8730		

\* Attach Additional Sheets If Necessary

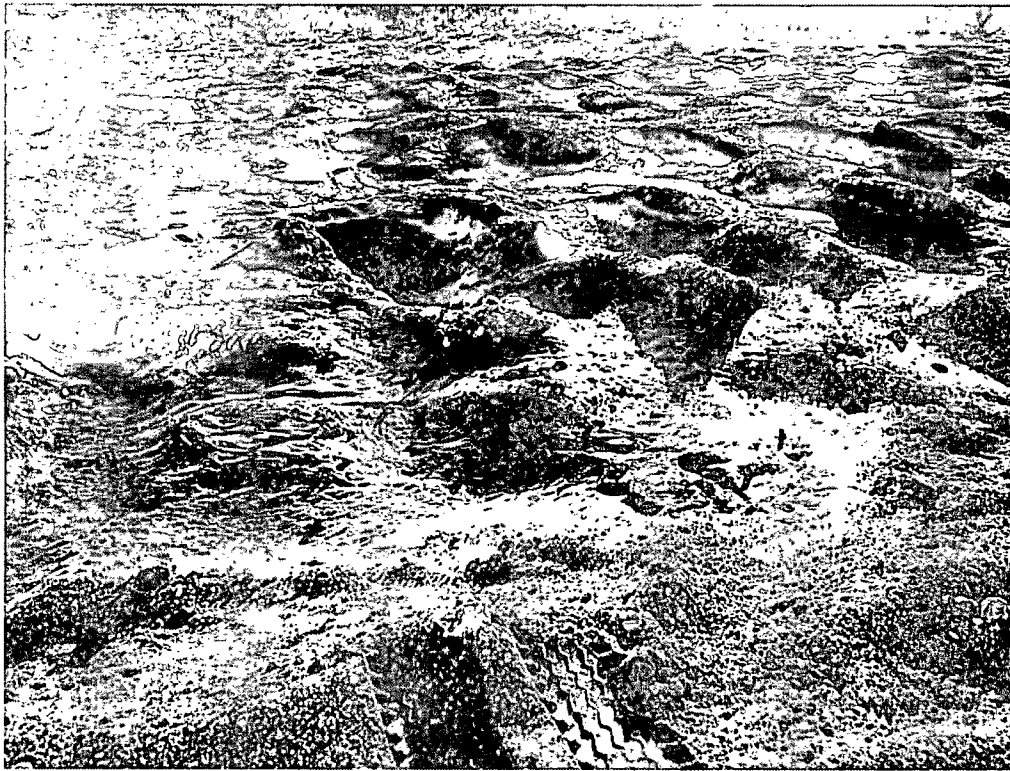
PROPOSAL NO LATER THAN:

*Feb 3, 2014*

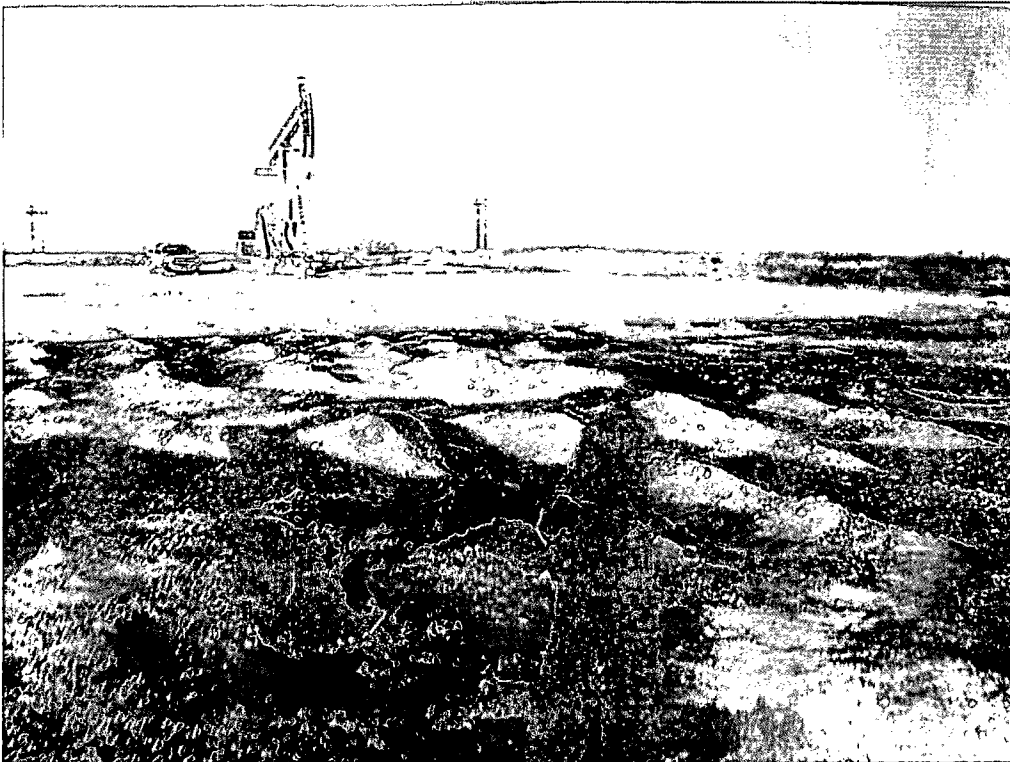
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**Appendix B**  
**Photographs**

