

# *Basin Environmental Service Technologies, LLC*

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

**BOPCO, LP  
BIG EDDY UNIT #143  
Eddy County, New Mexico  
Unit Letter "N" (SE/SW), Section 19, Township 21 South, Range 28 East  
Latitude 32.460336° North, Longitude 104.128163° West  
NMOCD Reference #2RP-2415**

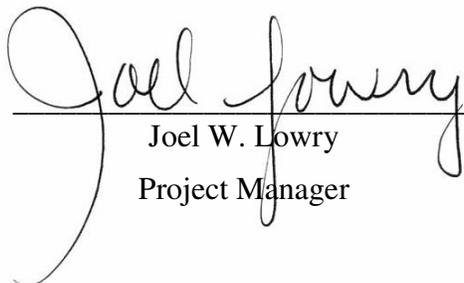
Prepared For:

**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**

**January 2015**

  
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 Big Eddy Unit #143 (BEU #143). The legal description of the release site is Unit Letter "N" (SE/SW), Section 19, Township 21 South, Range 28 East, in Eddy County, New Mexico. The geographic coordinates of the release site are 32.460336° North latitude and 104.128163° 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 July 27, 2014, BOPCO discovered a release had occurred at the BEU #143. Failure of the stuffing box packing resulted in the release of eight barrels (8 bbls) of produced water. The wellhead was equipped with an "E-pot" designed to shut down the unit in the case of a stuffing box failure; the "E-pot" failed to operate properly. The "Release Notification and Corrective Action" (Form C-141) indicated the release affected approximately two thousand, six hundred and twenty-five, (2,625 ft<sup>2</sup>) of caliche well pad. During initial response activities the stuffing box packing and "E-pot" float switch were replaced. 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 19, Township 21 South, Range 28 East. A depth to groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately seventy-five (75) to one hundred feet (100') below ground surface (bgs). Based on the New Mexico Oil Conservation Division (NMOCD) ranking system, ten (10) 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') 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') 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 BEU #143 release site has an initial ranking score of ten (10) points. The soil remediation levels for a site with a ranking score of ten (10) points are as follows:

- Benzene – 10 mg/Kg (ppm)
- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) – 50 mg/Kg (ppm)
- Total Petroleum Hydrocarbons (TPH) – 1,000 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 25, 2014, Basin began excavating impacted soil at the release site. The excavation floor and sidewalls were advanced until field tests suggested concentrations of BTEX, TPH and chloride were below NMOCD regulatory guidelines. Excavated soil was stockpiled on-site, pending final disposition. A summary of “Concentrations of Benzene, BTEX, TPH & Chloride in Soil” is provided in Table 1. A “Site & Sample Location Map” is provided as Figure 2. Laboratory analytical reports are provided as Appendix C.

On November 26, 2014, thirteen (13) soil samples (SFL NSW #1, SFL NSW #2, SFL ESW #1, SFL ESW #2, SFL SSW #1, SFL SSW #2, SFL SSW #3, SFL N. Floor #1, SFL N. Floor #2, SFL N. Floor #3, SFL S. Floor #1, SFL S. Floor #2 and SFL S. Floor #3) were collected from the excavated area south of the flow line and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from less than the laboratory method detection limit (MDL) for soil samples SFL NSW #1 and SFL ESW #1 to 1,200 ppm for soil sample SFL SSW #3. Soil sample SFL N. Floor #2 was also analyzed for concentrations of BTEX and TPH, which were determined to be less than the appropriate laboratory MDL. The excavation was advanced in the areas represented by soil sample SFL SSW #3 and SFL S. Floor #3.

On December 1, 2014, ten (10) confirmation soil samples (SFL WSW #1, SFL WSW #2, SFL NSW #4, SFL NSW #5, SFL SSW #4, SFL SSW #5, SFL N. Floor #4, SFL N. Floor #5, SFL S. Floor #4 and SFL S. Floor #5) were collected from the excavated area south of the flow line and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from less than the laboratory MDL for soil sample SFL WSW #1 to 544 ppm for soil sample SFL NSW #4. Soil samples SFL N. Floor #4 and SFL S. Floor #4 were also analyzed for concentrations of BTEX and TPH, which were determined to be less than the appropriate laboratory MDL. Further excavation in the area represented by soil sample SFL NSW #4 was limited due to the presence of an active pump jack.

On December 2, 2014, eight (8) confirmation soil samples (NFL NSW #1, NFL ESW #1, NFL SSW #1, NFL SSW #2, NFL N. Floor #1, NFL E. Floor #1, NFL S. Floor #1 and NFL S Floor #2) were collected from the excavated area north of the flow line and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 80.0 ppm for soil samples NFL SSW #2 and NFL N. Floor #1 to 416 ppm for soil sample NFL SSW #1. Soil samples NFL N. Floor #1 and NFL S. Floor #1 were also analyzed for concentrations of BTEX and TPH, which were determined to be less than the appropriate laboratory MDL.

On December 3, 2014, three (3) confirmation soil samples (SFL SSW #3b, NFL NSW #2 and NFL N. Floor #2) were collected from the excavated areas and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 80.0 ppm for soil sample NFL NSW #2 to 400 ppm for soil sample NFL N. Floor #2.

In addition, a delineation trench (SFL DT-1) was advanced on the south side of the pump jack in the area represented by soil sample SFL N Floor #3. During the advancement of the delineation trench, two (2) soil samples (SFL DT-1 @ 6' and SFL DT-1 @ 7') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated

chloride concentrations ranged from 144 ppm for soil sample SFL DT-1 @ 6' to 32.0 ppm for soil sample SFL DT-1 @ 7'.

On December 4, 2014, four (4) confirmation soil samples (NFL NSW #3, NFL SSW #3, NFL N. Floor #3 and NFL S. Floor #3) were collected from the excavated areas and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 96.0 ppm for soil sample NFL N Floor #3 to 1,090 ppm for soil sample NFL SSW #3.

