

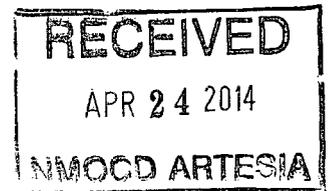
# *Basin Environmental Service Technologies, LLC*

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

Fax: (575) 396-1429



## **REMEDIATION SUMMARY AND SITE CLOSURE REQUEST**



**BOPCO, LP  
PLU BIG SINKS 35-24-30 USA #1H  
Eddy County, New Mexico  
Unit Letter "C" (NE/NW), Section 35, Township 24 South, Range 30 East  
Latitude 32.180523° North, Longitude 103.853389° West  
NMOCD Reference #2RP-2249**

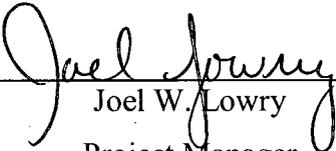
Prepared For:

**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**

**March 2014**

  
Joel W. Lowry  
Project Manager

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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 PLU Big Sinks 35-24-30 USA #1H. The legal description of the release site is Unit Letter "C" (NE/NW), Section 35, Township 24 South, Range 30 East, in Eddy County, New Mexico. The geographic coordinates of the release site are 32.180523° North latitude and 103.853389° 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 February 28, 2014, BOPCO witnessed a release on the PLU Big Sinks 35-24-30 USA #1H Well Pad. The "Release Notification and Corrective Action" (Form C-141) indicated that the casing valve was accidentally left open after repairs. When the well was put back in production, approximately ten barrels (10 bbls) of crude oil and ten barrels (10 bbls) of produced water were released onto the well pad. The initial Form C-141 indicated the release affected approximately eight thousand, two hundred and twenty square feet (8,220 ft<sup>2</sup>) of caliche well pad; mist from the release affected approximately three thousand square feet (3,000 ft<sup>2</sup>) of adjacent pasture land. During initial response activities, the valve was turned off and a vacuum truck was used to recover all the free-standing fluid. 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 35, Township 24 South, Range 30 East. A depth to groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at 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') 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 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 Big Sinks 35-24-30 USA #1H 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 Xylene (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 March 13, 2014, Basin began excavating impacted soil on the caliche well pad. The excavation was 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 March 17, 2014, ten (10) confirmation soil samples (Sec. 1A, Sec. 1B, Sec. 1C, Sec. 2A, Sec. 2B, Sec. 2C, Sec. 3A, Sec. 3B, Sec. 4A and Sec. 4B) 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 Sec. 1B to 624 ppm for soil sample Sec. 2B. Soil samples Sec. 1B and Sec. 3B were also analyzed for concentrations of TPH, which were determined to be less than the appropriate laboratory method detection limit (MDL) for each of the submitted soil samples. Soil sample Sec. 3B was also analyzed for concentrations of BTEX, which were determined to be less than the laboratory MDL. The excavation was advanced to the north. A summary of “Concentrations of Benzene, BTEX, TPH and 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 March 19, 2014, three (3) soil samples (Sec. 3C, Sec. 4C and Sec. 5A) were collected from the excavated area and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 16.0 ppm for soil samples Sec. 5A to 496 ppm for soil sample Sec. 3C. Soil sample Sec. 5A was also analyzed for concentrations of BTEX and TPH, which were determined to be less than the appropriate laboratory MDL.

Between March 17 and 21, 2014, approximately seven hundred and twenty cubic yards (720 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 one hundred feet (100') in width, one hundred and fifty feet (150') in length and six (6) to ten inches (10") in depth. Upon receiving laboratory analytical data from confirmation soil samples, the excavated area was backfilled with locally purchased, non-impacted caliche. Following backfilling, areas affected by the remediation activities were compacted and contoured to meet the needs of the well pad.

### **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 PLU Big Sinks 35-24-30 USA #1H 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. 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 Big Sinks 35-24-30 USA #1H 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:**