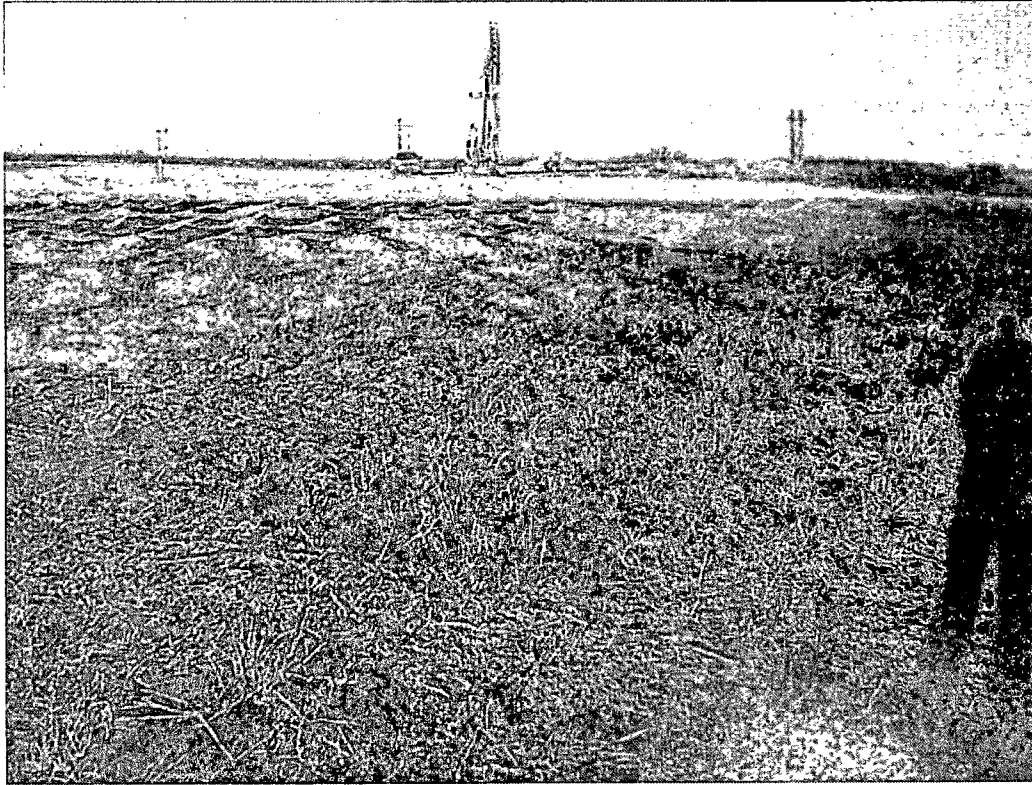




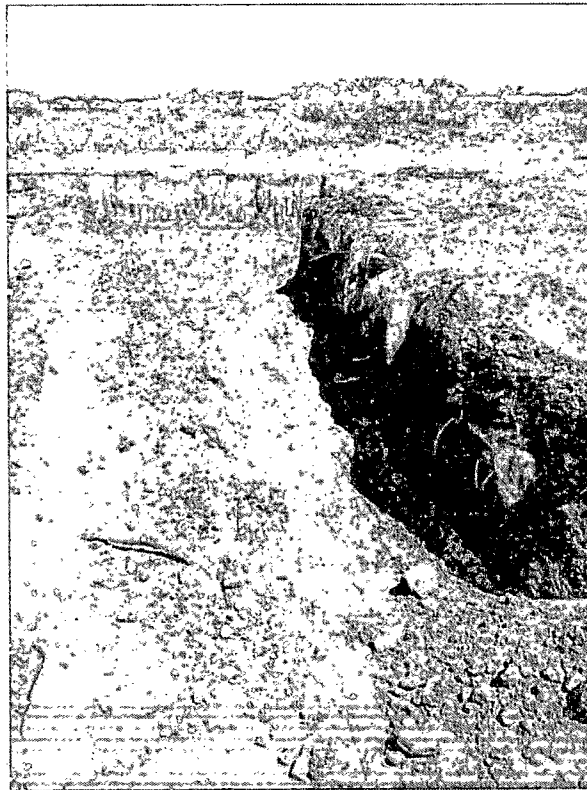
Photograph of the initial release at the PLU #123 Illegal Dump Release Site.



