

# *Basin Environmental Service Technologies, LLC*

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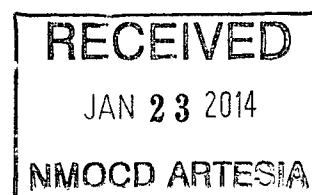


## **REMEDIATION SUMMARY & RISK-BASED SITE CLOSURE REQUEST**

**BOPCO, LP**  
**BASS 3 FEDERAL WELL #4 SPILL SITE "C"**  
**Eddy County, New Mexico**  
**Unit Letter "O" (SW/SE), Section 3, Township 22 South, Range 28 East**  
**Latitude 32.418247° North, Longitude 104.072551° West**  
**NMOCD Reference #: 2RP-1000**

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

**August 2013**

A handwritten signature in black ink, appearing to read "Ben J. Arguijo", written over a horizontal line.

**Ben J. Arguijo**  
**Project Manager**

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## 1.0 INTRODUCTION & BACKGROUND INFORMATION

Basin Environmental Service Technologies, LLC (Basin), on behalf of BOPCO, LP (BOPCO), has prepared this *Remediation Summary & Risk-Based Site Closure Request* for the release site known as Bass 3 Federal Well #4 Spill Site "C". The legal description of the release site is Unit Letter "O" (SW/SE), Section 3, Township 22 South, Range 28 East, in Eddy County, New Mexico. The geographic coordinates of the release site are 32.418247° North latitude and 104.072551° West longitude. The property affected by the release is owned by The United States Department of the Interior - Bureau of Land Management (BLM). Please reference Figure 1 for a "Site Location Map".

On December 13, 2011, during site assessments associated with nearby releases, BOPCO discovered a release had occurred near the Bass 3 Federal Well #4 site. The two and seven-eighths inch (2 7/8") steel flow line delivering produced fluid from the well to the nearby Bass Federal #1 tank battery developed a leak, resulting in a release of produced water and crude oil. The well had been shut-in prior to the discovery of the release and remained off until the entire flow line was replaced with polyurethane pipe.

The release was immediately reported to the New Mexico Oil Conservation Division (NMOCD) Artesia District Office. The "Release Notification and Corrective Action" (Form C-141) indicated over twenty-five barrels (25 bbls) of produced water and crude oil were released, with no recovery. The release affected an area of pastureland measuring approximately one thousand, five hundred square feet (1,500 ft<sup>2</sup>). 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 3, Township 22 South, Range 28 East. A depth to groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately one hundred and fifteen feet (115') to one hundred and twenty feet (120') below ground surface (bgs). Gauging data collected from a nearby monitor well indicates the depth to groundwater is approximately one hundred and nine feet (109') 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 Bass 3 Federal Well #4 Spill Site "C" release site has an initial ranking score of zero (0) points. The soil remediation levels for a site with a ranking score of zero (0) points are as follows:

- Benzene – 10 mg/Kg (ppm)
- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX – 50 mg/Kg (ppm)
- Total Petroleum Hydrocarbons (TPH) – 5,000 mg/Kg (ppm)

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

### **3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES**

Following initial response activities, on December 19, 2011, delineation of the release site commenced. A series of delineation trenches (Trench 1, Trench 2, and Trench 3) were advanced at the site to investigate the vertical and horizontal extent of hydrocarbon impact. The trenches were advanced to total depths of approximately five feet (5') bgs. Soil samples from the delineation trenches were field-screened using a chloride test kit and/or Photo-Ionization Detector (PID), and three (3) confirmation soil samples (Trench 1 @ 5', Trench 2 @ 5', and Trench 3 @ 5') were submitted to Cardinal Laboratories in Hobbs, New Mexico, for analysis of TPH and chloride concentrations using Environmental Protection Agency (EPA) Methods SW-846 8015M and 4500 Cl-B, respectively. Table 1 summarizes the "Concentrations of Benzene, BTEX, TPH & Chloride in Soil". A "Site & Sample Location Map" is provided as Figure 2. Laboratory analytical reports are provided as Appendix D.

Laboratory analytical results indicated TPH concentrations were less than the laboratory method detection limit (MDL) in all submitted soil samples. Chloride concentrations ranged from 32.0 mg/kg in soil sample Trench 1 @ 5' to 80.0 mg/kg in soil sample Trench 3 @ 5'.

On December 30, 2011, excavation of impacted soil commenced at the site. A chloride field test kit was used to field-screen the horizontal extent of impacted soil and to guide the excavation. From December 30, 2011, through January 3, 2012, excavated soil was stockpiled on-site, pending final disposition.

On December 30, 2011, three (3) soil samples (East Wall, West Wall, and South Wall) were collected from the sidewalls of the excavation and submitted to the laboratory for analysis of TPH and chloride concentrations. Laboratory analytical results indicated TPH concentrations were less than the laboratory MDL in all submitted soil samples. Chloride concentrations ranged from 144 mg/kg in soil sample East Wall to 592 mg/kg in soil sample South Wall.

On January 11, 2012, one (1) soil boring (SB-1) was advanced at the site to further investigate the vertical extent of impacted soil. The soil boring was located near the release point and was advanced to a total depth of approximately eighty feet (80') bgs. Soil samples were collected at five-foot (5') drilling intervals and field-screened with a chloride test kit. Confirmation soil samples collected at drilling depths of twenty feet (20'), twenty-five feet (25'), seventy-five feet (75'), and eighty feet (80') bgs were submitted to the laboratory for analysis of TPH and/or chloride concentrations. Soil sample SB-1 @ 25' was also analyzed for concentrations of BTEX using EPA Method SW-846 8021b. The location of the soil boring is depicted in Figure 2. Soil boring logs are provided as Appendix C.

