

# *Basin Environmental Service Technologies, LLC*

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Lovington, New Mexico 88260

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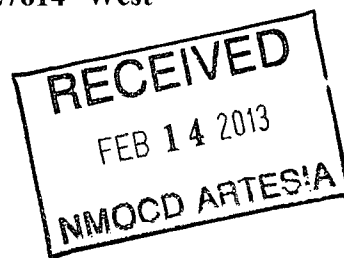


## **REMEDIATION SUMMARY & RISK-BASED SITE CLOSURE REQUEST**

**BOPCO, LP**  
**POKER LAKE UNIT #78 Delaware B Tank Battery**  
**Eddy County, New Mexico**  
**Unit Letter "A" (NE/NE), Section 25, Township 24 South, Range 30 East**  
**Latitude 32.194069° North, Longitude 103.827614° West**

Prepared For:

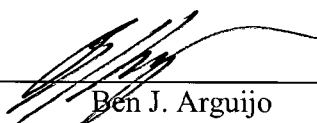
BOPCO, LP  
522 W. Mermod  
Suite 704  
Carlsbad, New Mexico 88220



Prepared By:

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

**January 2013**

  
\_\_\_\_\_  
Ben J. Arguijo  
Project Manager

## TABLE OF CONTENTS

1.0 INTRODUCTION.....	1
2.0 NMOCD SITE CLASSIFICATION.....	1
3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES.....	2
4.0 QA/QC PROCEDURES.....	4
4.1 Soil Sampling.....	4
4.2 Decontamination of Equipment.....	4
4.3 Laboratory Protocol.....	4
5.0 SITE CLOSURE REQUEST.....	5
6.0 LIMITATIONS.....	5
7.0 DISTRIBUTION.....	6

## FIGURES

Figure 1 – Site Location Map

Figure 2 – Site & Sample Location Map

## TABLES

Table 1 – Concentrations of Benzene, BTEX, TPH & Chloride in Soil

## APPENDICES

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

Appendix B – Photographs

Appendix C – Soil Boring Logs

Appendix D – Laboratory Analytical Reports

## **1.0 INTRODUCTION AND 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 Poker Lake Unit #78 Delaware B Tank Battery ("Delaware B"). The legal description of the release site is Unit Letter "A" (NE/NE), Section 25, Township 24 South, Range 30 East, in Eddy County, New Mexico. The geographic coordinates of the release site are 32.194069° North latitude and 103.827614° 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 May 13, 2010, BOPCO discovered a release had occurred at the Delaware B tank battery. The pump on the produced water tank malfunctioned, resulting in a release of produced water and crude oil. The release was confined to the earthen containment area, and free-standing fluid was removed with a vacuum truck. The release was reported to the New Mexico Oil Conservation Division (NMOCD) Artesia District Office on May 13, 2010. The Release Notification and Corrective Action (Form C-141) indicated approximately two hundred and eighty barrels (280 bbls) of produced water and approximately five barrels (5 bbls) of crude oil were released, and approximately two hundred and sixty barrels (260 bbls) of produced water and approximately five barrels (5 bbls) of crude oil were recovered.

On July 7, 2010, BOPCO discovered an additional release had occurred at the Delaware B tank battery. A pipe connection on the water tank failed, and the two-inch (2") valve located between the tank and pump was closed, stopping the flow of water and resulting in a release of produced water. The release was confined to the earthen containment area, and free-standing fluid was removed with a vacuum truck. The release was reported to the NMOCD Artesia District Office on July 7, 2010. The Form C-141 indicated approximately ninety barrels (90 bbls) of produced water were released, and approximately eighty barrels (80 bbls) of produced water were recovered.

On August 20, 2011, BOPCO discovered a third release had occurred at the Delaware B tank battery. A storage tank overflow on unknown cause resulted in the release of crude oil. The release was confined to the earthen containment area, and free-standing fluid was removed with a vacuum truck. The release was reported to the NMOCD Artesia District Office on August 20, 2011. The Form C-141 indicated approximately forty barrels (40 bbls) of crude oil were released, and approximately thirty barrels (30 bbls) of crude oil were recovered.