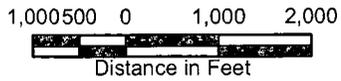
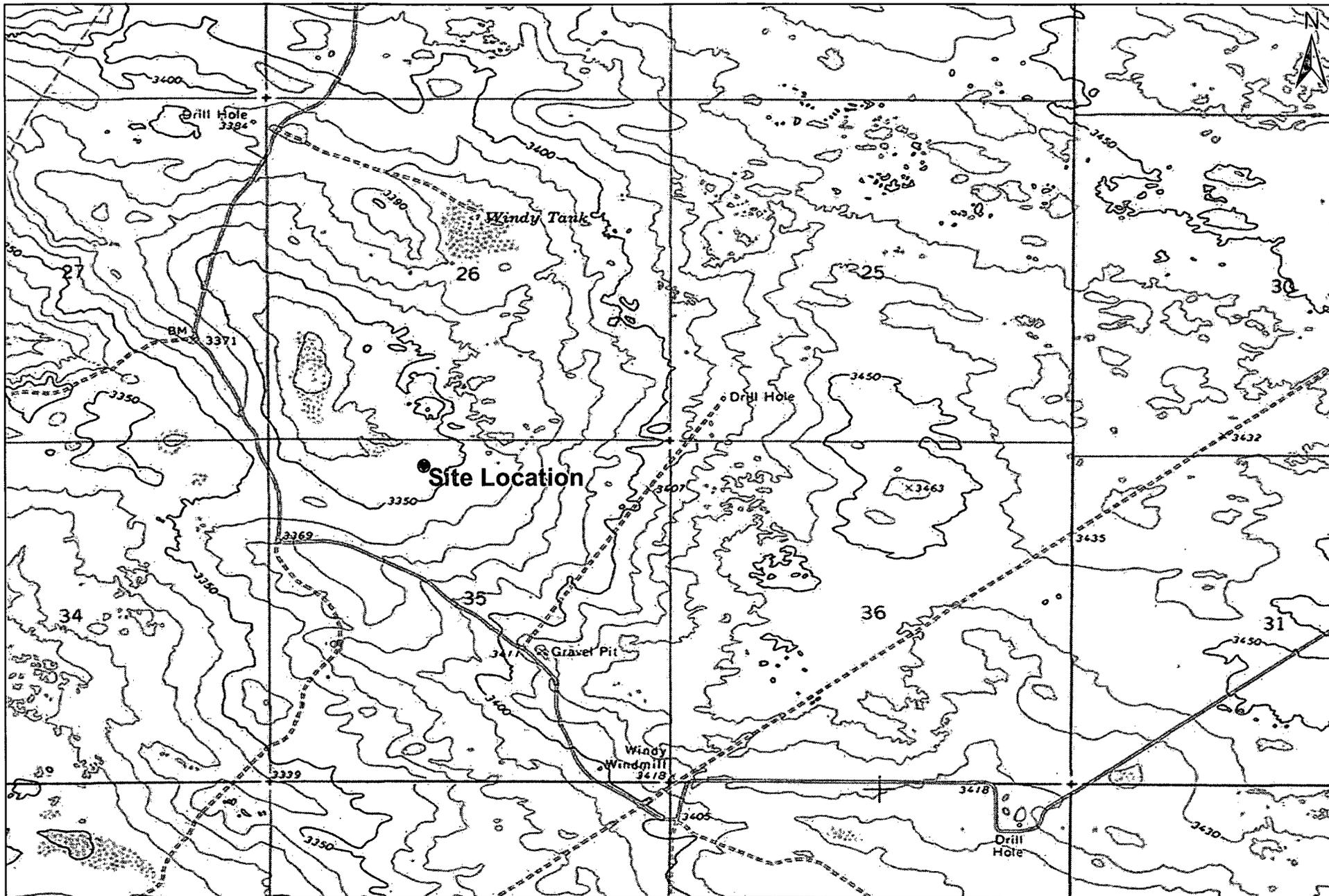
Copy 1: Mike Bratcher  
New Mexico Energy, Minerals and Natural Resources Department  
Oil Conservation Division (District 2)  
1301 E. Grand Avenue  
Artesia, NM 88210

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

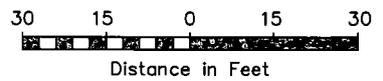
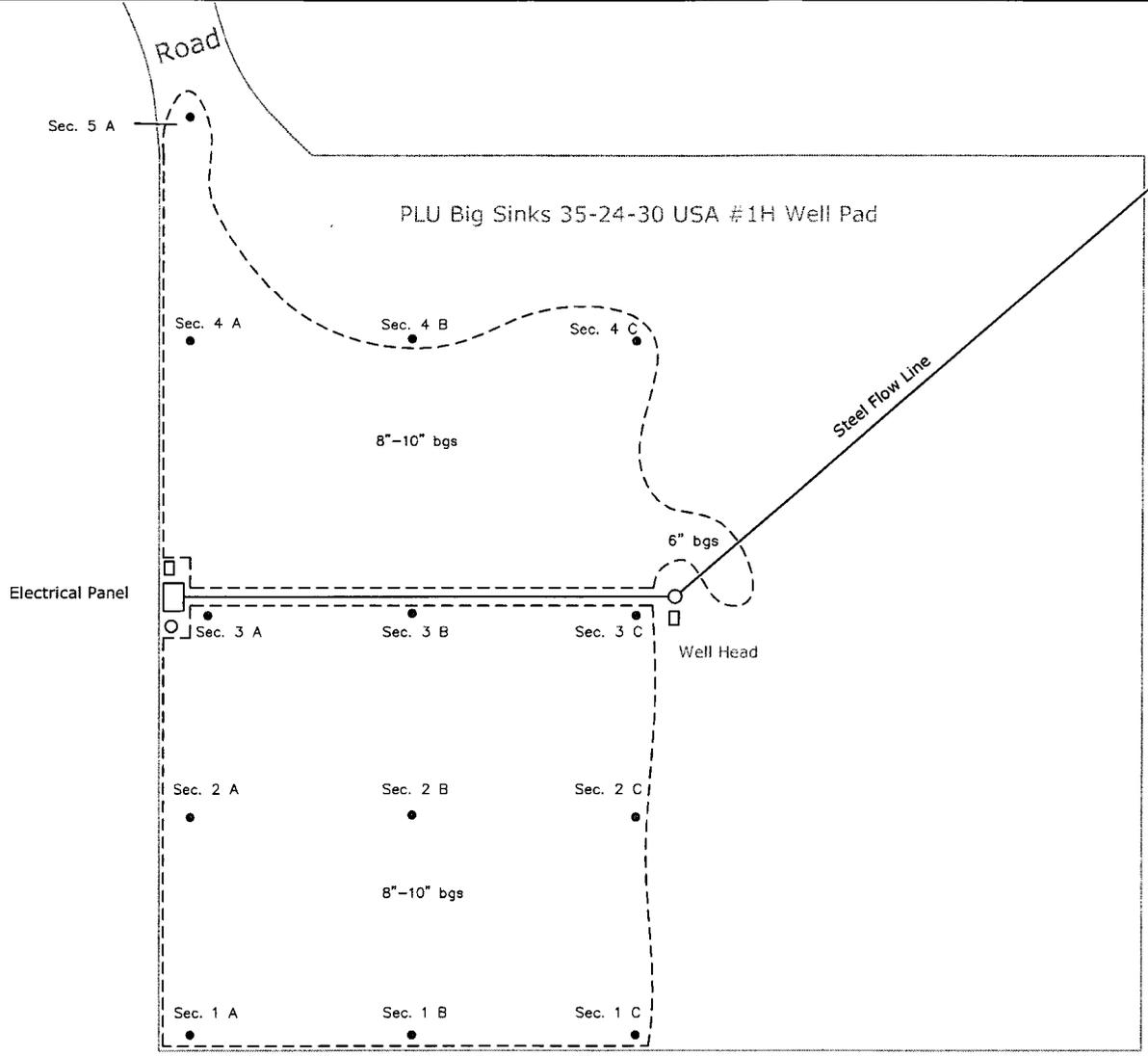