Laboratory analytical results indicated TPH concentrations were less than the laboratory MDL in all submitted soil samples. Chloride concentrations ranged from 32.0 mg/kg in soil sample SB-1 @ 80' to 7,200 mg/kg in soil sample SB-1 @ 20'. BTEX constituent concentrations in soil sample SB-1 @ 25' were less than the appropriate laboratory MDL.

On January 13, 2012, one (1) soil sample (North Wall) was collected from the sidewall of the excavation and submitted to the laboratory for analysis of TPH and chloride concentrations. Laboratory analytical results indicated the TPH and chloride concentrations in soil sample North Wall were less than the appropriate laboratory MDL.

From January 17 through January 20, 2012, approximately one thousand, one hundred and forty cubic yards (1,140 yd<sup>3</sup>) of impacted soil was transported to Lea Land, Inc. (NMOCD Permit # WM-01-035), for disposal.

Based on laboratory analytical results and field-screens, from January 18 through January 20, 2012, the excavation was backfilled in eighteen-inch (18") lifts with locally purchased, non-impacted material. Final dimensions of the excavation were approximately eighty-five feet (85') in length, approximately sixty-seven feet (67') in width, and approximately five feet (5') in depth. Prior to backfilling, a twenty (20) mil polyurethane liner was installed on the floor of the excavation. A cushion of non-impacted pad sand was installed approximately one foot (1') both above and below the liner to protect the liner from damage during installation and backfilling activities. Following backfill, the excavation was water-packed and contoured to fit the surrounding topography.

On July 11, 2012, the disturbed area was seeded with a BLM-approved seed mixture.

## **4.0 QA/QC PROCEDURES**

### **4.1 Soil Sampling**

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

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

### **4.2 Decontamination of Equipment**

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

### **4.3 Laboratory Protocol**

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

### **5.0 SITE CLOSURE REQUEST**

Soil samples collected from the sidewalls of the Bass 3 Federal Well #4 Spill Site "C" excavation were analyzed by an NMOCD-approved laboratory, and concentrations of BTEX and TPH were below the regulatory remediation action levels established for the site by the NMOCD.

An impermeable, twenty (20) mil polyurethane liner was installed on the floor of the excavation prior to backfilling. This engineered control will inhibit vertical migration of contaminants from below the liner to the surface, protecting the vegetative zone. In addition, the polyurethane liner will shed moisture to the edge of the liner and beyond the maximum horizontal extent of underlying impacted soil, effectively inhibiting vertical migration of contaminants to groundwater.

Basin Environmental recommends BOPCO provide the NMOCD Artesia District Office and the BLM a copy of this *Remediation Summary & Risk-Based Site Closure Request* and request the NMOCD grant soil closure status to the Bass 3 "C" release site.

### **6.0 LIMITATIONS**

Basin Environmental Service Technologies, LLC, has prepared this *Remediation Summary & 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.