The three (3) releases were remediated concurrently. The Form C-141 for each release is provided in 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 25, Township 24 South, Range 30 East. A depth-to-groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately three hundred and sixty feet (360') to three hundred and sixty-five feet (365')

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 Delaware B release site has an initial ranking score of zero (0) points. The soil remediation levels for a site with a ranking score of zero (0) points are as follows:

- Benzene – 10 mg/Kg (ppm)
- Benzene, toluene, ethylbenzene and xylenes (BTEX) – 50 mg/Kg (ppm)
- Total petroleum hydrocarbons (TPH) – 5,000 mg/Kg (ppm)

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

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

On May 25, 2010, one (1) soil boring (SB-1) was advanced to evaluate the vertical extent of impacted soil at the site. Soil samples were collected at five foot (5') drilling intervals and field-screened using a Photo-Ionization Detector (PID) and a chloride field test kit. Selected soil samples were submitted to Cardinal Laboratories in Hobbs, New Mexico, for analysis of BTEX, TPH, and chloride concentrations using EPA Methods SW-846 8021b, 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. A soil boring log is provided as Appendix C. Laboratory analytical reports are provided as Appendix D.

Soil boring SB-1 was located inside the containment area on the north side of the battery. The soil boring was advanced to a total depth of approximately forty five feet (45') bgs. Soil samples collected at five feet (5'), ten feet (10'), twenty feet (20'), twenty-five feet (25'), thirty feet (30'), forty feet (40'), and forty-five feet (45') bgs were submitted to the laboratory for analysis of BTEX, TPH, and/or chloride concentrations. Laboratory analytical results indicated benzene concentrations were less than the appropriate laboratory method detection limit (MDL) in each of the submitted soil samples. BTEX concentrations ranged from less than the appropriate laboratory MDL in soil samples SB-1 @ 25', SB-1 @ 40', and SB-1 @ 45' to 2.172 mg/Kg in soil sample SB-1 @ 5'. TPH concentrations ranged from less than the appropriate laboratory MDL in soil samples SB-1 @ 40' and SB-1 @ 45' to 126.4 mg/Kg in soil sample SB-1 @ 5'. Chloride concentrations ranged from 416 mg/Kg in soil samples SB-1 @ 40' and SB-1 @ 45' to 3,120 mg/Kg in soil sample SB-1 @ 20'. A review of laboratory analytical results indicated benzene, BTEX and TPH concentrations were less than the appropriate NMOCD regulatory standard.

A background soil sample (Background) was also collected and analyzed for chloride concentrations. Laboratory analytical results indicated the chloride concentration in soil sample Background was less than the laboratory MDL of 16.0 mg/Kg.

On October 14, 2011, four soil samples (Sample #1, Sample #2, Sample #3, and Sample #4) were collected to further delineate the vertical and horizontal extent of impacted soil at the site. The soil samples were submitted to the lab for analysis of TPH concentrations. Laboratory analytical results indicated TPH concentrations ranged from 12.2 mg/Kg in soil sample Sample #2 to 11,810 mg/Kg in soil sample Sample #1. Based on laboratory analytical results, further delineation would be required in the area represented by soil samples Sample #3 and Sample #4. Further delineation in the area represented by soil sample Sample #1 was precluded by the presence of an active pipeline running through the site.

On October 18, 2011, excavation of impacted soil commenced at the site. A PID and chloride test kit were used to field-screen the horizontal and vertical extent of impacted soil and to guide the excavation. To facilitate remediation activities, the excavation was divided into two (2) sections: East Excavation and West Excavation. The East Excavation was located in the area immediately adjacent to, and between, the five (5) on-site storage tanks. To preserve the structural integrity of the storage tanks, the vertical extent of the East Excavation was limited to one and one-half feet (1.5') bgs. The West Excavation was located in the area defined by soil samples Sample #1 through Sample #4. Excavated soil was stockpiled on-site, pending final disposition.