On December 6, 2014, six (6) confirmation soil samples (NFL NSW #4, NFL SSW #4, NFL WSW #4, NFL N. Floor #4, NFL S. Floor #3b and NFL S. Floor #4) were collected from the excavated areas and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 32.0 ppm for soil samples NFL WSW #4 to 304 ppm for soil sample NFL S. Floor #4. Soil sample NFL N. Floor #4 was also analyzed for concentrations of BTEX and TPH, which were determined to be less than the appropriate laboratory MDL.

On December 9, 2014, a twenty-millimeter (20-mm) polyethylene liner was installed in the floor of the excavation in the areas represented by soil samples NFL S. Floor #3, SFL N. Floor #3 and SFL S. Floor #3. This engineering control was designed to inhibit the vertical migration of contaminants left in-situ. A one-foot (1') layer of pad-sand was installed above and below the liner to help maintain its integrity during backfilling activities. Upon installing polyethylene liner, the excavation was backfilled with locally purchase, non-impacted material.

Between December 1 and December 12, 2014, approximately one thousand, seven hundred sixty cubic yards (1,760 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 on the south side of the pump jack were twenty-five (25) to thirty feet (30') in width, two hundred feet (200') in length and four feet (4') in depth. The final dimensions of the excavation on the north side of the pump jack were twenty-five (25) to thirty-five feet (35') in width, two hundred feet (200') in length and four feet (4') in depth.

## **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 BEU #143 excavation were analyzed by an NMOCD-approved laboratory, which determined concentrations of BTEX, TPH and chloride were less than NMOCD regulatory guidelines in each of the submitted soil samples, with the exception of soil samples SFL NSW #4 and NFL SSW #3 and those collected in the areas represented by soil samples NFL S. Floor #3, SFL N. Floor #3 and SFL S. Floor #3. Further excavation was limited in the areas represented by soil samples SFL NSW #4 and NFL SSW #3 due to the presence of an active pump jack. A twenty-millimeter (20-mm) polyethylene liner was installed in the floor of the excavation atop affected soil exhibiting chloride concentrations above NMOCD regulatory guidelines in the areas represented by soil samples NFL S. Floor #3, SFL N. Floor #3 and SFL S. Floor #3. 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 BEU #143 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

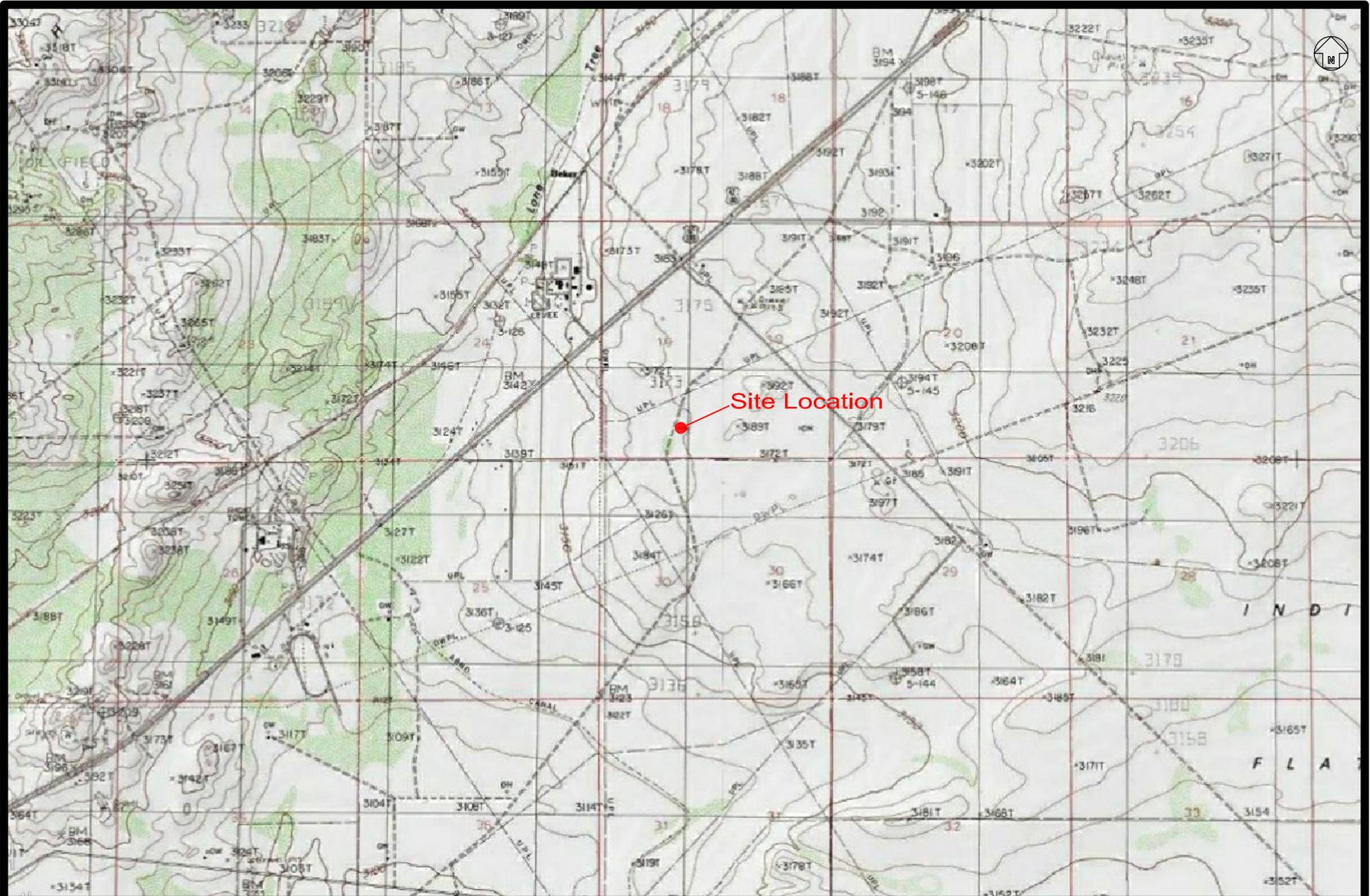


Figure 1  
Site Location Map  
BOPCO, LP  
Big Eddy Unit #143  
Eddy County, New Mexico  
NMOCD Ref# 2RP-2415