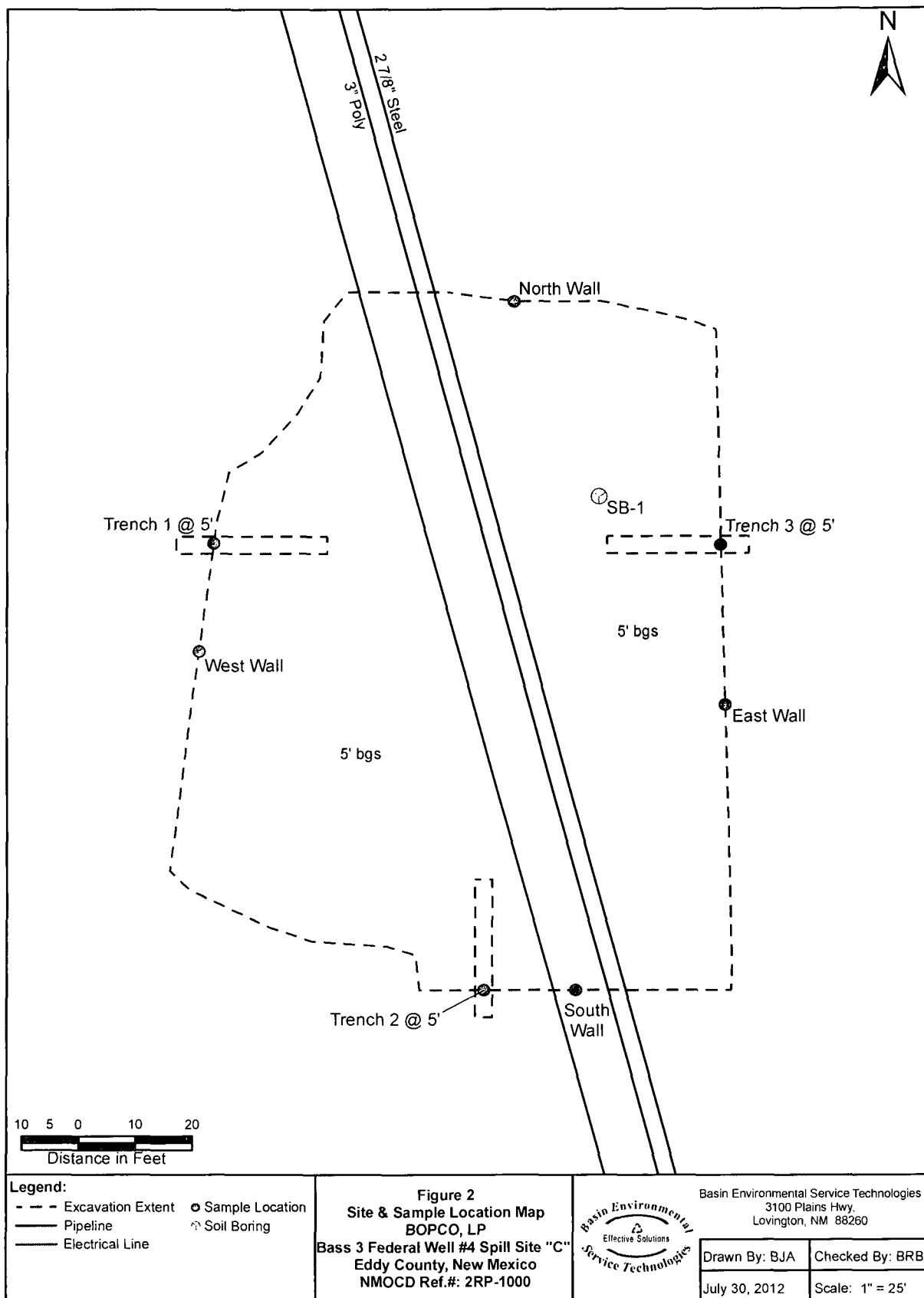
## **7.0 DISTRIBUTION:**

- 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, NM 88220
- Copy 3: Tony Savoie  
BOPCO, LP  
522 W. Mermod, Suite 704  
Carlsbad, NM 88220
- Copy 4: Basin Environmental Service Technologies, LLC  
P.O. Box 301  
Lovington, NM 88260

# Figures







# Tables

TABLE 1

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

BOPCO, LP  
 BASS 3 FEDERAL WELL #4 SPILL SITE "C"  
 EDDY COUNTY, NEW MEXICO  
 NMOCD REFERENCE #: 2RP-1000

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M			TOTAL TPH	4500 Cl-B
				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)	C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORIDE (mg/Kg)
Trench 1 @ 5'	5'	12/19/2011	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	32.0
Trench 2 @ 5'	5'	12/19/2011	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	64.0
Trench 3 @ 5'	5'	12/19/2011	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	80.0
East Wall	5'	12/30/2011	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	144
West Wall	5'	12/30/2011	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	176
South Wall	5'	12/30/2011	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	592
SB-1 @ 20'	20'	1/11/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	7,200
SB-1 @ 25'	25'	1/11/2012	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	<10.0	5,200
SB-1 @ 75'	75'	1/11/2012	In-Situ	-	-	-	-	-	-	-	-	-	80.0
SB-1 @ 80'	80'	1/11/2012	In-Situ	-	-	-	-	-	-	-	-	-	32.0
North Wall	5'	1/13/2012	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	<16.0
<b>NMOCD Criteria</b>				<b>10</b>				<b>50</b>				<b>5,000</b>	<b>1,000</b>

- = Not analyzed.

# **Appendices**

**Appendix A**

**Release Notification &**

**Corrective Action (Form C-141)**

District I  
1625 N French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

30-015-28736

Release Notification and Corrective Action

n MLB/204137747

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company BOPCO, L.P.	260737	Contact Tony Savoie
Address 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220		Telephone No. 432-556-8730
Facility Name Bass 3 Federal Well #4 Spill site "C"		Facility Type E&P

Surface Owner Federal	Mineral Owner Federal	Lease No.
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LOCATION OF RELEASE

Unit Letter O	Section 3	Township 22S	Range 28E	Feet from the	North/South Line	Feet from the	East/West Line	County Eddy
------------------	--------------	-----------------	--------------	---------------	------------------	---------------	----------------	----------------

Latitude N 32.418247 Longitude W 104.072551

NATURE OF RELEASE

Type of Release: Produced water and crude oil	Volume of Release: More than 25 bbls of produced water and crude oil.	Volume Recovered: none
Source of Release: Above ground 2 7/8" flow line	Date and Hour of Occurrence Unknown	Date and Hour of Discovery 12/13/11 11:50 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher NMOCD and Jim Amos BLM	
By Whom? Tony Savoie	Date and Hour 12/13/11 12:12 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		<b>RECEIVED</b> JAN 17 2012 NMOCD ARTESIA

Describe Cause of Problem and Remedial Action Taken.\* An area where a section of flow line had been replaced was discovered that had released produced water and crude oil.

Describe Area Affected and Cleanup Action Taken.\* An area of stained soil measuring approximately 1500 sq. ft. was discovered while doing site assessments on other spills on the flow line on 12/13/11.  
The Site remediation for the produced water and crude oil spill will follow the NMOCD guidelines for leaks and spills.

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:		OIL CONSERVATION DIVISION	
Printed Name: Tony Savoie		Approved by District Supervisor Signed By <u>[Signature]</u>	
Title: Waste Mgmt. & Remediation Specialist		Approval Date: FEB 10 2012	Expiration Date:
E-mail Address: TASavoie@BassPct.com		Conditions of Approval: Remediation per OCD Rules & Guidelines. <b>SUBMIT REMEDIATION PROPOSAL NOT LATER THAN:</b>	
Date: 1/9/12 Phone: 432-556-8730		Attached <input type="checkbox"/>	

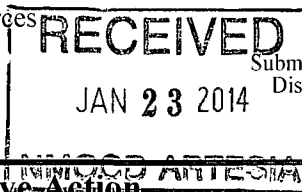
\* Attach Additional Sheets If Necessary

**3/10/2012**

2RP-1000

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505



Form C-141  
Revised October 10, 2003  
Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

