

# *Basin Environmental Service Technologies, LLC*

3100 Plains Highway  
P. O. Box 301  
Lovington, New Mexico 88260

**bjarguijo@basinenv.com**

Office: (575) 396-2378

Fax: (575) 396-1429



## **REMEDICATION SUMMARY & SITE CLOSURE REQUEST**

**BOPCO, LP  
INDIAN FLATS BASS FEDERAL WELL #3  
Eddy County, New Mexico  
Unit Letter "K" (NE/SW), Section 35, Township 21 South, Range 28 East  
Latitude 32.433821° North, Longitude 104.057298° West  
NMOCD Reference #: 2RP-1659**

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**

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**Ben J. Arguijo  
Project Manager**

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## **1.0 INTRODUCTION & BACKGROUND INFORMATION**

Basin Environmental Service Technologies, LLC (Basin Environmental), on behalf of BOPCO, LP (BOPCO), has prepared this *Remediation Summary & Site Closure Request* for the release site known as Indian Flats Bass Federal Well #3. The legal description of the release site is Unit Letter "K" (NE/SW), Section 35, Township 21 South, Range 28 East, in Eddy County, New Mexico. The geographic coordinates of the release site are 32.433821° North latitude and 104.057298° 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 May 7, 2013, BOPCO discovered a release had occurred on the Indian Flats Bass Federal Well #3 flow line. A section of the three-inch (3") polyurethane flow line had split, resulting in a release of crude oil and produced water. 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 approximately one barrel (1 bbl) of crude oil and approximately seventeen barrels (17 bbls) of produced water were released. During initial response activities, the damaged section of the flow line was cut out and replaced, and a vacuum truck was utilized to recover approximately one barrel (1 bbl) of free-standing fluid.

The release affected an area of pastureland measuring approximately one thousand, eight hundred square feet (1,800 ft<sup>2</sup>), as well as approximately three hundred and sixty square feet (360 ft<sup>2</sup>) of an adjacent lease road.

The Form C-141 is provided as Appendix A. General photographs of the release site are provided in Appendix B.

## **2.0 NMOCD SITE CLASSIFICATION**

A search of the New Mexico Water Rights Reporting System (NMWRRS) database maintained by the New Mexico Office of the State Engineer (NMOSE) indicated information was unavailable for Section 35, Township 21 South, Range 28 East. A depth-to-groundwater reference map utilized by the NMOCD indicates groundwater should be encountered approximately one hundred and forty feet (140') below ground surface (bgs). Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

A search of the NMWRRS database indicated there are no water wells within one thousand feet (1,000') 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 Indian Flats Bass Federal Well #3 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, ethylbenzene, toluene, and xylenes (BTEX) – 50 mg/kg (ppm)
- Total petroleum hydrocarbons (TPH) – 5,000 mg/kg (ppm)

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

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

On July 25, 2013, excavation of impacted soil commenced at the site. A chloride test kit was utilized to field-screen the horizontal and vertical extent of impacted soil and to guide the excavation. Excavated soil was stockpiled on-site, pending final disposition.

A total of five (5) soil samples (North Wall #1, South Wall #1, East Wall #1, West Wall #1, and Floor #1) were collected from the floor and sidewalls of the excavation. The soil samples were submitted to Cardinal Laboratories in Hobbs, New Mexico, for analysis of TPH and/or chloride concentrations in accordance with Environmental Protection Agency (EPA) Methods SW-846 8015M and 4500 Cl-B, respectively. Soil sample Floor #1 was also analyzed for concentrations of BTEX in accordance with EPA Method SW-846 8021b. Laboratory analytical results indicated TPH, chloride, and BTEX constituent concentrations were less than the appropriate laboratory method detection limit (MDL) in all submitted soil samples.

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 C.

From July 26 through July 29, 2013, approximately three hundred and twenty cubic yards (320 yd<sup>3</sup>) of impacted soil was transported to Lea Land, Inc. (NMOCD Permit # WM-01-035), for disposal.