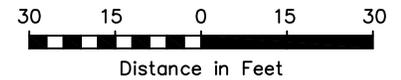
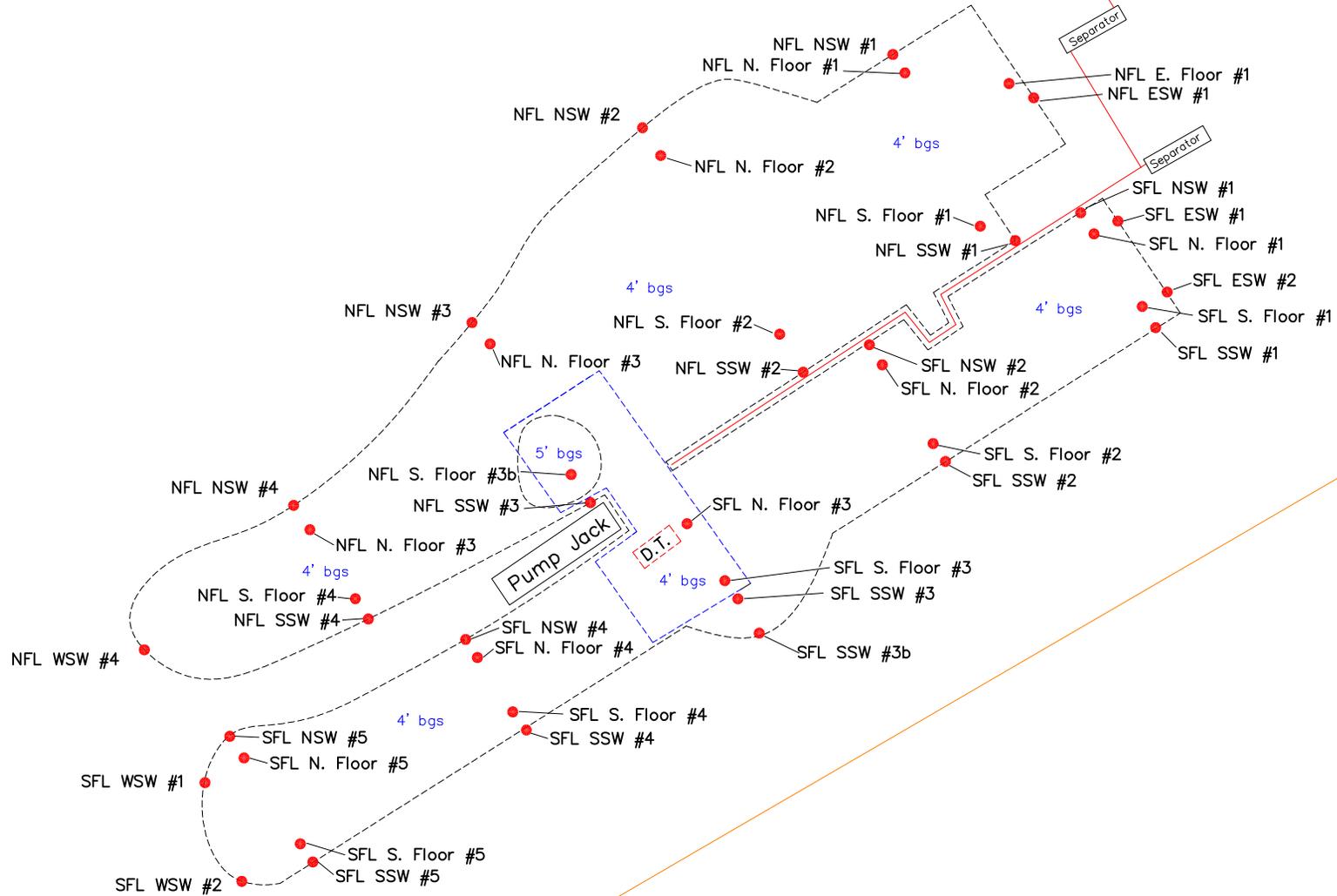
## Basin Environmental Service Technologies

Prep By: JWL

Checked By: BJA

December 19, 2014

Scale 1"=3000'



Legend:

- Excavation Extent
- Sample Location
- Lined Portion of Excavation
- Caliche Well Pad

Figure 2  
Site & Sample Location Map  
BOPCO, L.P.  
Big Eddy Unit #143  
Eddy County, New Mexico  
NMOCDD Ref # 2RP-2415