From October 20 through October 26, 2011, approximately three hundred and sixty cubic yards (360 yd<sup>3</sup>) of impacted soil was transported to Lea Land, Inc. (NMOCD Permit # WM-01-035), for disposal.

On October 20, 2011, four (4) soil samples (Sample 4A, Tank 3 South, Tank 4 South, and Tank 5 South) were collected from the floor and sidewalls of the excavations and submitted to the laboratory for analysis of TPH concentrations. Soil sample Sample 4A was advanced in the West Excavation, in the area represented by soil sample Sample #4. Soil samples Tank 3 South, Tank 4 South, and Tank 5 South were located in the East Excavation, inside the containment area of the battery, to the south of the on-site storage tanks. Laboratory analytical results indicated TPH concentrations ranged from less than the laboratory method detection limit (MDL) of 10.0 mg/Kg in soil sample Sample 4A to 28,550 mg/Kg in soil sample Tank 5 South.

A delineation trench was advanced in the West Excavation, in the area represented by soil sample Sample #3. The trench was advanced to a total depth of approximately ten feet (10') bgs. A single soil sample (Sample 3A) was collected from the floor of the trench and submitted to the laboratory for analysis of TPH, BTEX, and chloride concentrations. Laboratory analytical results indicated the TPH concentration in soil sample Sample 3A was 36.6 mg/Kg, the chloride concentration was 4,800 mg/Kg, and BTEX constituent concentrations were less than the appropriate laboratory MDL.

Based on laboratory analytical results and field-screens, from October 21 through October 28, 2011, the West Excavation was backfilled in eighteen-inch (18") lifts, compacted, and contoured to fit the surrounding topography. Prior to backfilling, final dimensions of the excavation were

approximately forty-four feet (44') feet in length, approximately thirty-nine feet (39') feet in width, and approximately six feet (6') in depth.

On October 31, 2011, one (1) hand-augered soil bore was advanced at the western edge of West Excavation. A single confirmation soil sample (Sample #5) was collected from the soil bore and submitted to the laboratory for analysis of TPH and chloride concentrations. Laboratory analytical results indicated the TPH concentration in soil sample Sample #5 was less than the laboratory MDL of 10.0 mg/Kg, and the chloride concentration was 336 mg/Kg.

The East Excavation was backfilled with clean, crushed caliche to a depth approximately six inches (6") below the original ground surface. Prior to backfilling, three (3) soil samples (Tank 2 North, Tank 4 North, and Tank 5 North) were collected from the floor of the excavation and submitted to the laboratory for analysis of TPH concentrations. Laboratory analytical results indicated TPH concentrations were less than the laboratory MDL of 10.0 mg/Kg in all submitted soil samples.

From October 31 through November 9, 2011, to mitigate future releases, a new, steel-walled containment area was constructed around the Delaware B tank battery. The steel perimeter walls extend approximately two feet (2') above ground surface. A felt liner was installed in the floor of the new containment area, and the floor and perimeter walls were coated with an impermeable, spray-on polyurethane liner.

#### **4.0 QA/QC PROCEDURES**

##### **4.1 Soil Sampling**

Soil samples were delivered to Cardinal Laboratories, Inc., of 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 modified EPA Method SW-846 8015M
- Chloride concentrations in accordance with EPA Method SM 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**

Contaminated soil at the Delaware B release site was excavated to the extent practicable. Soil samples collected from the floors and sidewalls of the Delaware B excavations were analyzed by an NMOCD-approved laboratory, and BTEX constituent concentrations were less than the remediation action levels (RRAL's) established for the site by the NMOCD. The floor and perimeter walls of the containment area surrounding the Delaware B were coated with an impermeable, spray-on polyurethane liner. This engineered control will inhibit the downward migration of contaminants in the areas represented by soil samples Sample #1, Sample 3A, Tank 4 South, and Tank 5 South. In-situ soil exhibiting contamination above the RRAL's established for the site will be remediated upon decommission and/or abandonment of the currently active tank battery.