**Figure 1**  
**Site Location Map**  
**BOPCO, LP**  
**PLU Big Sinks 35-24-30 USA #1H**  
**Eddy County, New Mexico**



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

Drawn By: BJA	Checked By: BRB
April 3, 2014	Scale: 1" = 2000'



**Legend:**

- Excavation Extent
- Caliche Well Pad
- Pipeline
- Sample Location
- Electrical Conduit

**Figure 2**  
 Site & Sample Location Map  
 BOPCO, L.P.  
 PLU Big Sinks 35-24-30 USA #1H  
 Eddy County, New Mexico

**Basin Environmental Services**

Prep By: JWL	Checked By: BJA
April 3, 2014	Scale 1"=30'

# **TABLES**

TABLE 1

## CONCENTRATIONS OF BENZENE, BTEX, TPH &amp; CHLORIDE IN SOIL

BOPCO, LP  
 PLU BIG SINKS 35-24-30 USA #1H  
 EDDY COUNTY, NEW MEXICO

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)			
Sec. 1A	8-10"	3/17/2014	In-Situ	-	-	-	-	-	-	-	-	-	-	80.0
Sec. 1B	8-10"	3/17/2014	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
Sec. 1C	8-10"	3/17/2014	In-Situ	-	-	-	-	-	-	-	-	-	-	224
Sec. 2A	8-10"	3/17/2014	In-Situ	-	-	-	-	-	-	-	-	-	-	208
Sec. 2B	8-10"	3/17/2014	In-Situ	-	-	-	-	-	-	-	-	-	-	624
Sec. 2C	8-10"	3/17/2014	In-Situ	-	-	-	-	-	-	-	-	-	-	240
Sec. 3A	8-10"	3/17/2014	In-Situ	-	-	-	-	-	-	-	-	-	-	224
Sec. 3B	8-10"	3/17/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256
Sec. 4A	8-10"	3/17/2014	In-Situ	-	-	-	-	-	-	-	-	-	-	192
Sec. 4B	8-10"	3/17/2014	In-Situ	-	-	-	-	-	-	-	-	-	-	416
Sec. 3 C	8-10"	3/19/2014	In-Situ	-	-	-	-	-	-	-	-	-	-	496
Sec. 4 C	8-10"	3/19/2014	In-Situ	-	-	-	-	-	-	-	-	-	-	80.0
Sec. 5 A	8-10"	3/19/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
<b>NMOCDCriteria</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

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.

**Release Notification and Corrective Action**

nHMP 1410/22419

**OPERATOR**  Initial Report  Final Report

Name of Company: BOPCO, L.P. <u>260737</u>	Contact: Tony Savoie
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: PLU-Big Sinks-35-24-30 USA #1H	Facility Type: Exploration and Production

Surface Owner: USA	Mineral Owner: USA	API No. 30-015-40155
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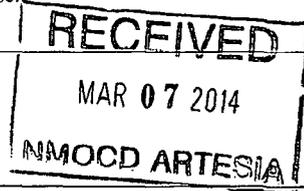
**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	35	24S	30E	360	North	1980	West	Eddy

Latitude N 32.180523 Longitude W 103.853389

**NATURE OF RELEASE**

Type of Release: Crude oil and produced water	Volume of Release: 10 bbls crude oil and 10 bbls produced water	Volume Recovered: 1 bbl total fluid
Source of Release: Open well casing valve	Date and Hour of Occurrence: 2/28/14 at 7:30 a.m.	Date and Hour of Discovery: 2/28/14 at 7:30 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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.\*  
The well had been shut in for repairs. The casing valve was accidentally left open when the well was put back on production. The valve was restored to a normally closed position.