Basin Environmental Services

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

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

BOPCO, LP  
BIG EDDY UNIT #143  
EDDY COUNTY, NEW MEXICO  
NMOCD REFERENCE #: 2RP-2415

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)		
SFL NSW #1	2'	11/26/2014	In-Situ	-	-	-	-	-	-	-	-	-	<16.0
SFL NSW #2	2'	11/26/2014	In-Situ	-	-	-	-	-	-	-	-	-	464
SFL ESW #1	2'	11/26/2014	In-Situ	-	-	-	-	-	-	-	-	-	<16.0
SFL ESW #2	2'	11/26/2014	In-Situ	-	-	-	-	-	-	-	-	-	32.0
SFL SSW #1	2'	11/26/2014	In-Situ	-	-	-	-	-	-	-	-	-	48.0
SFL SSW #2	2'	11/26/2014	In-Situ	-	-	-	-	-	-	-	-	-	208
SFL SSW #3	2'	11/26/2014	Excavated	-	-	-	-	-	-	-	-	-	1,200
SFL N. Floor #1	4'	11/26/2014	In-Situ	-	-	-	-	-	-	-	-	-	448
SFL N. Floor #2	4'	11/26/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.0
SFL N. Floor #3	4'	11/26/2014	In-Situ	-	-	-	-	-	-	-	-	-	1,020
SFL S. Floor #1	4'	11/26/2014	In-Situ	-	-	-	-	-	-	-	-	-	32.0
SFL S. Floor #2	4'	11/26/2014	In-Situ	-	-	-	-	-	-	-	-	-	80.0
SFL S. Floor #3	4'	11/26/2014	Excavated	-	-	-	-	-	-	-	-	-	912
SFL WSW #1	2'	12/1/2014	In-Situ	-	-	-	-	-	-	-	-	-	<16.0
SFL WSW #2	2'	12/1/2014	In-Situ	-	-	-	-	-	-	-	-	-	32.0
SFL NSW #4	2'	12/1/2014	In-Situ	-	-	-	-	-	-	-	-	-	544
SFL NSW #5	2'	12/1/2014	In-Situ	-	-	-	-	-	-	-	-	-	224
SFL SSW #4	2'	12/1/2014	In-Situ	-	-	-	-	-	-	-	-	-	304
SFL SSW #5	2'	12/1/2014	In-Situ	-	-	-	-	-	-	-	-	-	224
SFL N. Floor #4	4'	12/1/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	320
SFL N. Floor #5	4'	12/1/2014	In-Situ	-	-	-	-	-	-	-	-	-	112
SFL S. Floor #4	4'	12/1/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	112
SFL S. Floor #5	4'	12/1/2014	In-Situ	-	-	-	-	-	-	-	-	-	128
NFL NSW #1	2'	12/2/2014	In-Situ	-	-	-	-	-	-	-	-	-	112
NFL ESW #1	2'	12/2/2014	In-Situ	-	-	-	-	-	-	-	-	-	192
NFL SSW #1	2'	12/2/2014	In-Situ	-	-	-	-	-	-	-	-	-	416
NFL SSW #2	2'	12/2/2014	In-Situ	-	-	-	-	-	-	-	-	-	80.0
NFL N. Floor #1	4'	12/2/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	80.0
NFL E. Floor #1	4'	12/2/2014	In-Situ	-	-	-	-	-	-	-	-	-	208
NFL S. Floor #1	4'	12/2/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	128
NFL S. Floor #2	4'	12/2/2014	In-Situ	-	-	-	-	-	-	-	-	-	368
SFL SSW #3b	2'	12/3/2014	In-Situ	-	-	-	-	-	-	-	-	-	304
NFL NSW #2	2'	12/3/2014	In-Situ	-	-	-	-	-	-	-	-	-	80.0
NFL N. Floor #2	4'	12/3/2014	In-Situ	-	-	-	-	-	-	-	-	-	400
SFL DT-1 @ 6'	6'	12/3/2014	In-Situ	-	-	-	-	-	-	-	-	-	144
SFL DT-1 @ 7'	7'	12/3/2014	In-Situ	-	-	-	-	-	-	-	-	-	32.0
NFL NSW #3	2'	12/4/2012	In-Situ	-	-	-	-	-	-	-	-	-	320
NFL SSW #3	2'	12/4/2012	In-Situ	-	-	-	-	-	-	-	-	-	1,090
NFL N. Floor #3	4'	12/4/2012	In-Situ	-	-	-	-	-	-	-	-	-	96.0
NFL S. Floor #3	4'	12/4/2012	In-Situ	-	-	-	-	-	-	-	-	-	1,040
NFL NSW #4	2'	12/6/2014	In-Situ	-	-	-	-	-	-	-	-	-	64.0
NFL SSW #4	2'	12/6/2014	In-Situ	-	-	-	-	-	-	-	-	-	240
NFL WSW #4	2'	12/6/2014	In-Situ	-	-	-	-	-	-	-	-	-	32.0
NFL N. Floor #4	4'	12/6/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	48.0
NFL S. Floor #3b	5'	12/6/2014	In-Situ	-	-	-	-	-	-	-	-	-	256
NFL S. Floor #4	4'	12/6/2014	In-Situ	-	-	-	-	-	-	-	-	-	304
<b>NMOCD Criteria</b>				<b>10</b>				<b>50</b>				<b>1,000</b>	<b>500</b>

- = Not analyzed.

**NM OIL CONSERVATION**

ARTESIA DISTRICT

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

AUG 05 2014

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.

RECEIVED

**Release Notification and Corrective Action**

*NAB142185587*

**OPERATOR**

Initial Report  Final Report

Name of Company: BOPCO, L.P. <i>360737</i>	Contact: Tony Savoie
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: Big Eddy Unit 143	Facility Type: Exploration and Production
Surface Owner: Federal	Mineral Owner: Federal
API No. 30-015-32955	

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N	19	21S	28E	660	South	1896	West	Eddy

Latitude N 32.460336 Longitude W 104.128163

**NATURE OF RELEASE**

Type of Release: Produced water	Volume of Release: 8 bbls	Volume Recovered: None
Source of Release: Wellhead Stuffing box	Date and Hour of Occurrence: 7/27/14 time unknown	Date and Hour of Discovery: 7/27/14 at approximately 9:00 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 packing in the stuffing box failed. The wellhead was equipped with an E-pot designed to shut down the unit in case of a stuffing box failure. The E-pot failed to operate properly. The stuffing box packing was re-placed and the E-pot float switch was replaced.