Basin 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 site closure to the Delaware B 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.

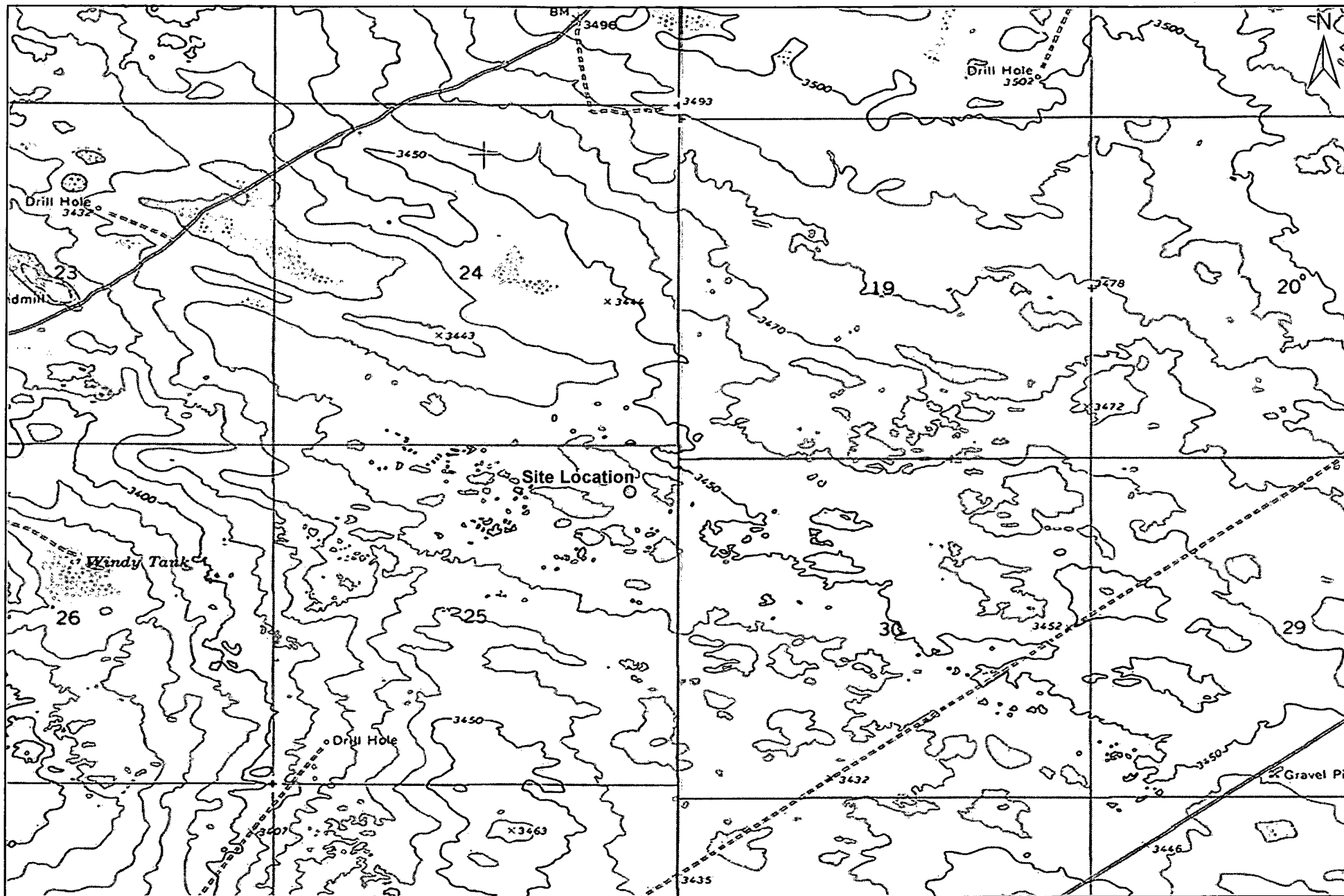
This report has been prepared for the benefit of BOPCO, LP. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or BOPCO, LP.