Release Notification and Corrective Action

OPERATOR		Initial Report	X Final Report
Name of Company	BOPCO, LP 260737	Contact	Tony Savoie
Address	522 W. Mermod, Suite 704, Carlsbad, NM 88220	Telephone No.	(432)556-8730
Facility Name	Bass 3 Federal Well #4 Spill Site "C"	Facility Type	E&P
Surface Owner	Federal	Mineral Owner	Federal
		API	Lease No. 30-015-28736

LOCATION OF RELEASE								
Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	3	22S	28E					Eddy

Latitude 32.418247° North Longitude 104.072551° West

NATURE OF RELEASE					
Type of Release	Produced water and crude oil	Volume of Release	More than 25 bbls of produced water and crude oil	Volume Recovered	None
Source of Release	Above ground 2 7/8" flow line	Date and Hour of Occurrence	Unknown	Date and Hour of Discovery	12/13/11 11:50 a.m.
Was Immediate Notice Given?	X Yes No Not Required	If YES, To Whom?	Mike Bratcher NMOCD and Jim Amos BLM		
By Whom?	Tony Savoie	Date and Hour	12/13/11 12:12 p.m.		
Was a Watercourse Reached?	<input type="checkbox"/> Yes X No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\* An area where a section of flow line had been replaced was discovered that had released produced water and crude oil.

Describe Area Affected and Cleanup Action Taken.\* An area of stained soil measuring approximately 1,500 ft<sup>2</sup> was discovered while doing site assessments on other spills on the flow line on 12/13/11. Following initial response activities, the release was remediated as per NMOCD recommended guidelines. Please reference the attached *Remediation Summary & Risk-Based Site Closure Request* for remediation details.

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: Tony Savoie		OIL CONSERVATION DIVISION	
Printed Name: Tony Savoie		Approved by District Supervisor:	
Title: Waste Mgmt. & Remediation Specialist		Approval Date:	Expiration Date:
E-mail Address: TASavoie@BassPet.com		Conditions of Approval:	
Date: 1/22/14	Phone: 432-556-8730		