Describe Area Affected and Cleanup Action Taken.\*  
The spill impacted approximately 2,625 sq.ft. of caliche well pad area. All of the fluid soaked into the ground. The spill area was left as is pending remediation activities.  
The spill area 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: <i>Tony Savoie</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Tony Savoie	Signed By <i>M. L. [Signature]</i> Approved by Environmental Specialist:	
Title: Waste Management and Remediation Specialist	Approval Date: <i>8/7/14</i>	Expiration Date: <i>N/A</i>
E-mail Address: <i>tasavoie@basspet.com</i>	Conditions of Approval: Remediation Per O.C.D. Rule & Guidelines	Attached <input type="checkbox"/>
Date: 8/4/14	Phone: 432-556-8730	

\* Attach Additional Sheets If Necessary

**SUBMIT REMEDIATION PROPOSAL NO**  
**LATER THAN: 8/7/14** *2RP-2415*



Photograph of the initial release at the BEU #143 Release Site.



Photograph of the excavated area at the BEU #143 Release Site.



Photograph of the installed liner at the BEU #143 Remediate Site.



Photograph of the installed liner at the BEU #143 Remediate Site.



Photograph of the BEU #143 Release Site after Remediation Activities.



Photograph of the BEU #143 Release Site after Remediation Activities.



December 02, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: BEU #143

Enclosed are the results of analyses for samples received by the laboratory on 12/01/14 13:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [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". The signature is written in a cursive style.

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: 12/01/2014  
 Reported: 12/02/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 11/26/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Amanda Ponce

**Sample ID: SFL NSW #1 (H403666-01)**

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	12/02/2014	ND	432	108	400	0.00	

**Sample ID: SFL NSW #2 (H403666-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>464</b>	16.0	12/02/2014	ND	432	108	400	0.00	

**Sample ID: SFL ESW #1 (H403666-03)**

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	12/02/2014	ND	432	108	400	0.00	

**Sample ID: SFL ESW #2 (H403666-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>32.0</b>	16.0	12/02/2014	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

 Received: 12/01/2014  
 Reported: 12/02/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 11/26/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Amanda Ponce

**Sample ID: SFL SSW #1 (H403666-05)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	12/02/2014	ND	432	108	400	0.00	

**Sample ID: SFL SSW #2 (H403666-06)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	12/02/2014	ND	432	108	400	0.00	

**Sample ID: SFL SSW #3 (H403666-07)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1200	16.0	12/02/2014	ND	432	108	400	0.00	

**Sample ID: SFL N. FLOOR #1 (H403666-08)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	12/02/2014	ND	432	108	400	0.00	

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 P.O. Box 301  
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 Fax To: (575) 396-1429

 Received: 12/01/2014  
 Reported: 12/02/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 11/26/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Amanda Ponce

**Sample ID: SFL N. FLOOR #2 (H403666-09)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/02/2014	ND	1.81	90.6	2.00	6.72	
Toluene*	<0.050	0.050	12/02/2014	ND	1.78	88.8	2.00	5.93	
Ethylbenzene*	<0.050	0.050	12/02/2014	ND	1.69	84.5	2.00	5.43	
Total Xylenes*	<0.150	0.150	12/02/2014	ND	5.17	86.2	6.00	5.86	
Total BTEX	<0.300	0.300	12/02/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	12/02/2014	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/01/2014	ND	194	97.1	200	3.40	
DRO >C10-C28	<10.0	10.0	12/01/2014	ND	193	96.6	200	4.16	
EXT DRO >C28-C35	<10.0	10.0	12/01/2014	ND					

Surrogate: 1-Chlorooctane 127 % 47.2-157

Surrogate: 1-Chlorooctadecane 148 % 52.1-176

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 Fax To: (575) 396-1429

 Received: 12/01/2014  
 Reported: 12/02/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 11/26/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Amanda Ponce

**Sample ID: SFL N. FLOOR #3 (H403666-10)**

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>1020</b>	16.0	12/02/2014	ND	432	108	400	0.00	

**Sample ID: SFL S FLOOR #1 (H403666-11)**

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>32.0</b>	16.0	12/02/2014	ND	432	108	400	0.00	

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

 Received: 12/01/2014  
 Reported: 12/02/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 11/26/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Amanda Ponce

**Sample ID: SFL S FLOOR #2 (H403666-12)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/02/2014	ND	1.81	90.6	2.00	6.72	
Toluene*	<0.050	0.050	12/02/2014	ND	1.78	88.8	2.00	5.93	
Ethylbenzene*	<0.050	0.050	12/02/2014	ND	1.69	84.5	2.00	5.43	
Total Xylenes*	<0.150	0.150	12/02/2014	ND	5.17	86.2	6.00	5.86	
Total BTEX	<0.300	0.300	12/02/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 61-154

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	12/02/2014	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/01/2014	ND	194	97.1	200	3.40	
DRO >C10-C28	<10.0	10.0	12/01/2014	ND	193	96.6	200	4.16	
EXT DRO >C28-C35	<10.0	10.0	12/01/2014	ND					

Surrogate: 1-Chlorooctane 122 % 47.2-157

Surrogate: 1-Chlorooctadecane 139 % 52.1-176

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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: 12/01/2014  
 Reported: 12/02/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 11/26/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Amanda Ponce

**Sample ID: SFL S FLOOR #3 (H403666-13)**
**Chloride, SM4500Cl-B**
**mg/kg**
**Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>912</b>	16.0	12/02/2014	ND	432	108	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°C Samples reported on an as received basis (wet) unless otherwise noted on report



---

Celey D. Keene, Lab Director/Quality Manager







December 03, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: BEU #143

Enclosed are the results of analyses for samples received by the laboratory on 12/02/14 9:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [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,

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: 12/02/2014  
 Reported: 12/03/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 12/01/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SFL WSW #1 (H403670-01)**

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	12/02/2014	ND	416	104	400	3.77	