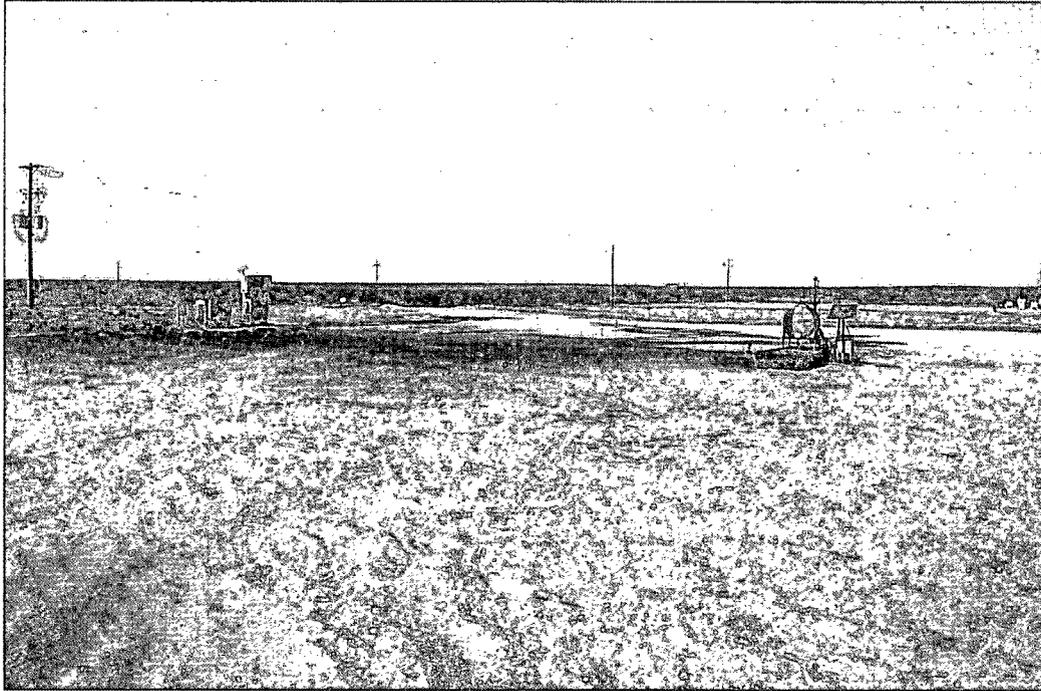
Describe Area Affected and Cleanup Action Taken.\*  
The release impacted approximately 8,220 sq. of caliche well pad area and misted approximately 3000 sq.ft. of pasture area. All of the free standing fluid was recovered with a vacuum truck.  
The release will be cleaned up in accordance to the NMOCD and BLM remediation 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.

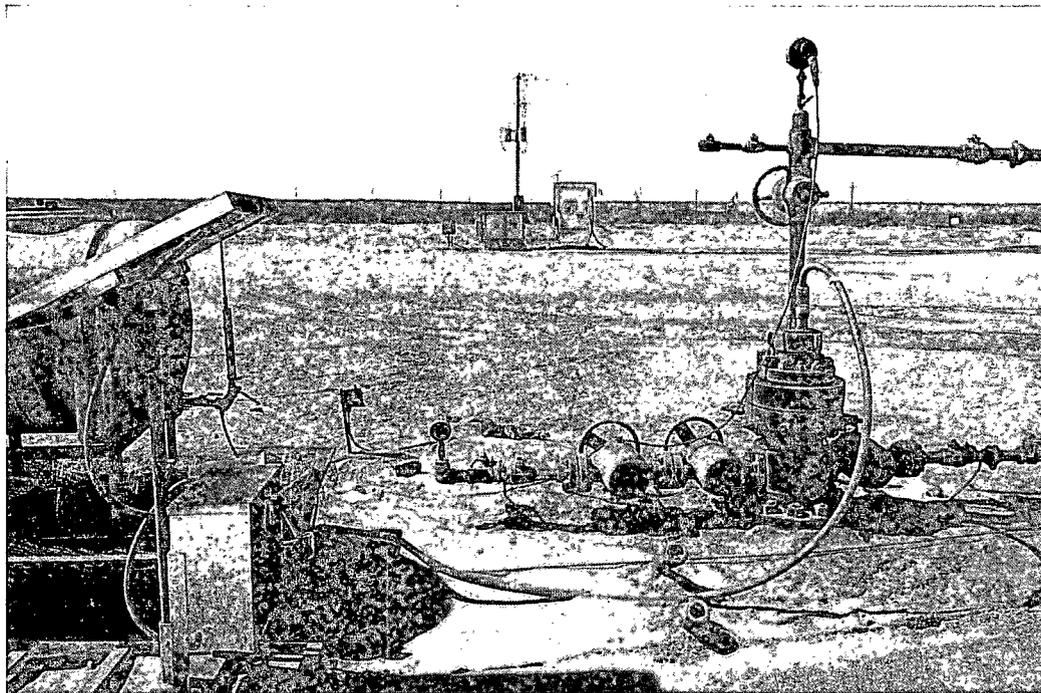
Signature: <u>Tony Savoie</u>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Tony Savoie	Approved by Environmental Specialist: <u>[Signature]</u>	
Title: Waste Management and Remediation Specialist	Approval Date: <u>4/11/14</u>	Expiration Date: <u>NA</u>
E-mail Address: <u>tasavoie@basspet.com</u>	Conditions of Approval: Remediation per OCD Rule & Guidelines. <b>SUBMIT REMEDIATION PROPOSAL NO LATER THAN:</b>	Attached <input type="checkbox"/>
Date: 3/7/14 Phone: 432-556-8730	<u>5/11/14</u>	<u>2RP-2249</u>