Photograph of the initial release at the PLU #123 Illegal Dump Release Site.



Photograph of the initial release at the PLU #123 Illegal Dump Release Site.



Photograph of excavation activities at the PLU #123 Illegal Dump Release Site.



Photograph of excavation activities at the PLU #123 Illegal Dump Release Site.



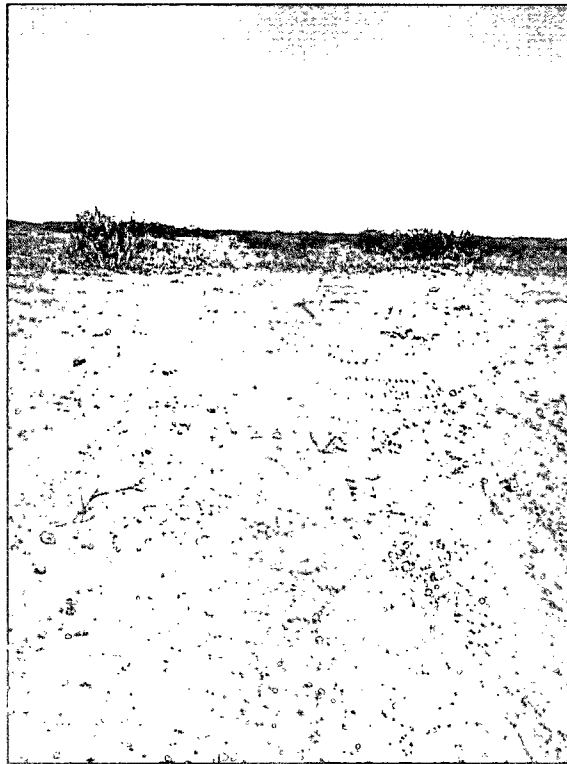
Photograph of excavation activities at the PLU #123 Illegal Dump Release Site.



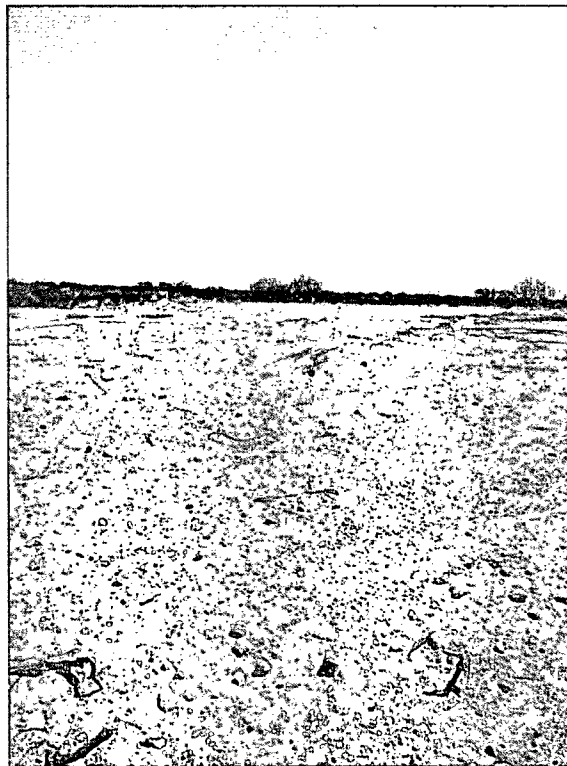
Photograph of the installation of caliche at the PLU #123 Illegal Dump Remediation Site.



Photograph of the installation of caliche at the PLU #123 Illegal Dump Remediation Site.



Photograph of the PLU #123 Illegal Dump Release Site after Remediation Activities.



Photograph of the PLU #123 Illegal Dump Release Site after Remediation Activities.

# **Appendix C**

## **Laboratory Analytical Reports**

May 05, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: PLU #123 ILLEGAL DUMP

Enclosed are the results of analyses for samples received by the laboratory on 04/29/14 12:00.