**Sample ID: SFL WSW #2 (H403670-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	12/02/2014	ND	416	104	400	3.77	

**Sample ID: SFL NSW #4 (H403670-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	12/02/2014	ND	416	104	400	3.77	

**Sample ID: SFL NSW #5 (H403670-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	12/02/2014	ND	416	104	400	3.77	

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**Analytical Results For:**

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

 Received: 12/02/2014  
 Reported: 12/03/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 12/01/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SFL SSW #4 (H403670-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>304</b>	16.0	12/02/2014	ND	416	104	400	3.77	

**Sample ID: SFL SSW #5 (H403670-06)**

Chloride, SM4500Cl-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	12/02/2014	ND	416	104	400	3.77	

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 JOEL LOWRY  
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 Lovington NM, 88260  
 Fax To: (575) 396-1429

 Received: 12/02/2014  
 Reported: 12/03/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 12/01/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SFL N. FLOOR #4 (H403670-07)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/03/2014	ND	1.93	96.7	2.00	3.49	
Toluene*	<0.050	0.050	12/03/2014	ND	1.90	95.2	2.00	2.81	
Ethylbenzene*	<0.050	0.050	12/03/2014	ND	1.79	89.6	2.00	3.02	
Total Xylenes*	<0.150	0.150	12/03/2014	ND	5.42	90.4	6.00	3.67	
Total BTEX	<0.300	0.300	12/03/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>320</b>	16.0	12/02/2014	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/02/2014	ND	196	98.1	200	5.01	
DRO >C10-C28	<10.0	10.0	12/02/2014	ND	200	99.9	200	8.07	
EXT DRO >C28-C35	<10.0	10.0	12/02/2014	ND					

Surrogate: 1-Chlorooctane 124 % 47.2-157

Surrogate: 1-Chlorooctadecane 140 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager

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 Fax To: (575) 396-1429

 Received: 12/02/2014  
 Reported: 12/03/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 12/01/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SFL N. FLOOR #5 (H403670-08)**
**Chloride, SM4500Cl-B**
**mg/kg**
**Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>112</b>	16.0	12/02/2014	ND	416	104	400	3.77	

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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: 12/02/2014  
 Reported: 12/03/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 12/01/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SFL S. FLOOR #4 (H403670-09)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/03/2014	ND	1.93	96.7	2.00	3.49	
Toluene*	<0.050	0.050	12/03/2014	ND	1.90	95.2	2.00	2.81	
Ethylbenzene*	<0.050	0.050	12/03/2014	ND	1.79	89.6	2.00	3.02	
Total Xylenes*	<0.150	0.150	12/03/2014	ND	5.42	90.4	6.00	3.67	
Total BTEX	<0.300	0.300	12/03/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 61-154

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	12/02/2014	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/03/2014	ND	199	99.7	200	0.672	
DRO >C10-C28	<10.0	10.0	12/03/2014	ND	205	102	200	1.18	
EXT DRO >C28-C35	<10.0	10.0	12/03/2014	ND					

Surrogate: 1-Chlorooctane 122 % 47.2-157

Surrogate: 1-Chlorooctadecane 139 % 52.1-176

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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: 12/02/2014  
 Reported: 12/03/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 12/01/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SFL S. FLOOR #5 (H403670-10)**
**Chloride, SM4500Cl-B**
**mg/kg**
**Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>128</b>	16.0	12/02/2014	ND	416	104	400	3.77	

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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



---

Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

Company Name: <b>Joel Lowry</b>		<b>BILL TO</b>		P.O. #:		ANALYSIS REQUEST	
Project Manager: <b>P.O. Box 301</b>		City: <b>Lovington</b>		Company: <b>BOPCO, LP</b>			
Address: <b>State: NM Zip: 88260</b>		Phone #: <b>(575)396-2378</b>		Attn: <b>Tony Saviole</b>			
Project #: <b>BEU #43</b>		Project Owner: <b>Project Owner:</b>		Address:			
Project Location: <b>Eddy Co., NM</b>		State: <b>NM</b> Zip: <b></b>		City:			
Sampler Name: <b>FOR LAB USE ONLY</b>		Phone #: <b></b>		State: <b>NM</b> Zip: <b></b>			
		Fax #: <b></b>		Project Name: <b>BEU #43</b>			
				Project Location: <b>Eddy Co., NM</b>			
				Phone #: <b></b>			
				Fax #: <b></b>			

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	ANALYSIS REQUEST					
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			ACID/BASE:	ICE / COOL	OTHER :	Chloride	TPH (8015M)	BTEX (8021B)
1	SFL WSW #1	9	1	X							12/1/14	1100	X				
2	SFL WSW #2	9	1	X							12/1/14	1105	X				
3	SFL NSW #4	9	1	X							12/1/14	1110	X				
4	SFL NSW #5	9	1	X							12/1/14	1115	X				
5	SFL SSW #4	9	1	X							12/1/14	1120	X				
6	SFL SSW #5	9	1	X							12/1/14	1125	X				
7	SFL N. Floor #4	9	1	X							12/1/14	1130	X		X		
8	SFL N. Floor #5	9	1	X							12/1/14	1135	X				
9	SFL S. Floor #4	9	1	X							12/1/14	1140	X	X			
10	SFL S. Floor #5	9	1	X							12/1/14	1145	X				

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Relinquished By: *Joel Lowry* Date: *12/1/14* Time: *9:15*  
 Received By: *Spodi Jensen*

Delivered By: (Circle One)  UPS  Bus  Other: *3.62*

Sample Condition:  Cool  Intact  Yes  No  
 CHECKED BY: *(Signature)*

Phone Result:  Yes  No Add'l Phone #: *#54*  
 Fax Result:  Yes  No Add'l Fax #: *#54*