## **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, New Mexico 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, Ste. 704  
Carlsbad, New Mexico 88220
- Copy 4: Basin Environmental Service Technologies, LLC  
P.O. Box 301  
Lovington, New Mexico 88260



# Figures



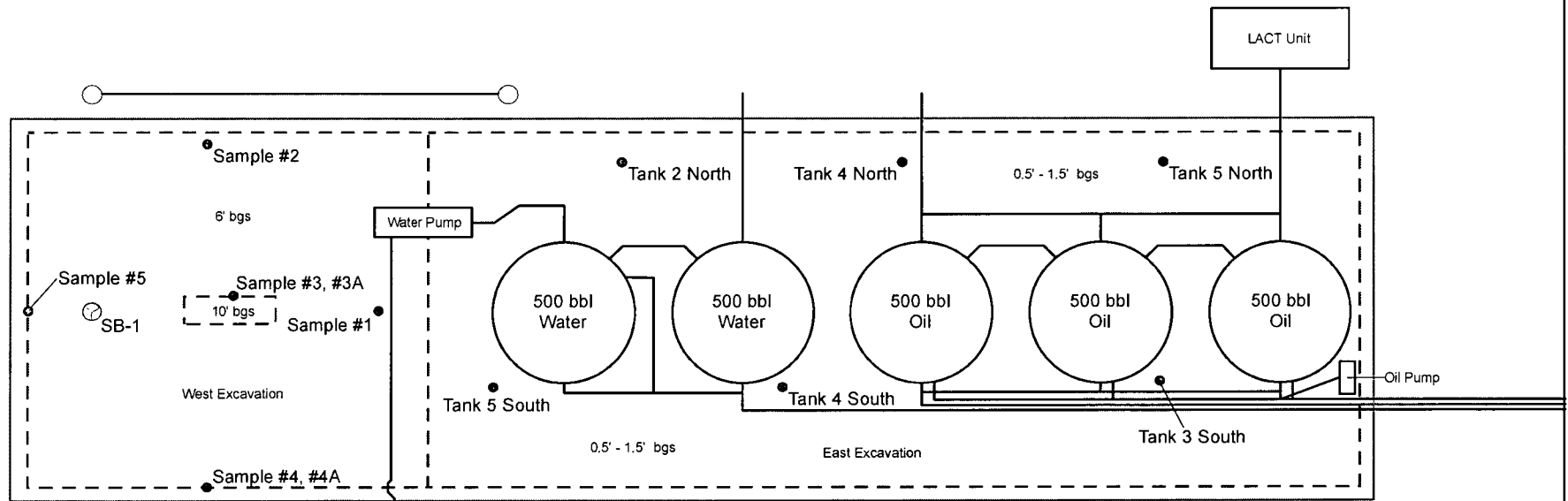
1,000 500 0 1,000 2,000  
 Distance in Feet

**Figure 1**  
**Site Location Map**  
**BOPCO, LP**  
**Poker Lake Unit #78 Delaware B Tank Battery**  
**Eddy County, New Mexico**



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

Drawn By: BJA	Checked By: BRB
June 6, 2012	Scale: 1" = 2000'



**Legend:**

- - - - Excavation
- Sample Location
- Pipeline
- ⊙ Soil Boring
- Containment Area
- Electrical Conduit

**Figure 2**  
**Site & Sample Location Map**  
**BOPCO, LP**  
**Poker Lake Unit #78 Delaware B Tank Battery**  
**Eddy County, New Mexico**



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

Drawn By: BJA	Checked By: BRB
January 14, 2013	Scale: 1" = 18'