\* Attach Additional Sheets If Necessary

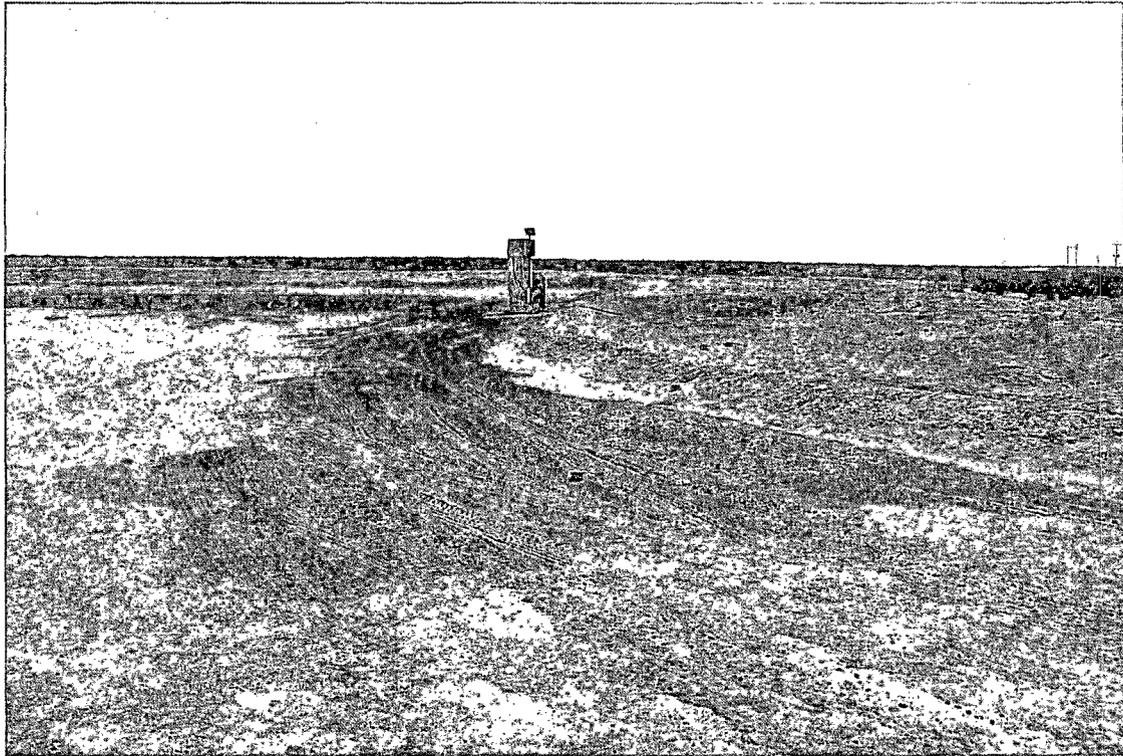
**Appendix B**  
**Photographs**



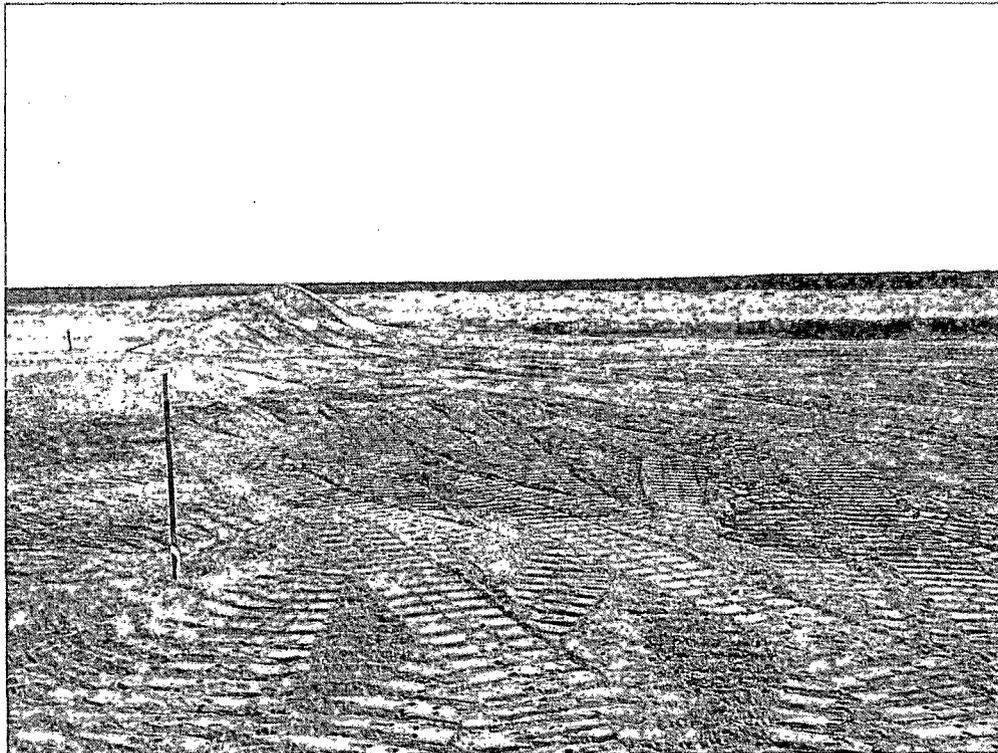
Photograph of the initial release on the PLU Big Sinks 35-24-30 USA #1H Well Pad.