On the morning of July 29, 2013, upon receipt of laboratory analytical results, a representative of BOPCO contacted a representative of the NMOCD Artesia District Office to request permission to backfill the Indian Flats Bass Federal #3 excavation. The request was approved by the NMOCD representative.

Based on laboratory analytical results, and with NMOCD approval, on the afternoon of July 29, 2013, the excavation was backfilled with locally purchased, non-impacted material, compacted, and contoured to fit the surrounding topography. Prior to backfilling, the final dimensions of the excavation were approximately one hundred and twenty feet (120') in length, approximately eighty feet (80') in width, and varying in depth from approximately three feet (3') to approximately five feet (5') bgs.

The area of pastureland affected by the Indian Flats Bass Federal #3 release will be seeded with a BLM-approved seed mixture prior to the close of the 2013 calendar year.

## **4.0 QA/QC PROCEDURES**

### **4.1 Soil Sampling**

Soil samples were delivered to Cardinal Laboratories 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 Methods 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 floor and sidewalls of the Indian Flats Bass Federal Well #3 excavation were analyzed by an NMOCD-approved laboratory, and concentrations of benzene, BTEX, TPH, and chloride were below the regulatory remediation action levels established for the site by the NMOCD.

Basin Environmental recommends BOPCO provide the NMOCD Artesia District Office and the BLM a copy of this *Remediation Summary & Site Closure Request* and request the NMOCD grant site closure to the Indian Flats Bass Federal Well #3 release site.

## 6.0 LIMITATIONS

Basin Environmental Service Technologies, LLC, has prepared this *Remediation Summary & Site Closure Request* to the best of its ability. No other warranty, expressed or implied, is made or intended. Basin Environmental has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Basin Environmental has not conducted an independent examination of the facts contained in referenced materials and statements. Basin Environmental has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Basin Environmental has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin Environmental 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.