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

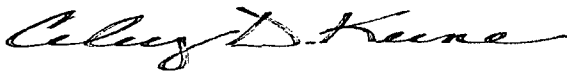
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 04/29/2014  
 Reported: 05/05/2014  
 Project Name: PLU #123 ILLEGAL DUMP  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 04/28/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: TT - 1 @ 6' (H401278-01)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2040	16.0	04/30/2014	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	05/01/2014	ND	184	92.1	200	3.15		
DRO >C10-C28	<10.0	10.0	05/01/2014	ND	203	101	200	3.24		
EXT DRO >C28-C35	<10.0	10.0	05/01/2014	ND						
<hr/>										
Surrogate: 1-Chlorooctane	108 %	65.2-140								
Surrogate: 1-Chlorooctadecane	106 %	63.6-154								

**Sample ID: TT - 1 @ 10' (H401278-02)**

Chloride, SM4500CI-B			mg/kg							
			Analyzed By: AP							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>3680</b>	16.0	05/01/2014	ND	400	100	400	0.00		

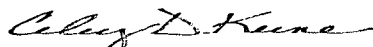
**Sample ID: TT - 1 @ 14' (H401278-03)**

Chloride, SM4500CI-B			mg/kg							
			Analyzed By: AP							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>3000</b>	16.0	05/01/2014	ND	400	100	400	0.00		

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Notes and Definitions**

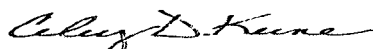
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

---

Cardinal Laboratories

\*=Accredited Analyte

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---

Celey D. Keene, Lab Director/Quality Manager



## Page 4 of 4

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

May 08, 2014

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: PLU #123 ILLEGAL DUMP

Enclosed are the results of analyses for samples received by the laboratory on 04/30/14 12:05.

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

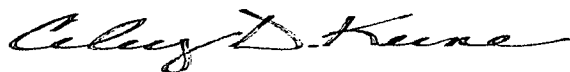
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 04/30/2014  
 Reported: 05/08/2014  
 Project Name: PLU #123 ILLEGAL DUMP  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 04/29/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: NSW #1 (H401301-01)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	05/06/2014	ND	400	100	400	3.92	

**Sample ID: NSW #2 (H401301-02)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	05/06/2014	ND	400	100	400	3.92	

**Sample ID: NSW #3 (H401301-03)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	05/06/2014	ND	400	100	400	3.92	

**Sample ID: SSW #1 (H401301-04)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	05/06/2014	ND	400	100	400	3.92	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 04/30/2014  
Reported: 05/08/2014  
Project Name: PLU #123 ILLEGAL DUMP  
Project Number: NONE GIVEN  
Project Location: EDDY COUNTY, NM

Sampling Date: 04/29/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SSW #2 (H401301-05)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	464	16.0	05/06/2014	ND	400	100	400	3.92	

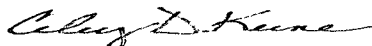
**Sample ID: FLOOR #1 (H401301-06)**

Chloride, SM4500Cl-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	05/06/2014	ND	400	100	400	3.92	

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 04/30/2014  
 Reported: 05/08/2014  
 Project Name: PLU #123 ILLEGAL DUMP  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 04/29/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: FLOOR #3 (H401301-07)**

BTEX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/05/2014	ND	2.17	109	2.00	0.904	
Toluene*	<0.050	0.050	05/05/2014	ND	2.33	117	2.00	2.93	
Ethylbenzene*	<0.050	0.050	05/05/2014	ND	2.25	112	2.00	2.74	
Total Xylenes*	<0.150	0.150	05/05/2014	ND	6.94	116	6.00	3.25	
Total BTEX	<0.300	0.300	05/05/2014	ND					

Surrogate: Dibromofluoromethane 96.0 % 61.3-142

Surrogate: Toluene-d8 107 % 71.3-129

Surrogate: 4-Bromofluorobenzene 99.0 % 65.7-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	05/06/2014	ND	400	100	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	05/06/2014	ND	186	92.9	200	5.79	
DRO >C10-C28	<10.0	10.0	05/06/2014	ND	218	109	200	6.85	
EXT DRO >C28-C35	<10.0	10.0	05/06/2014	ND					

Surrogate: 1-Chlorooctane 107 % 65.2-140

Surrogate: 1-Chlorooctadecane 105 % 63.6-154

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

ND	Analyte NOT DETECTED at or above the reporting limit
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Celey D. Keene, Lab Director/Quality Manager



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## Page 6 of 6

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FORM-006  
Revision 1.0

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-7.8 #54



May 09, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: PLU #123 ILLEGAL DUMP

Enclosed are the results of analyses for samples received by the laboratory on 05/01/14 9:05.