# Tables

TABLE 1

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

BOPCO, LP  
POKER LAKE UNIT #78 DELAWARE B TANK BATTERY  
EDDY COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M			TOTAL TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	4500 Cl-B CHLORIDE (mg/Kg)
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)		
Background	Surface	05/25/10	In-Situ	-	-	-	-	-	-	-	-	-	<16.0
SB-1 @ 5'	5'	05/25/10	In-Situ	<0.050	0.131	0.321	1.72	2.172	19.4	107	<10.0	126.4	-
SB-1 @ 10'	10'	05/25/10	In-Situ	-	-	-	-	-	-	-	-	-	640
SB-1 @ 20'	20'	05/25/10	In-Situ	-	-	-	-	-	-	-	-	-	3,120
SB-1 @ 25'	25'	05/25/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	32.8	<10.0	32.8	-
SB-1 @ 30'	30'	05/25/10	In-Situ	-	-	-	-	-	-	-	-	-	768
SB-1 @ 40'	40'	05/25/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	416
SB-1 @ 45'	45'	05/25/10	In-Situ	<0.050	<0.050	<0.050	<0.300	<0.300	<10.0	<10.0	<10.0	<10.0	416
Sample #1	1'	10/14/2011	In-situ	-	-	-	-	-	3,200	7,970	640	11,810	-
Sample #2	1'	10/14/2011	In-situ	-	-	-	-	-	<10.0	12.2	<10.0	12.2	-
Sample #3	1'	10/14/2011	Excavated	-	-	-	-	-	690	1,380	90.1	2,160	-
Sample #4	1'	10/14/2011	Excavated	-	-	-	-	-	239	1,600	116	1,955	-
Sample 3A	10'	10/20/2011	In-situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	36.6	<10.0	36.6	4,800
Sample 4A	6'	10/20/2011	In-situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	-
Tank 3 South	1.5'	10/20/2011	In-situ	-	-	-	-	-	<50.0	643	104	747	-
Tank 4 South	1.5'	10/20/2011	In-situ	-	-	-	-	-	1,440	19,300	1,510	22,250	-
Tank 5 South	1.5'	10/20/2011	In-situ	-	-	-	-	-	1,920	24,600	2,030	28,550	-
Sample #5	4'	10/31/2011	In-situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	336
Tank 2 North	1.5'	10/31/2011	In-situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	-
Tank 4 North	1.5'	10/31/2011	In-situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	-
Tank 5 North	1.5'	10/31/2011	In-situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	-
NMOCD Standard				10				50				5,000	1,000

- = Not analyzed.

# **Appendices**

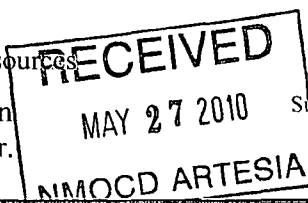
**Appendix A**  
**Release Notification &**  
**Corrective Action (Form C-141)**

(NMOCD)

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



### Release Notification and Corrective Action

#### OPERATOR

☒ Initial Report ☐ Final Report

Name of Company BOPCO, L.P. <i>260737</i>	Contact Tony Savoie
Address 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 432-556-8730
Facility Name Poker Lake Unit #78 Delaware B Tank Battery	Facility Type E&P

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

Unit Letter A	Section 25	Township 24S	Range 30E	Feet from the	North/South Line	Feet from the	East/West Line	County Eddy
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Latitude N 32.194069 Longitude W 103.827614