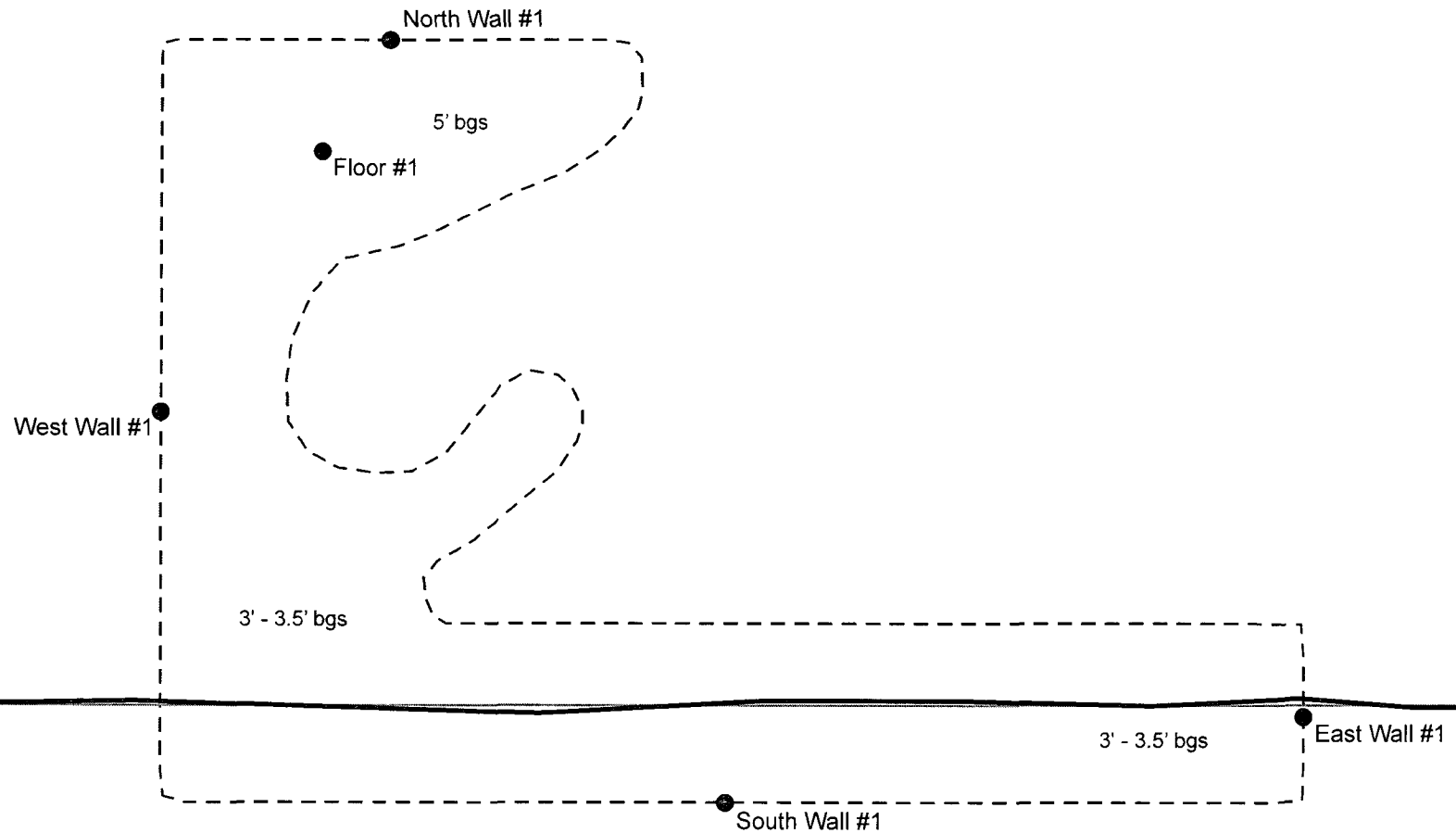
## **7.0 DISTRIBUTION:**

- 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







#### Legend

- - - Excavation ● Sample Location
- Pipeline
- Road

**Figure 2**  
**Site & Sample Location Map**  
**BOPCO, LP**  
**Indian Flats Bass Federal Well #3**  
**Eddy County, New Mexico**  
**NMOCD Reference #: 2RP-1659**



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

Drawn By: BJA	Checked By: BRB
August 17, 2013	Scale: 1" = 18'

# Tables

TABLE 1

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

BOPCO, LP  
 INDIAN FLATS BASS FEDERAL #3  
 EDDY COUNTY, NEW MEXICO  
 NMOCD REFERENCE #2RP-1659

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 CI-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)		
North Wall #1	3.5'	7/25/2013	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	<16.0
South Wall #1	3.5'	7/25/2013	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	-
East Wall #1	3.5'	7/25/2013	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	<16.0
West Wall #1	3.5'	7/25/2013	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	<16.0
Floor #1	5'	7/25/2013	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<16.0
NMOCD Criteria				10					50			5,000	1,000

- = Not analyzed.

# Appendices

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

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

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-141  
Revised August 8, 2011

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

**Release Notification and Corrective Action**

nJMW 1314132027

**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. 575-887-7329
Facility Name: Indian Flats Bass Federal Well#3	Facility Type: Exploration and Production
Spill location is 2300 ft. east of well location	

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-21853
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**LOCATION OF RELEASE**

Unit Letter K	Section 35	Township 21S	Range 28E	Feet from the	North/South Line	Feet from the	East/West Line	County: Eddy
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Latitude N. 32.433821 Longitude W 104.057298

**NATURE OF RELEASE**

Type of Release: Crude oil and produced water	Volume of Release: 1 Bbl. Of crude oil and 17 Bbbs of water	Volume Recovered: 1 Bbl total fluid
Source of Release: 3" poly flow line	Date and Hour of Occurrence: Date 5/7/13 Hour unknown	Date and Hour of Discovery: 5/7/13 at 9:00 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Jim Amos with the BLM	
By Whom? Tony Savoie	Date and Hour 5/7/13 at 5:00 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

**RECEIVED**  
MAY 17 2013

Describe Cause of Problem and Remedial Action Taken.\*

The 3" poly flow line split, the damaged area was cut out and the pipe was fused back together.