REMARKS: *Run Highest TPH for BTEX*  
 Please email results to [pm@basinenv.com](mailto:pm@basinenv.com),  
[TA\\_Saviole@BassPet.com](mailto:TA_Saviole@BassPet.com), [acruth@basspet.com](mailto:acruth@basspet.com)

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



December 08, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: BEU #143

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

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: 12/04/2014  
 Reported: 12/08/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 12/02/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: NFL NSW #1 (H403693-01)**

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>112</b>	16.0	12/04/2014	ND	400	100	400	3.92	

**Sample ID: NFL ESW #1 (H403693-02)**

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>192</b>	16.0	12/04/2014	ND	400	100	400	3.92	

**Sample ID: NFL SSW #1 (H403693-03)**

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>416</b>	16.0	12/04/2014	ND	400	100	400	3.92	

**Sample ID: NFL SSW #2 (H403693-04)**

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	12/04/2014	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  
 JOEL LOWRY  
 P.O. Box 301  
 Lovington NM, 88260  
 Fax To: (575) 396-1429

 Received: 12/04/2014  
 Reported: 12/08/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 12/02/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: NFL N. FLOOR #1 (H403693-05)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/08/2014	ND	1.91	95.3	2.00	1.78	
Toluene*	<0.050	0.050	12/08/2014	ND	1.88	93.8	2.00	1.90	
Ethylbenzene*	<0.050	0.050	12/08/2014	ND	1.76	87.8	2.00	3.30	
Total Xylenes*	<0.150	0.150	12/08/2014	ND	5.35	89.2	6.00	3.55	
Total BTEX	<0.300	0.300	12/08/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 61-154

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	12/04/2014	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/04/2014	ND	199	99.5	200	0.653	
DRO >C10-C28	<10.0	10.0	12/04/2014	ND	204	102	200	0.660	
EXT DRO >C28-C35	<10.0	10.0	12/04/2014	ND					

Surrogate: 1-Chlorooctane 120 % 47.2-157

Surrogate: 1-Chlorooctadecane 138 % 52.1-176

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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: 12/04/2014  
 Reported: 12/08/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 12/02/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: NFL E. FLOOR #1 (H403693-06)**
**Chloride, SM4500Cl-B**
**mg/kg**
**Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>208</b>	16.0	12/04/2014	ND	400	100	400	3.92	

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

 Received: 12/04/2014  
 Reported: 12/08/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 12/02/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: NFL S. FLOOR #1 (H403693-07)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/08/2014	ND	1.91	95.3	2.00	1.78	
Toluene*	<0.050	0.050	12/08/2014	ND	1.88	93.8	2.00	1.90	
Ethylbenzene*	<0.050	0.050	12/08/2014	ND	1.76	87.8	2.00	3.30	
Total Xylenes*	<0.150	0.150	12/08/2014	ND	5.35	89.2	6.00	3.55	
Total BTEX	<0.300	0.300	12/08/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	12/04/2014	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/04/2014	ND	199	99.5	200	0.653	
DRO >C10-C28	<10.0	10.0	12/04/2014	ND	204	102	200	0.660	
EXT DRO >C28-C35	<10.0	10.0	12/04/2014	ND					

Surrogate: 1-Chlorooctane 132 % 47.2-157

Surrogate: 1-Chlorooctadecane 150 % 52.1-176

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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: 12/04/2014  
 Reported: 12/08/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 12/02/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: NFL S. FLOOR #2 (H403693-08)**

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>368</b>	16.0	12/05/2014	ND	400	100	400	3.92	

**Sample ID: SFL DT-1 @ 6' (H403693-09)**

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>144</b>	16.0	12/05/2014	ND	400	100	400	3.92	

**Sample ID: SFL DT-1 @ 7' (H403693-10)**

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>32.0</b>	16.0	12/05/2014	ND	400	100	400	3.92	

**Sample ID: SFL SSW #3B (H403693-11)**

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>304</b>	16.0	12/05/2014	ND	400	100	400	3.92	

**Sample ID: NFL NSW #2 (H403693-12)**

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	12/05/2014	ND	400	100	400	3.92	

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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: 12/04/2014  
 Reported: 12/08/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 12/03/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: NFL N. FLOOR #2 (H403693-13)**
**Chloride, SM4500Cl-B**
**mg/kg**
**Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>400</b>	16.0	12/05/2014	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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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

2

Company Name:		Joel Lowry		<b>BILL TO</b>		P.O. #:		ANALYSIS REQUEST	
Project Manager:		P.O. Box 301		Company:		BOPCO, LP			
Address:		Lovington		Attn:		Tony Saviole			
City:		State: NM Zip: 88260		Address:					
Phone #:		(575)396-2378		City:					
Project #:		Project Owner:		State: NM Zip:					
Project Name:		BEU #143		Phone #:					
Project Location:		Eddy Co., NM		Fax #:					
Sampler Name:				PRESERV:		SAMPLING			
FOR LAB USE ONLY									
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS			
H403693		SFL DT-1 @ 6'		g		1			
9		SFL DT-1 @ 7'		g		1			
10		SFL SSW #3b		g		1			
11		NFL NSW #2		g		1			
12		NFL N. Floor #2		g		1			
13									
<p>PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusion remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits, incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.</p>									
Relinquished By:		Date: 12-4-14		Received By:		Date: 12-4-14			
Joel Lowry		8:00		Tony Saviole		12:05			
Delivered By: (Circle One)		Sample Condition		CHECKED BY:					
Sampler - UPS - Bus - Other:		Cool <input type="checkbox"/> Intact <input type="checkbox"/>		(Initials)					
1.20		Yes <input type="checkbox"/> No <input type="checkbox"/>		Run Highest TPH for BTEX					
#54		No <input type="checkbox"/> Yes <input type="checkbox"/>		Add'l Phone #:					
				Add'l Fax #:					
				REMARKS:					
				Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No					
				Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No					
				Please email results to pm@basinenv.com, TASaviole@BassPet.com, acruth@basspet.com					

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



December 11, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: BEU #143

Enclosed are the results of analyses for samples received by the laboratory on 12/05/14 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [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". The signature is written in a cursive style with a large, flowing "C" and "K".