2 RP-1000



# **Appendix B**

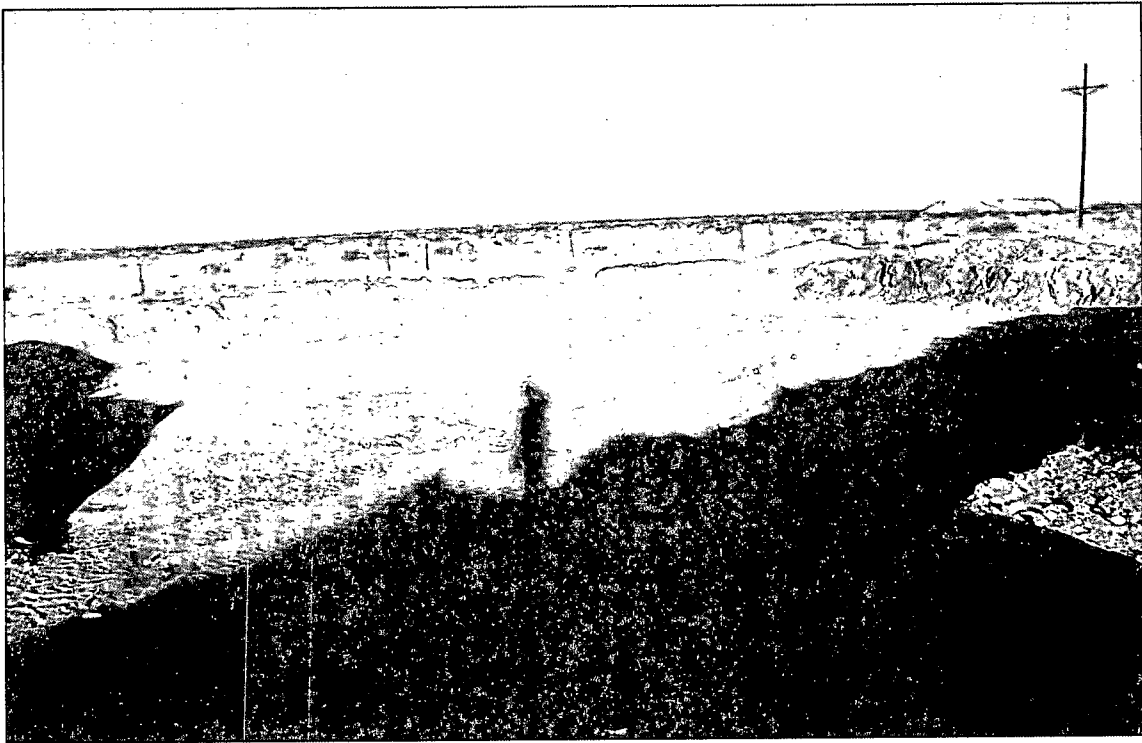
## **Photographs**



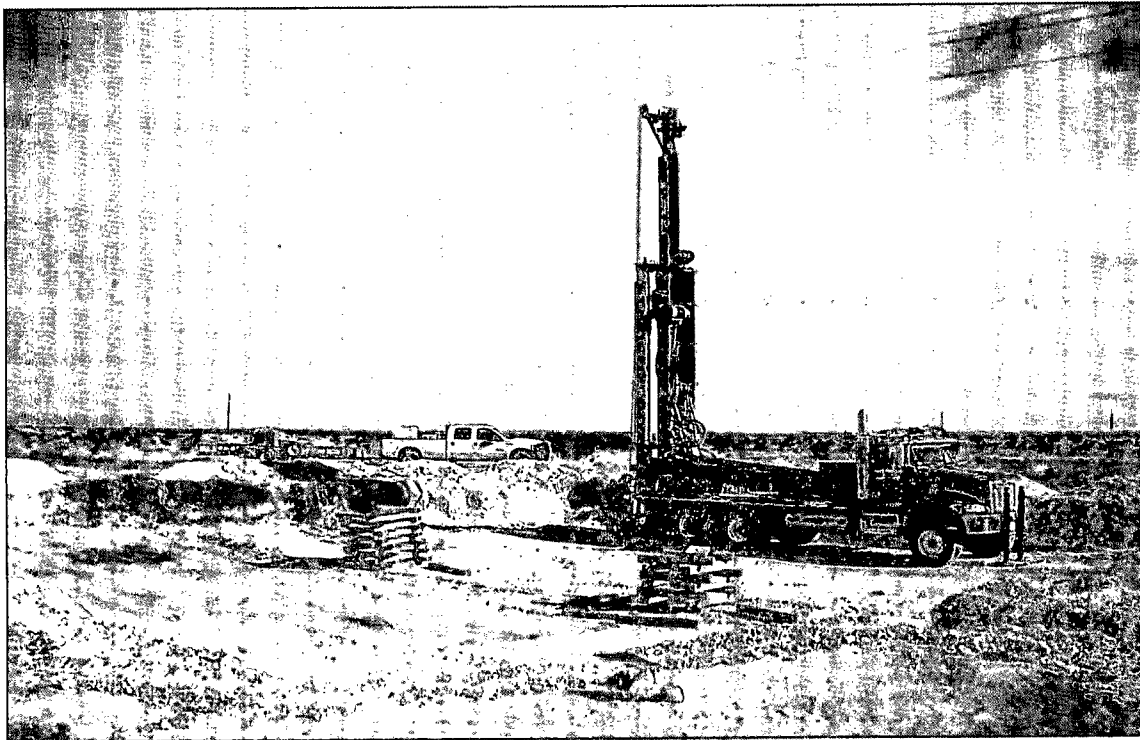
Bass 3 Federal Well #4 Spill Site "C"- Release Site



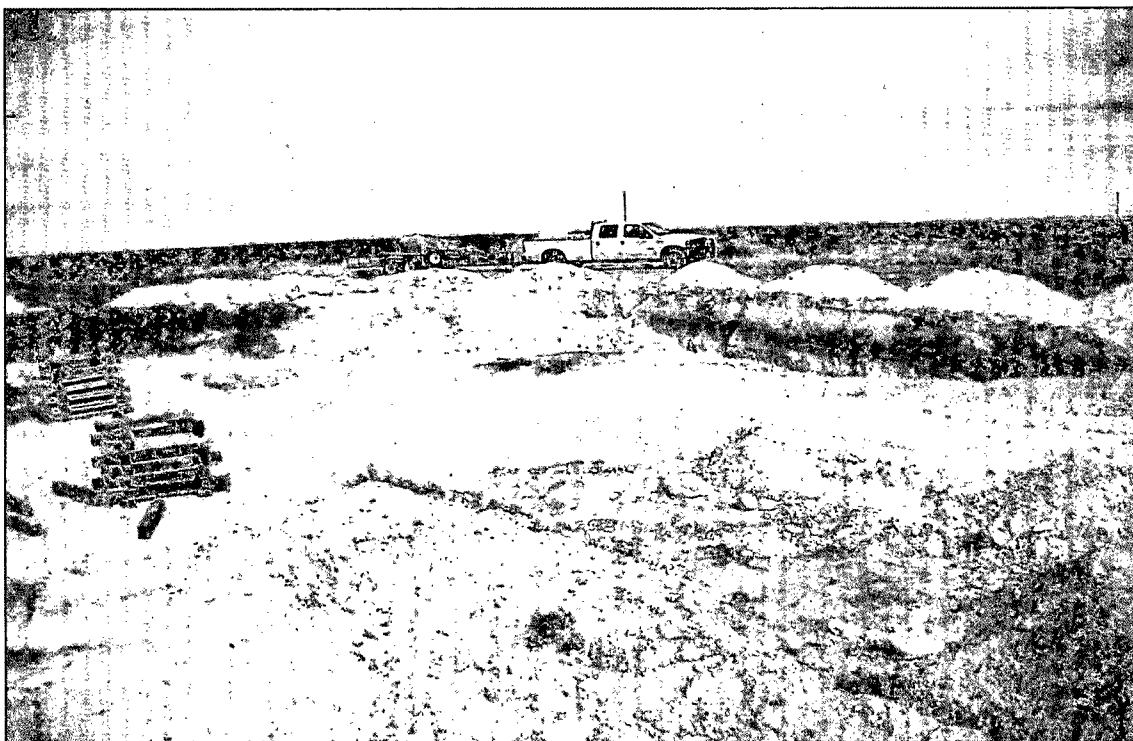
Bass 3 Federal Well #4 Spill Site "C"- Excavation