**NMOCD ARTESIA**

Describe Area Affected and Cleanup Action Taken.\*

Approximately 360 sq. ft. of lease road, and approximately 1800 sq. ft of pasture. The free standing fluid was picked up from the road, all of the fluid that was spilled had soaked into the ground in the pasture.

The spill will be remediated using the NMOCD recommended guidelines for the remediation of leaks.

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.

**OIL CONSERVATION DIVISION**

Signature:	Approved by Environmental Specialist:	
Printed Name: Tony Savoie	Signed By <i>M. L. Brannan</i>	
Title: Waste Management and Remediation Specialist	Approval Date: <b>MAY 21 2013</b>	Expiration Date:
E-mail Address: tasavoie@basspet.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 5/16/13 Phone: 432-556-8730	Remediation per OCD Rule & Guidelines. <b>SUBMIT REMEDIATION PROPOSAL NO LATER THAN:</b>	

\* Attach Additional Sheets If Necessary

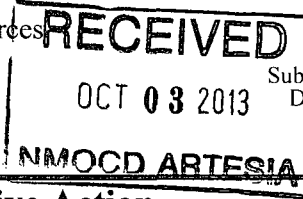
June 20, 2013

2RP-1659

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

☒ Final Report

Name of Company	BOPCO, LP	Contact	Tony Savoie
Address	522 W. Mermod, Suite 704, Carlsbad, NM 88220	Telephone No.	(432)556-8730
Facility Name	Indian Flats Bass Federal #3	Facility Type	E&P
Spill location	is 2300 ft. east of well location.		

Surface Owner	Federal	Mineral Owner	Federal	Lease No.	API #30-015-21853
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**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	35	21S	28E					Eddy

**Latitude** 32.433821° North

**Longitude** 104.057298° West

**NATURE OF RELEASE**

Type of Release	Crude oil and produced water	Volume of Release	1 bbl of crude oil and 17 bbls of produced water	Volume Recovered	1 bbl total fluid
Source of Release	3" poly flow line	Date and Hour of Occurrence	5/7/13 Hour unknown	Date and Hour of Discovery	5/7/13 at 9:00 a.m.
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required				
By Whom?	Tony Savoie	If YES, To Whom?	Jim Amos with the BLM		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Date and Hour	5/7/13 5:00 p.m.	
If YES, Volume Impacting the Watercourse.					

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\* The 3" poly flow line split. The damaged area was cut out, and the pipe was fused back together.

Describe Area Affected and Cleanup Action Taken.\* Approximately 360 sq. ft. of lease road, and approximately 1800 sq. ft. of pasture land. A vacuum truck was utilized to remove all of the free-standing liquid. Following initial response activities, both releases were remediated as per NMOCD recommended guidelines. Please reference the attached *Remediation Summary & 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.