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: 12/05/2014  
 Reported: 12/11/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 12/04/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Kathy Perez

**Sample ID: NFL NSW #3 (H403716-01)**

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>320</b>	16.0	12/08/2014	ND	448	112	400	7.41	

**Sample ID: NFL SSW #3 (H403716-02)**

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>1090</b>	16.0	12/08/2014	ND	448	112	400	7.41	

**Sample ID: NFL N FLOOR #3 (H403716-03)**

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>96.0</b>	16.0	12/08/2014	ND	448	112	400	7.41	

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:	12/05/2014	Sampling Date:	12/04/2014
Reported:	12/11/2014	Sampling Type:	Soil
Project Name:	BEU #143	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Kathy Perez
Project Location:	EDDY COUNTY, NM		

**Sample ID: NFL S FLOOR #3 (H403716-04)**

BTEX 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/09/2014	ND	1.80	90.0	2.00	7.64		
Toluene*	<0.050	0.050	12/09/2014	ND	1.79	89.6	2.00	6.71		
Ethylbenzene*	<0.050	0.050	12/09/2014	ND	1.72	86.1	2.00	6.80		
Total Xylenes*	<0.150	0.150	12/09/2014	ND	5.31	88.5	6.00	6.74		
Total BTEX	<0.300	0.300	12/09/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1040	16.0	12/08/2014	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/06/2014	ND	192	96.0	200	2.89		
DRO >C10-C28	<10.0	10.0	12/06/2014	ND	197	98.4	200	4.89		
EXT DRO >C28-C35	<10.0	10.0	12/06/2014	ND						

Surrogate: 1-Chlorooctane 128 % 47.2-157

Surrogate: 1-Chlorooctadecane 150 % 52.1-176

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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





December 15, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: BEU #143

Enclosed are the results of analyses for samples received by the laboratory on 12/09/14 14:20.

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Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, flowing "C" and "K".

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: 12/09/2014  
 Reported: 12/15/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 12/06/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Kathy Perez

**Sample ID: NFL NSW #4 (H403758-01)**

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>64.0</b>	16.0	12/10/2014	ND	400	100	400	0.00	

**Sample ID: NFL SSW #4 (H403758-02)**

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>240</b>	16.0	12/10/2014	ND	400	100	400	0.00	

**Sample ID: NFL WSW #4 (H403758-03)**

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>32.0</b>	16.0	12/10/2014	ND	400	100	400	0.00	

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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: 12/09/2014  
 Reported: 12/15/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 12/06/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Kathy Perez

**Sample ID: NFL N. FLOOR #4 (H403758-04)**

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	12/10/2014	ND	2.09	105	2.00	2.63		
Toluene*	<0.050	0.050	12/10/2014	ND	2.06	103	2.00	2.95		
Ethylbenzene*	<0.050	0.050	12/10/2014	ND	1.95	97.4	2.00	3.89		
Total Xylenes*	<0.150	0.150	12/10/2014	ND	5.88	98.1	6.00	4.40		
Total BTEX	<0.300	0.300	12/10/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 61-154

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	12/10/2014	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	12/10/2014	ND	188	93.9	200	0.211		
DRO >C10-C28	<10.0	10.0	12/10/2014	ND	201	100	200	0.909		
EXT DRO >C28-C35	<10.0	10.0	12/10/2014	ND						

Surrogate: 1-Chlorooctane 87.9 % 47.2-157

Surrogate: 1-Chlorooctadecane 84.6 % 52.1-176

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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: 12/09/2014  
 Reported: 12/15/2014  
 Project Name: BEU #143  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 12/06/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Kathy Perez

**Sample ID: NFL S. FLOOR #3B (H403758-05)**

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>256</b>	16.0	12/10/2014	ND	400	100	400	3.92	

**Sample ID: NFL S. FLOOR #4 (H403758-06)**

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>304</b>	16.0	12/10/2014	ND	400	100	400	3.92	

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Celey D. Keene, Lab Director/Quality Manager

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- \*\*\* 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



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

Company Name:		Project Manager: Joel Lowry		P.O. #:		<b>BILL TO</b>		ANALYSIS REQUEST	
Address: P.O. Box 301		City: Lovington		State: NM Zip: 88260		Company: BOPCO, LP		Attn: Tony Saviole	
Phone #: (575)396-2378		Fax #: (575)396-1429		Project Owner:		Address:		City:	
Project #: BEU #143		Project Name: Eddy Co., NM		State: NM Zip:		Phone #:		Fax #:	
Project Location: Eddy Co., NM		Sample Name: Steve Taylor		FOR LAB USE ONLY		PRESERV:		SAMPLING	
Lab I.D. #403758		Sample I.D.		(G)RAB OR (C)OMP.		DATE		TIME	
NFL NSW #4		9		1		12/6/14		X	
NFL SSW #4		9		1		12/6/14		X	
NFL WSW #4		9		1		12/6/14		X	
NFL N. Floor #4		9		1		12/6/14		X	
NFL S. Floor #3b		9		1		12/6/14		X	
NFL S. Floor #4		9		1		12/6/14		X	

Relinquished By: *Joel Lowry* Date: 12-9-14 Received By: *Steve Taylor* Date: 12-5-14  
 Relinquished By: *Joel Lowry* Time: 9:40 Received By: *Steve Taylor* Time: 2:00  
 Delivered By: (Circle One) *UPS* Sample Condition:  Cool  Intact  Yes  No

REMARKS: *Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476*

Please email results to pm@basinenv.com, TASaviole@BassPet.com, acruth@basspet.com