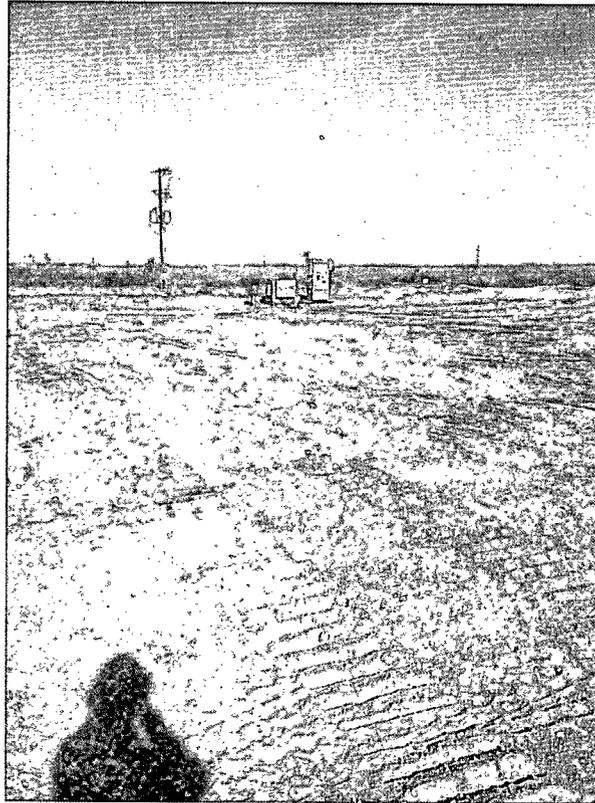
Photograph of the initial release on the PLU Big Sinks 35-24-30 USA #1H Well Pad.



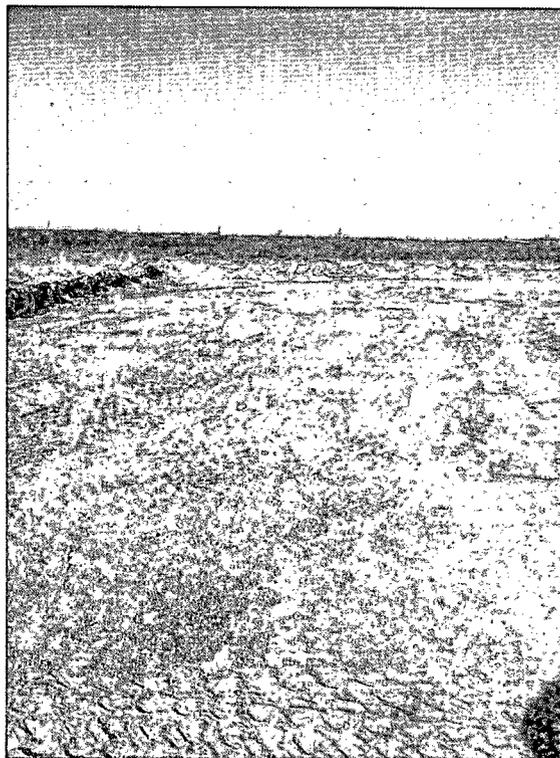
Photograph of the initial release on the PLU Big Sinks 35-24-30 USA #1H Well Pad.