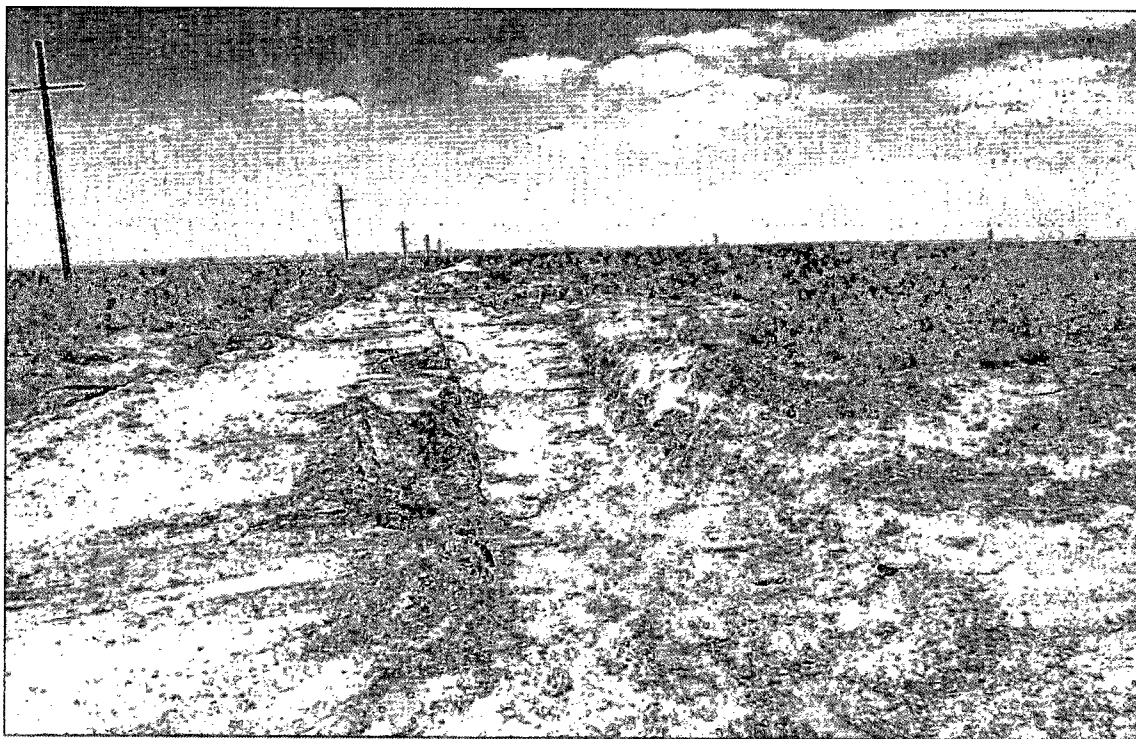
Signature:		<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Tony Savoie		Approved by District Supervisor:	
Title:	Approval Date:	Expiration Date:	
E-mail Address:	Conditions of Approval:		
Date: 10/3/13	Phone:		