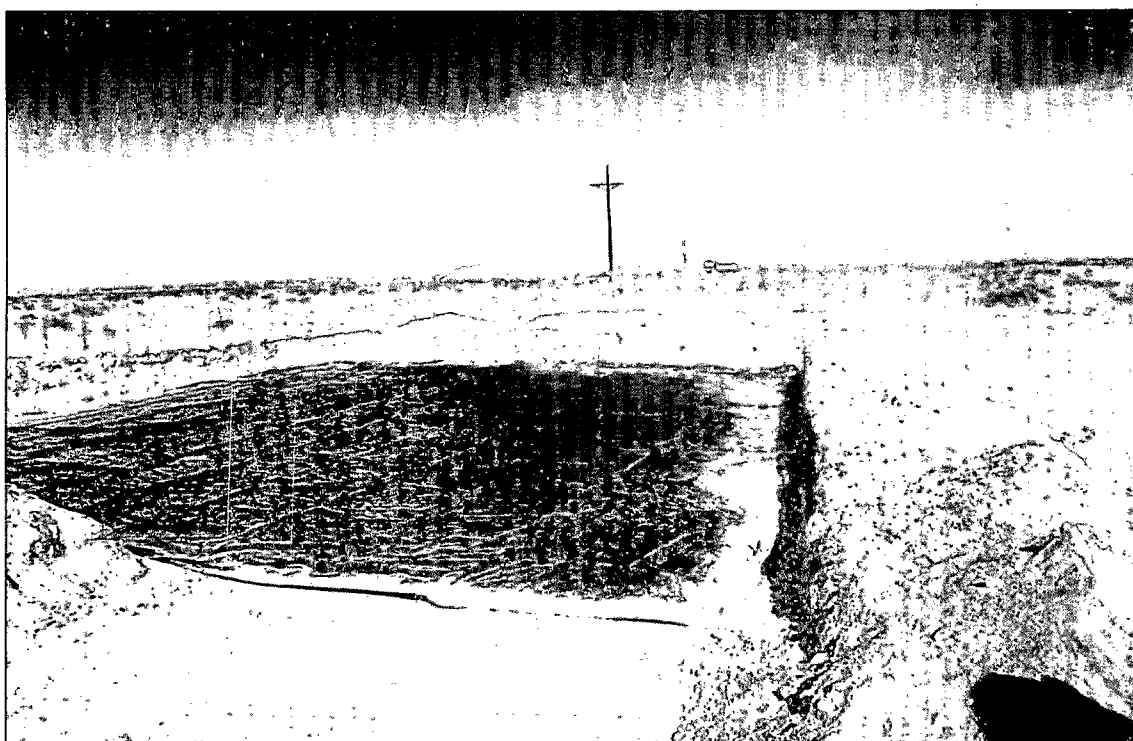
Bass 3 Federal Well #4 Spill Site "C"- Excavation



Bass 3 Federal Well #4 Spill Site "C"- Advancement of Soil Boring SB-1



Bass 3 Federal Well #4 Spill Site "C"- Excavation  
(Following Advancement of Soil Boring SB-1)



Bass 3 Federal Well #4 Spill Site "C"- Liner Installation



Bass 3 Federal Well #4 Spill Site "C"- Excavation (During Backfilling)



Bass 3 Federal Well #4 Spill Site "C" - Aerial Photograph of Excavation  
(Following Backfilling & Seeding)

# **Appendix C**

## **Soil Boring Logs**

# Soil Boring SB-1

Drilling Depth	Depth Below Ground Surface	Soil Column	Chloride Field Test	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description	Boring SB-1
0	5							Date Drilled <u>January 11, 2012</u>
5	10			1,062	Slight	None	0' - 8' - Caliche - tan fine sand - sandstone	Thickness of Bentonite Seal <u>80 Ft</u>
10	15			27.9	Slight	None		Depth of Exploratory Boring <u>80 Ft bgs</u>
15	20			118	Slight	None	8' - 17' - Red fine sand - sandstone	Depth to Groundwater _____
20	25			4.8	None	None		Ground Water Elevation _____
25	30		4,092	19.6	None	None	17' - 29' - Red fine sand with clay	▼ Indicates the PSH level measured on _____ ▼ Indicates the groundwater level measured on _____ ○ Indicates samples selected for Laboratory Analysis. PID Head-space reading in ppm obtained with a photo-ionization detector.
30	35				None	None		
35	40		4,842		None	None	29' - 38' - Red silty sand with clay	
40	45				None	None		
45	50				None	None		
50	55		7,224		None	None	38' - 57' - Tannish red fine sand	
55	60				None	None		
60	65				None	None	57' - 61' - Tan fine sand - sandstone	
65	70				None	None	61' - 66' - Tan fine sand - gravel	
70	75		2,172		None	None		
75	80		<120		None	None	66' - 88' - Red fine sand - sandstone	
80	85		<120		None	None		

## Completion Notes

- 1.) The soil boring was advanced on date using air rotary drilling techniques.
- 2.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

**Soil Boring SB-1**

**BOPCO, LP**  
**Bass 3 Federal Well #4 Spill Site "C"**  
**Eddy County, New Mexico**



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

Prep By: BJA	Checked By: BRB
May 11, 2012	

# **Appendix D**

## **Laboratory Analytical Reports**



December 22, 2011

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: BASS 3 FEDERAL WELL #4 SPILL SITE 'C'

Enclosed are the results of analyses for samples received by the laboratory on 12/20/11 8:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

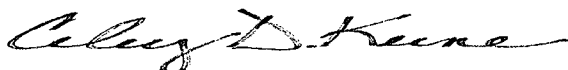
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	12/20/2011	Sampling Date:	12/19/2011
Reported:	12/22/2011	Sampling Type:	Soil
Project Name:	BASS 3 FEDERAL WELL #4 SPILL SITE 'C	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: TRENCH 1 @ 5' (H102741-01)**

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>32.0</b>	16.0	12/21/2011	ND	448	112	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	12/22/2011	ND	216	108	200	1.74	
DRO >C10-C28	<10.0	10.0	12/22/2011	ND	197	98.7	200	12.2	
EXT DRO >C28-C35	<10.0	10.0	12/22/2011	ND					
<i>Surrogate: 1-Chlorooctane</i>									
	94.9 %	55.5-154							
<i>Surrogate: 1-Chlorooctadecane</i>									
	103 %	57.6-158							