#### NATURE OF RELEASE

Type of Release: Produced water and crude oil	Volume of Release: 280 Bbls of Produced water and 5 Bbls of Crude oil	Volume Recovered: 260 bbls of produced water and 5 bbls crude oil
Source of Release: 300 bbl produced water tank overflow	Date and Hour of Occurrence Unknown	Date and Hour of Discovery 5/13/10 8:00 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Randy NMOCD on call operator	
By Whom? Tony Savoie	Date and Hour 5/13/10 10:21a.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		
Describe Cause of Problem and Remedial Action Taken.* The produced water tank overflowed due to a pump malfunction. The main water transfer pump failed to come. The pump motor was replaced.		
Describe Area Affected and Cleanup Action Taken.* The released fluid affected an area of approximately 3,000 sq. ft inside the earthen containment around the tanks, the facility does not have impervious containment. The free standing fluids were removed with a vacuum truck. On 5/25/10 An area was selected inside the containment for an air rotary rig to advance a soil bore to determine vertical extent. The soil bore was advanced to a depth of approximately 45 ft. below ground surface and sampled a 5 ft. intervals for TPH, BTEX and Chlorides. Estimated depth to water is greater than 400 ft. The sample results along with a remediation plan and containment upgrade will be submitted to the NMOCD. 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: <i>Tony Savoie</i>	OIL CONSERVATION DIVISION	
Printed Name: Tony Savoie	Approved by District Supervisor: Signed By <i>Mike Brannan</i>	
Title: Waste Mgmt. & Remediation Specialist	Approval Date: <i>3/3/11</i>	Expiration Date:
E-mail Address: TASavoie@BassPet.com	Conditions of Approval:	
Date: 5/27/10 Phone: 432-556-8730	Remediation per OCD Rules & Guidelines. <b>SUBMIT REMEDIATION PROPOSAL NOT LATER THAN:</b> <i>4/3/11</i>	
		Attached <input type="checkbox"/>

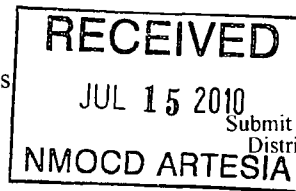
\* Attach Additional Sheets If Necessary

*2 RP-532*



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

30-015-27536

Release Notification and Corrective Action

TKMW 1035628847

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 Poker Lake Unit #78 Delaware B Tank Battery		Facility Type E&P

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

Unit Letter A	Section 25	Township 24S	Range 30E	Feet from the	North/South Line	Feet from the	East/West Line	County Eddy
------------------	---------------	-----------------	--------------	---------------	------------------	---------------	----------------	----------------

Latitude N 32.194069 Longitude W 103.827614

NATURE OF RELEASE

Type of Release: Produced water.	Volume of Release: 90 Bbls of Produced water.	Volume Recovered: 80 bbls of produced water.
Source of Release: 500 bbl produced water tank.	Date and Hour of Occurrence Unknown	Date and Hour of Discovery 7/7/10 10:00 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Randy NMOCD on call operator	
By Whom? Tony Savoie	Date and Hour 7/7/10 2:39 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\* A pipe connection on the back of the water tank broke "reason unknown" The 2" valve between the tank and the pump was closed stopping the flow of water. The connection was replaced later.

Describe Area Affected and Cleanup Action Taken.\*The released fluid affected an area of approximately 2,000 sq. ft inside the earthen containment around the tanks, the facility does not have impervious containment. The free standing fluids were removed with a vacuum truck. On 5/25/10 An area was selected inside the containment for an air rotary rig to advance a soil bore to determine vertical extent. The soil bore was advanced to a depth of approximately 45 ft. below ground surface and sampled a 5 ft. intervals for TPH, BTEX and Chlorides. Estimated depth to water is greater than 400 ft. The sample results along with a remediation plan and containment upgrade will be submitted to the NMOCD. We will schedule another sampling event in the same area to determine if the vertical extent has migrated further down since the 2<sup>nd</sup>. Spill event.  
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.

OIL CONSERVATION DIVISION

Signature: Tony Savoie

Printed Name: Tony Savoie

Title: Waste Mgmt. & Remediation Specialist

E-mail Address: TASavoie@BassPet.com

Date: 7/14/10

Phone: 432-556-8730

Approved by District Supervisor:

Signed By Mike Brannan

Approval Date: 3/3/11

Expiration Date:

Conditions of Approval:

Remediation per OCD Rules & Guidelines. **SUBMIT REMEDIATION PROPOSAL NOT LATER THAN:**

Attached ☐

\* Attach Additional Sheets If Necessary

2RP-514

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, L.P.	Contact Tony Savoie
Address 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 432-556-8730
Facility Name Poker Lake Unit #78 Delaware B Tank Battery	Facility Type E&P