2RP-1659

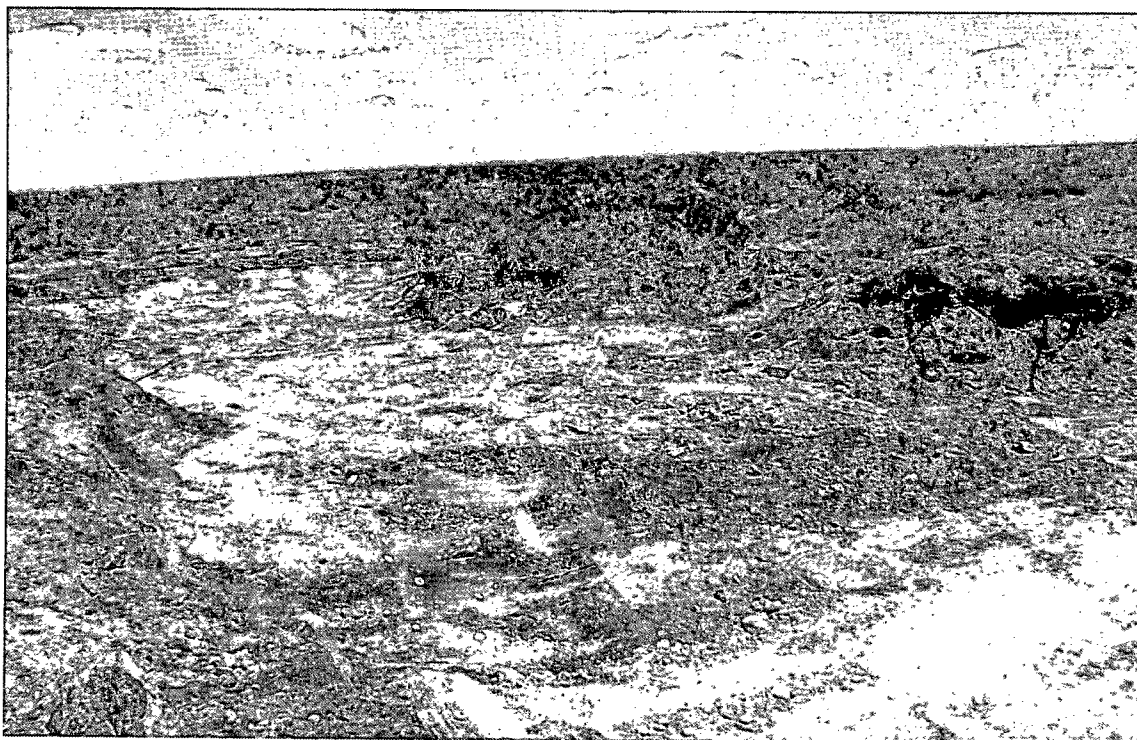


# **Appendix B**

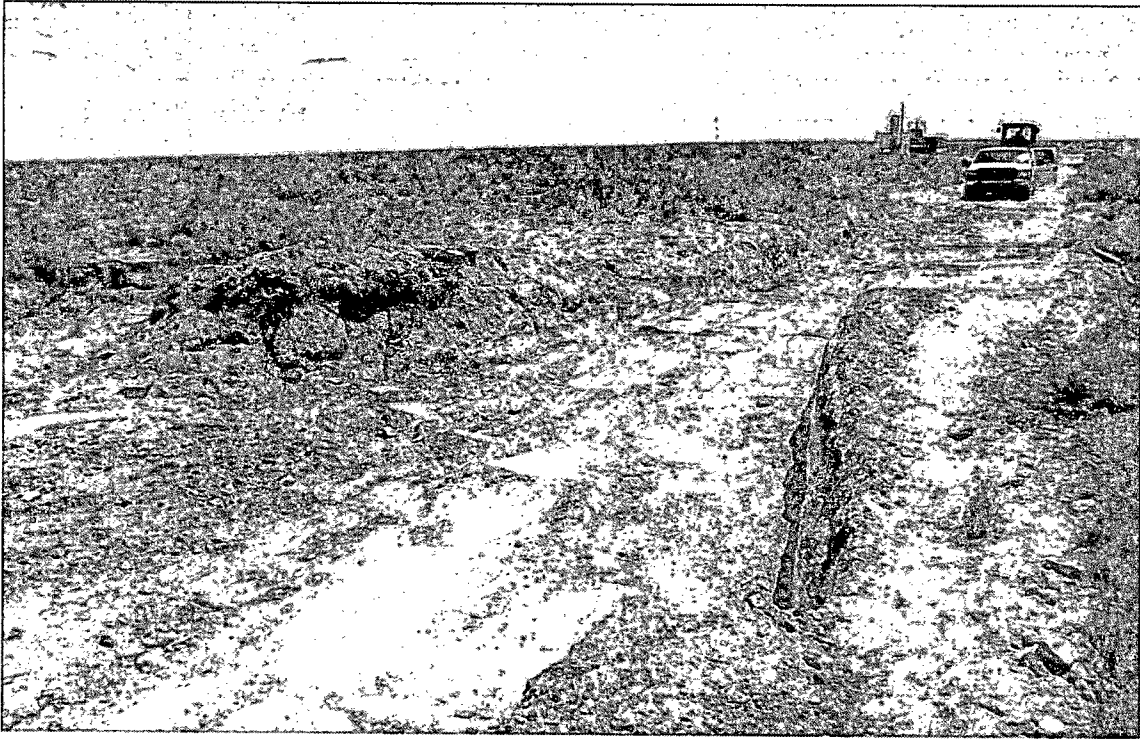
## **Photographs**



Indian Flats Bass Federal Well #3- Excavation (looking west)



Indian Flats Bass Federal Well #3- Excavation (looking northeast)



Indian Flats Bass Federal Well #3- Excavation (looking east)



Indian Flats Bass Federal Well #3- Excavation (looking southeast)

# **Appendix C**

## **Laboratory Analytical Reports**



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

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July 29, 2013

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: INDIAN FLATS BASS FEDERAL WELL #3

Enclosed are the results of analyses for samples received by the laboratory on 07/26/13 15:00.

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/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/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 "Coley D. Keene". The signature is written in a cursive, flowing style.