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

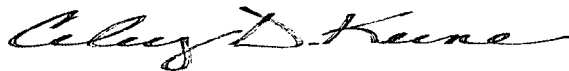
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Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

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. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 05/01/2014  
 Reported: 05/09/2014  
 Project Name: PLU #123 ILLEGAL DUMP  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 04/30/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SSW #3 (H401322-01)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	05/08/2014	ND	416	104	400	0.00	

**Sample ID: SSW #4 (H401322-02)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	05/08/2014	ND	416	104	400	0.00	

**Sample ID: WSW #1 (H401322-03)**

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	05/08/2014	ND	416	104	400	0.00	

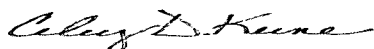
**Sample ID: WSW #2 (H401322-04)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	05/08/2014	ND	416	104	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 05/01/2014  
Reported: 05/09/2014  
Project Name: PLU #123 ILLEGAL DUMP  
Project Number: NONE GIVEN  
Project Location: EDDY COUNTY, NM

Sampling Date: 04/30/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: NSW #4 (H401322-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	05/08/2014	ND	416	104	400	0.00	

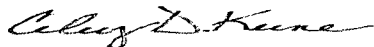
**Sample ID: FLOOR #4 (H401322-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3720	16.0	05/08/2014	ND	416	104	400	0.00	

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 05/01/2014  
 Reported: 05/09/2014  
 Project Name: PLU #123 ILLEGAL DUMP  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 04/30/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: FLOOR #5 (H401322-07)**

BTX 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2014	ND	2.37	119	2.00	0.0531		
Toluene*	<0.050	0.050	05/09/2014	ND	2.38	119	2.00	0.125		
Ethylbenzene*	<0.050	0.050	05/09/2014	ND	2.24	112	2.00	0.819		
Total Xylenes*	<0.150	0.150	05/09/2014	ND	6.91	115	6.00	0.228		
Total BTX	<0.300	0.300	05/09/2014	ND						

Surrogate: Dibromofluoromethane 97.4 % 61.3-142

Surrogate: Toluene-d8 107 % 71.3-129

Surrogate: 4-Bromofluorobenzene 103 % 65.7-141

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	05/08/2014	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	05/08/2014	ND	192	95.9	200	1.84		
DRO >C10-C28	<10.0	10.0	05/08/2014	ND	220	110	200	12.1		
EXT DRO >C28-C35	<10.0	10.0	05/08/2014	ND						

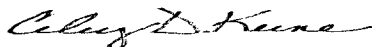
Surrogate: 1-Chlorooctane 96.2 % 65.2-140

Surrogate: 1-Chlorooctadecane 109 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

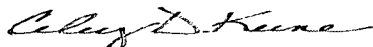
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RPD	Relative Percent Difference
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***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
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---

Celey D. Keene, Lab Director/Quality Manager



## Page 6 of 6

~~Verbal changes~~  
#54

May 08, 2014

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: PLU #123 ILLEGAL DUMP

Enclosed are the results of analyses for samples received by the laboratory on 05/02/14 9:10.

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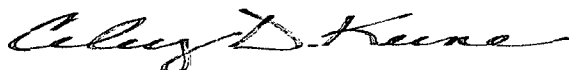
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Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

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. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 05/02/2014  
Reported: 05/08/2014  
Project Name: PLU #123 ILLEGAL DUMP  
Project Number: NONE GIVEN  
Project Location: EDDY COUNTY, NM

Sampling Date: 05/01/2014  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Amanda Ponce

**Sample ID: ESW (H401338-01)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	05/08/2014	ND	400	100	400	3.92	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Notes and Definitions**

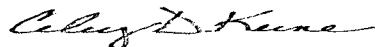
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

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## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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Relinquished By: <i>Math Taylor</i>		Date: 5/2/14	Received By: <i>B. Blakum</i>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
		Time: 8:00		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By: <i>B. Blakum</i>		Date: 5-2-14	Received By: <i>[Signature]</i>	REMARKS:	
		Time: 9:10		HOLD FOR TPH	
Delivered By: (Circle One)		Sample Condition		CHECKED BY:	
Sampler - UPS - Bus - Other:		Cool Intact		(Initials)	
7.8 C #54		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<i>[Signature]</i>	
		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Please email results to pm@basinenv.com, TASavoie@BassPet.com & SJWalters@BassPet.com	

FORM-006

Revision 1.0

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