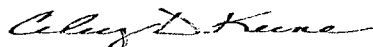
**Sample ID: TRENCH 2 @ 5' (H102741-02)**

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>64.0</b>	16.0	12/21/2011	ND	448	112	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	12/22/2011	ND	216	108	200	1.74	
DRO >C10-C28	<10.0	10.0	12/22/2011	ND	197	98.7	200	12.2	
EXT DRO >C28-C35	<10.0	10.0	12/22/2011	ND					
<i>Surrogate: 1-Chlorooctane</i>									
	88.1 %	55.5-154							
<i>Surrogate: 1-Chlorooctadecane</i>									
	91.9 %	57.6-158							

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	12/20/2011	Sampling Date:	12/19/2011
Reported:	12/22/2011	Sampling Type:	Soil
Project Name:	BASS 3 FEDERAL WELL #4 SPILL SITE 'C	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

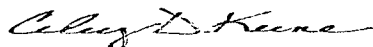
**Sample ID: TRENCH 3 @ 5' (H102741-03)**

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>80.0</b>	16.0	12/21/2011	ND	448	112	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	12/21/2011	ND	228	114	200	3.85		
DRO >C10-C28	<10.0	10.0	12/21/2011	ND	234	117	200	4.15		
EXT DRO >C28-C35	<10.0	10.0	12/21/2011	ND						
<hr/>										
Surrogate: 1-Chlorooctane	83.6 %	55.5-154								
Surrogate: 1-Chlorooctadecane	88.7 %	57.6-158								

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

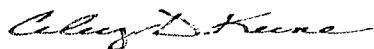
QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
ND	Analyte NOT DETECTED at or above the reporting 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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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

[illegible]

Relinquished By: <i>[Signature]</i>		Date: <i>12/20/11</i>	Received By: <i>[Signature]</i>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
		Time: <i>0700</i>		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #:
Relinquished By: <i>[Signature]</i>		Date: <i>12/20/11</i>	Received By: <i>[Signature]</i>	REMARKS:  <i>Run TPH. Hold for BTEX.</i>
		Time: <i>0800</i>		
Delivered By: (Circle One) <i>Good</i>		Sample Condition		CHECKED BY: <i>[Signature]</i>
Sampler - UPS - Bus - Other: <i>Good</i>		Cool <input type="checkbox"/> Intact <input type="checkbox"/>		(Initials)
		Yes <input type="checkbox"/> No <input type="checkbox"/>		<i>[Signature]</i>

Page 5 of 5

January 04, 2012

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: BASS 3 FEDERAL 4 'C'

Enclosed are the results of analyses for samples received by the laboratory on 12/30/11 15:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

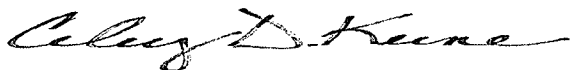
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 12/30/2011  
 Reported: 01/04/2012  
 Project Name: BASS 3 FEDERAL 4 'C'  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 12/30/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: WEST WALL (H102799-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	176	16.0	01/03/2012	ND	416	104	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	01/04/2012	ND	206	103	200	4.54		
DRO >C10-C28	<10.0	10.0	01/04/2012	ND	177	88.4	200	3.61		
EXT DRO >C28-C35	<10.0	10.0	01/04/2012	ND						
Surrogate: 1-Chlorooctane	108 %	55.5-154								
Surrogate: 1-Chlorooctadecane	128 %	57.6-158								

**Sample ID: SOUTH WALL (H102799-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	592	16.0	01/03/2012	ND	416	104	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	01/04/2012	ND	206	103	200	4.54		
DRO >C10-C28	<10.0	10.0	01/04/2012	ND	177	88.4	200	3.61		
EXT DRO >C28-C35	<10.0	10.0	01/04/2012	ND						
Surrogate: 1-Chlorooctane	100 %	55.5-154								
Surrogate: 1-Chlorooctadecane	123 %	57.6-158								

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 12/30/2011  
 Reported: 01/04/2012  
 Project Name: BASS 3 FEDERAL 4 'C'  
 Project Number: NONE GIVEN  
 Project Location: EDDY COUNTY, NM

 Sampling Date: 12/30/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: EAST WALL (H102799-03)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	01/03/2012	ND	416	104	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	01/04/2012	ND	206	103	200	4.54		
DRO >C10-C28	<10.0	10.0	01/04/2012	ND	177	88.4	200	3.61		
EXT DRO >C28-C35	<10.0	10.0	01/04/2012	ND						
Surrogate: 1-Chlorooctane	99.1 %	55.5-154								
Surrogate: 1-Chlorooctadecane	122 %	57.6-158								

**Sample ID: WATER WELL (H102799-04)**

Chloride, SM4500Cl-B			mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	336	4.00	01/03/2012	ND	100	100	100	3.92		
TDS 160.1			mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	2420	5.00	01/03/2012	ND	243	101	240	0.260		

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Notes and Definitions**


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

---

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

## Laboratories

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

[illegible]

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

January 19, 2012

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: BASS 3 FEDERAL WELL #4 SPILL SITE 'C'

Enclosed are the results of analyses for samples received by the laboratory on 01/16/12 8:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

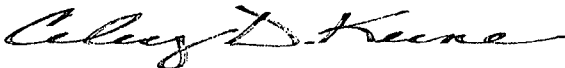
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Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	01/16/2012	Sampling Date:	01/11/2012
Reported:	01/19/2012	Sampling Type:	Soil
Project Name:	BASS 3 FEDERAL WELL #4 SPILL SITE 'C	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