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:	07/26/2013	Sampling Date:	07/25/2013
Reported:	07/29/2013	Sampling Type:	Soil
Project Name:	INDIAN FLATS BASS FEDERAL WELL #3	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: FLOOR #1 (H301769-01)**

BTEX 8021B		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/29/2013	ND	1.80	89.9	2.00	2.74	
Toluene*	<0.050	0.050	07/29/2013	ND	1.80	89.9	2.00	2.64	
Ethylbenzene*	<0.050	0.050	07/29/2013	ND	1.91	95.6	2.00	2.12	
Total Xylenes*	<0.150	0.150	07/29/2013	ND	5.75	95.8	6.00	1.35	
Total BTEX	<0.300	0.300	07/29/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 104 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/29/2013	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/26/2013	ND	188	93.9	200	7.00	
DRO >C10-C28	<10.0	10.0	07/26/2013	ND	195	97.4	200	9.12	
EXT DRO >C28-C35	<10.0	10.0	07/26/2013	ND					

Surrogate: 1-Chlorooctane 85.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 112 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	07/26/2013	Sampling Date:	07/25/2013
Reported:	07/29/2013	Sampling Type:	Soil
Project Name:	INDIAN FLATS BASS FEDERAL WELL #3	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: EAST WALL #1 (H301769-02)**

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	07/29/2013	ND	400	100	400	3.92	
TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/26/2013	ND	188	93.9	200	7.00	
DRO >C10-C28	<10.0	10.0	07/26/2013	ND	195	97.4	200	9.12	
EXT DRO >C28-C35	<10.0	10.0	07/26/2013	ND					
<i>Surrogate: 1-Chlorooctane</i>									
	77.8 %	65.2-140							
<i>Surrogate: 1-Chlorooctadecane</i>									
	103 %	63.6-154							

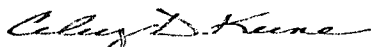
**Sample ID: NORTH WALL #1 (H301769-03)**

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	07/29/2013	ND	400	100	400	3.92	
TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/26/2013	ND	188	93.9	200	7.00	
DRO >C10-C28	<10.0	10.0	07/26/2013	ND	195	97.4	200	9.12	
EXT DRO >C28-C35	<10.0	10.0	07/26/2013	ND					
<i>Surrogate: 1-Chlorooctane</i>									
	80.5 %	65.2-140							
<i>Surrogate: 1-Chlorooctadecane</i>									
	98.6 %	63.6-154							

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	07/26/2013	Sampling Date:	07/25/2013
Reported:	07/29/2013	Sampling Type:	Soil
Project Name:	INDIAN FLATS BASS FEDERAL WELL #3	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: WEST WALL #1 (H301769-04)**

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	07/29/2013	ND	400	100	400	3.92		
TPH 8015M			mg/kg Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	07/26/2013	ND	188	93.9	200	7.00		
DRO >C10-C28	<10.0	10.0	07/26/2013	ND	195	97.4	200	9.12		
EXT DRO >C28-C35	<10.0	10.0	07/26/2013	ND						
Surrogate: 1-Chlorooctane										
	77.5 %	65.2-140								
Surrogate: 1-Chlorooctadecane										
	99.7 %	63.6-154								

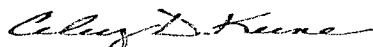
**Sample ID: SOUTH WALL #1 (H301769-05)**

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	07/29/2013	ND	400	100	400	3.92		
TPH 8015M			mg/kg Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	07/26/2013	ND	188	93.9	200	7.00		
DRO >C10-C28	<10.0	10.0	07/26/2013	ND	195	97.4	200	9.12		
EXT DRO >C28-C35	<10.0	10.0	07/26/2013	ND						
Surrogate: 1-Chlorooctane	79.4 %	65.2-140								
Surrogate: 1-Chlorooctadecane	99.1 %	63.6-154								

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Celey D. Keene, Lab Director/Quality Manager



**Notes and Definitions**

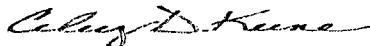
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received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

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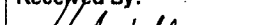


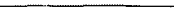


## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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[illegible]

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Relinquished By: 		Date: 7-26-13	Received By: 	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #: 432-266-2679
Time: 12:31				Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By: 		Date: 7/26/13	Received By: 	REMARKS: RUSH CALL Jody	
Time: 3:00					
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CHECKED BY: 		
4.6°C					

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326