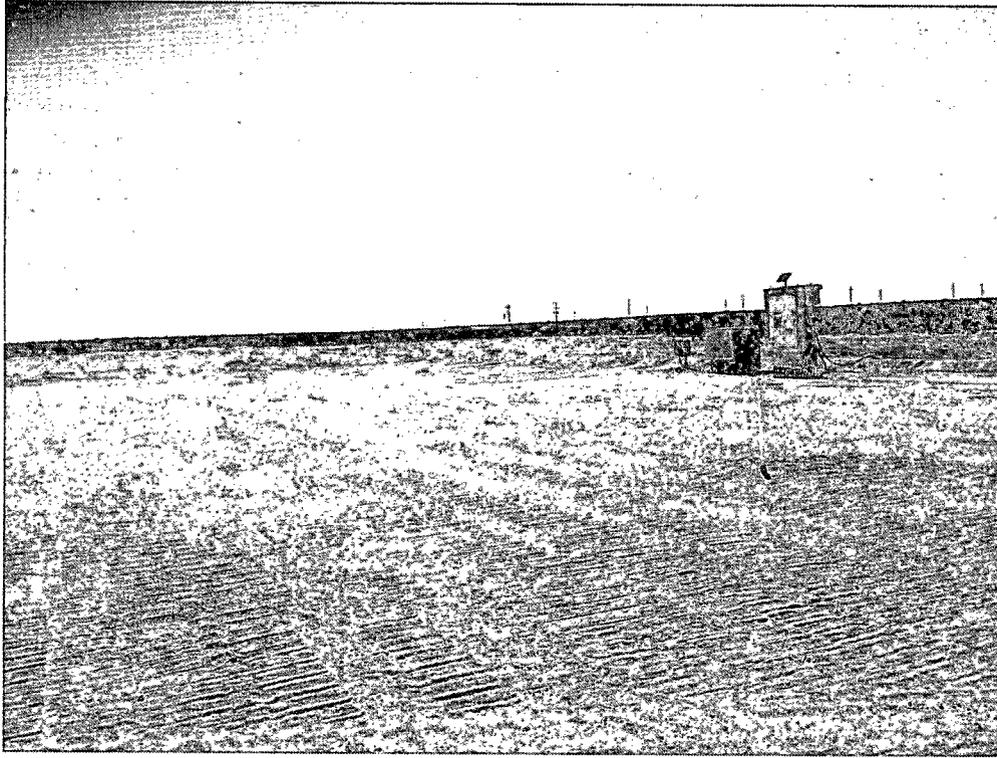
Photograph of excavation activities at the PLU Big Sinks 35-24-30 USA #1H Release Site.



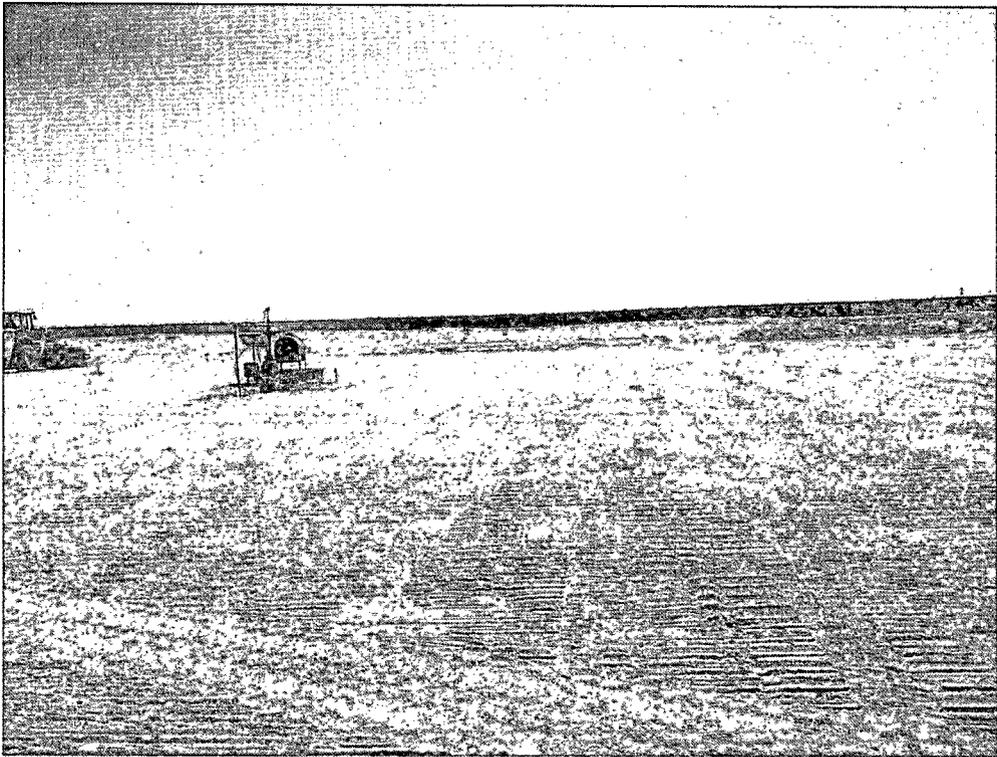
Photograph of excavation activities at the PLU Big Sinks 35-24-30 USA #1H Release Site.



Photograph of excavation activities at the PLU Big Sinks 35-24-30 USA #1H Release Site.



Photograph of the PLU Big Sinks 35-24-30 USA #1H Well Pad after remediation activities.



Photograph of the PLU Big Sinks 35-24-30 USA #1H Well Pad after remediation activities.

**Appendix C**  
**Laboratory Analytical Reports**

March 25, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: PLU BIG SINKS 35-24-30 USA #1H

Enclosed are the results of analyses for samples received by the laboratory on 03/18/14 10:55.