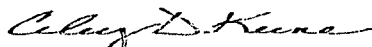
**Sample ID: SB-1 @ 20' (H200088-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Chloride	7200	16.0	01/16/2012	ND	432	108	400	0.00			
TPH 8015M		mg/kg		Analyzed By: MS							S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10	<10.0	10.0	01/16/2012	ND	219	109	200	6.11			
DRO >C10-C28	<10.0	10.0	01/16/2012	ND	203	101	200	10.3			
EXT DRO >C28-C35	<10.0	10.0	01/16/2012	ND							
<hr/>											
Surrogate: 1-Chlorooctane		140 %	55.5-154								
Surrogate: 1-Chlorooctadecane		163 %	57.6-158								

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	01/16/2012	Sampling Date:	01/11/2012
Reported:	01/19/2012	Sampling Type:	Soil
Project Name:	BASS 3 FEDERAL WELL #4 SPILL SITE 'C	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: SB-1 @ 25' (H200088-02)**

BTEX 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/17/2012	ND	1.93	96.5	2.00	3.48		
Toluene*	<0.050	0.050	01/17/2012	ND	2.05	102	2.00	2.56		
Ethylbenzene*	<0.050	0.050	01/17/2012	ND	2.05	103	2.00	2.92		
Total Xylenes*	<0.150	0.150	01/17/2012	ND	6.38	106	6.00	2.08		

Surrogate: 4-Bromofluorobenzene (PIL) 108 % 64.4-134

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>5200</b>	16.0	01/16/2012	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	01/16/2012	ND	219	109	200	6.11		
DRO >C10-C28	<10.0	10.0	01/16/2012	ND	203	101	200	10.3		
EXT DRO >C28-C35	<10.0	10.0	01/16/2012	ND						

Surrogate: 1-Chlorooctane 127 % 55.5-154

Surrogate: 1-Chlorooctadecane 148 % 57.6-158

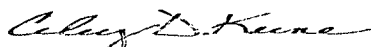
**Sample ID: SB-1 @ 75' (H200088-03)**

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>80.0</b>	16.0	01/16/2012	ND	432	108	400	0.00		

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	01/16/2012	Sampling Date:	01/11/2012
Reported:	01/19/2012	Sampling Type:	Soil
Project Name:	BASS 3 FEDERAL WELL #4 SPILL SITE 'C	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

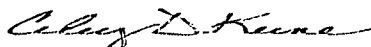
**Sample ID: SB-1 @ 80' (H200088-04)**

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	01/16/2012	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

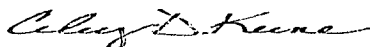
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	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







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

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January 17, 2012

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: BASS 3 FEDERAL WELL #4 SPILL SITE 'C'

Enclosed are the results of analyses for samples received by the laboratory on 01/16/12 8:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	01/16/2012	Sampling Date:	01/13/2012
Reported:	01/17/2012	Sampling Type:	Soil
Project Name:	BASS 3 FEDERAL WELL #4 SPILL SITE 'C	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

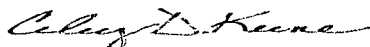
**Sample ID: NORTH WALL (H200082-01)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	01/16/2012	ND	432	108	400	0.00	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/16/2012	ND	219	109	200	6.11	
DRO >C10-C28	<10.0	10.0	01/16/2012	ND	203	101	200	10.3	
EXT DRO >C28-C35	<10.0	10.0	01/16/2012	ND					
Surrogate: 1-Chlorooctane									
	149 %	55.5-154							
Surrogate: 1-Chlorooctadecane									
	166 %	57.6-158							

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

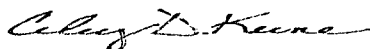
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	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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Celest D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Basin Environmental Service Technologies, LLC				<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>											
Project Manager: Ben J. Arquijo				P.O. #:		<div style="writing-mode: vertical-rl; transform: rotate(180deg);"> Chloride TPH (80/100) </div>											
Address: P.O. Box 301				Company: BOPCO, LP													
City: Lovington		State: NM		Zip: 88260													
Phone #: (575) 396-2378		Fax #: (575) 396-1429		Attn: Tony Savoie													
Project #:		Project Owner: BOPCO, LP		Address: 522 W. Mermod													
Project Name: Bass 3 Federal Well #4 Spill Site "C"		City: Carlsbad		State: NM													
Project Location: Eddy Co., NM		Zip: 88220		Phone #: (432) 556-8730													
Sampler Name: Bobby Blackwood				Fax #:													
FOR LAB USE ONLY																	
Lab I.D.	Sample I.D.	GRAB OR (COMP. # CONTAINERS)	MATRIX	PRESERV.	SAMPLING												
H200082			GROUNDWATER														
-1	North Wall	61	WASTEWATER														
			SOIL														
			OIL														
			SLUDGE														
			OTHER:														
			ACID/BASE:														
			ICE / COOL														
			OTHER:														
			DATE	TIME													
			11/13/12	1045													

PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or 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 rendered by Cardinal regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 11/13/12	Received By:	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
	Time: 1745		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date: 11/16/12	Received By:	REMARKS:	
	Time: 0845	Godi Henson		
Delivered By: (Circle One)	Sample Condition:	CHECKED BY:	Please email results to pm@basinenv.com	
Sampler - UPS - Bus - Other:	Cool <input type="checkbox"/> Intact <input type="checkbox"/>	(Initials)	E & TAsavoie@BassPet.com	
	Yes <input type="checkbox"/> No <input type="checkbox"/>			

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

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