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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

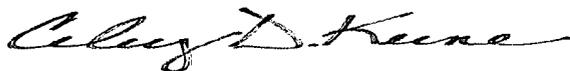
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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:	03/18/2014	Sampling Date:	03/17/2014
Reported:	03/25/2014	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 35-24-30 USA #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: SEC. 1A (H400812-01)**

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>80.0</b>	16.0	03/21/2014	ND	448	112	400	7.41	

**Sample ID: SEC. 1B (H400812-02)**

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>48.0</b>	16.0	03/21/2014	ND	448	112	400	7.41	
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	03/21/2014	ND	203	101	200	12.5	
DRO >C10-C28	<10.0	10.0	03/21/2014	ND	199	99.3	200	6.74	
EXT DRO >C28-C35	<10.0	10.0	03/21/2014	ND					

Surrogate: 1-Chlorooctane 98.2 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 98.5 % 63.6-154

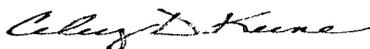
**Sample ID: SEC. 1C (H400812-03)**

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>224</b>	16.0	03/21/2014	ND	448	112	400	7.41	

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.



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:	03/18/2014	Sampling Date:	03/17/2014
Reported:	03/25/2014	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 35-24-30 USA #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: SEC. 2A (H400812-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	03/21/2014	ND	448	112	400	7.41		

**Sample ID: SEC. 2B (H400812-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	624	16.0	03/21/2014	ND	448	112	400	7.41		

**Sample ID: SEC 2C (H400812-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	03/21/2014	ND	448	112	400	7.41		

**Sample ID: SEC. 3A (H400812-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	03/21/2014	ND	448	112	400	7.41		

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\*=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:	03/18/2014	Sampling Date:	03/17/2014
Reported:	03/25/2014	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 35-24-30 USA #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: SEC. 3B (H400812-08)**

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	03/21/2014	ND	2.07	104	2.00	12.1		
Toluene*	<0.050	0.050	03/21/2014	ND	1.99	99.3	2.00	11.8		
Ethylbenzene*	<0.050	0.050	03/21/2014	ND	1.94	96.8	2.00	11.8		
Total Xylenes*	<0.150	0.150	03/21/2014	ND	5.63	93.8	6.00	11.2		
Total BTEX	<0.300	0.300	03/21/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 104 % 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	256	16.0	03/21/2014	ND	448	112	400	7.41		

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	03/21/2014	ND	203	101	200	12.5		
DRO >C10-C28	<10.0	10.0	03/21/2014	ND	199	99.3	200	6.74		
EXT DRO >C28-C35	<10.0	10.0	03/21/2014	ND						

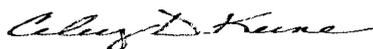
Surrogate: 1-Chlorooctane 90.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 98.3 % 63.6-154

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\*=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:	03/18/2014	Sampling Date:	03/17/2014
Reported:	03/25/2014	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 35-24-30 USA #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: SEC. 4A (H400812-09)**

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>192</b>	16.0	03/21/2014	ND	448	112	400	7.41	

**Sample ID: SEC. 4B (H400812-10)**

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>416</b>	16.0	03/21/2014	ND	448	112	400	7.41	

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Celestine D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

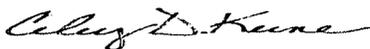
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported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

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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March 28, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: PLU BIG SINKS 35-24-30 USA #1H

Enclosed are the results of analyses for samples received by the laboratory on 03/20/14 12:55.

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 [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,

A handwritten signature in black ink that reads "Celey D. Keene".

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:	03/20/2014	Sampling Date:	03/19/2014
Reported:	03/28/2014	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 35-24-30 USA #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: SEC. 3 C (H400848-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	496	16.0	03/26/2014	ND	432	108	400	3.77		

**Sample ID: SEC. 4 C (H400848-02)**

Chloride, SM4500CI-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	03/26/2014	ND	416	104	400	0.00		

**Sample ID: SEC. 5 A (H400848-03)**

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	03/27/2014	ND	1.98	98.8	2.00	8.58		
Toluene*	<0.050	0.050	03/27/2014	ND	1.90	95.2	2.00	8.25		
Ethylbenzene*	<0.050	0.050	03/27/2014	ND	1.88	93.8	2.00	7.88		
Total Xylenes*	<0.150	0.150	03/27/2014	ND	5.51	91.8	6.00	9.07		
Total BTEX	<0.300	0.300	03/27/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 107 % 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	16.0	16.0	03/26/2014	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	

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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:	03/20/2014	Sampling Date:	03/19/2014
Reported:	03/28/2014	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 35-24-30 USA #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

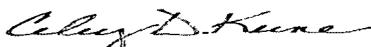
**Sample ID: SEC. 5 A (H400848-03)**

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	03/25/2014	ND	212	106	200	7.01		
DRO >C10-C28	<10.0	10.0	03/25/2014	ND	202	101	200	4.01		
EXT DRO >C28-C35	<10.0	10.0	03/25/2014	ND						
<hr/>										
Surrogate: 1-Chlorooctane	96.7 %	65.2-140								
Surrogate: 1-Chlorooctadecane	101 %	63.6-154								

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

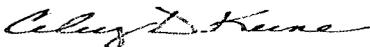
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

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Celey D. Keene, Lab Director/Quality Manager