Surface Owner Federal	Mineral Owner Federal	Lease No.
-----------------------	-----------------------	-----------

**LOCATION OF RELEASE**

Unit Letter A	Section 2S	Township 24S	Range 30E	Feet from the	North/South Line	Feet from the	East/West Line	County Eddy
------------------	---------------	-----------------	--------------	---------------	------------------	---------------	----------------	----------------

Latitude N 32.194069 Longitude W 103.827614

**NATURE OF RELEASE**

Type of Release: Crude oil	Volume of Release: 40 Bbls of crude oil.	Volume Recovered: 30 bbls.
Source of Release: 500 bbl oil production tank.	Date and Hour of Occurrence 8/20/11 time unknown.	Date and Hour of Discovery 8/20/11 8:00 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? NMOCD emergency #104	
By Whom? Tony Savoie	Date and Hour 8/20/11 11:07 a.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.*		<div>RECEIVED AUG 22 2011 NMOCD ARTESIA</div>

Describe Cause of Problem and Remedial Action Taken.\* One of the oil production tanks overflowed. Cause unknown.

Describe Area Affected and Cleanup Action Taken.\* The spill was contained within the earthen containment around the tank battery, all of the free product was removed with a vacuum truck.

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: <u>Tony Savoie</u>		<b>OIL CONSERVATION DIVISION</b>	
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:	Attached <input type="checkbox"/>	
Date: 8/22/11	Phone: 432-556-8730		

\* Attach Additional Sheets If Necessary

RECEIVED  
FEB 14 2013  
NMOCD ARTESIA

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	Contact	Tony Savoie
Address	522 W. Mermod, Suite 704, Carlsbad, NM 88220	Telephone No.	(432)556-8730
Facility Name	Poker Lake Unit #78 Delaware B Tank Battery	Facility Type	E&P
Surface Owner	Federal	Mineral Owner	Federal
		Lease No.	

### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	25	24S	30E					Eddy

**Latitude** 32.194069° North

**Longitude** 103.827614° West

### NATURE OF RELEASE

Type of Release	Produced water	Volume of Release:	90 bbls of produced water	Volume Recovered:	80 bbls of produced water
Source of Release	500 bbl produced water tank	Date and Hour of Occurrence	Unknown	Date and Hour of Discovery	7/7/2010, 10:00 AM
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    Not Required	If YES, To Whom?	Randy, NMOCD on-call operator		
By Whom?	Tony Savoie	Date and Hour	7/7/10, 2:39 PM		
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.\* A pipe connection on the back of the water tank broke for reasons unknown. The 2" valve between the tank and the pump was closed, stopping the flow of water. The connection was later replaced.

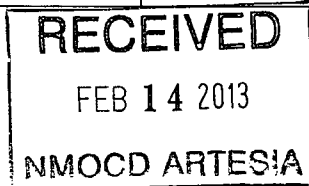
Describe Area Affected and Cleanup Action Taken.\* The released fluid affected an area of approximately 2,000 sq. ft inside the earthen containment around the tanks. The facility did not have impervious containment at the time. The free-standing fluids were removed with a vacuum truck. Following initial response activities, the release was remediated per NMOCD guidelines in conjunction with a release that occurred on 5/13/10 and affected the same area. Please reference the attached *Remediation Summary & Risk-Based Site Closure Request* for details of remediation activities and laboratory analytical results from confirmation soil samples.

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 District Supervisor:		
Printed Name: <del>Ben J. Arzoo</del> Ben J. Arzoo (Agent of BOPCO, LP)	Approval Date:		
Title: <del>Waste Management &amp; Remediation Specialist</del> Project Manager, Basin Environmental	Expiration Date:		
E-mail Address: TASavoie@BassPet.com	Conditions of Approval:		
Date: 2/4/13	Phone: (432)556-8730		

(806) 544-9597



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	Poker Lake Unit #78 Delaware B Tank Battery	Facility Type	E&P
Surface Owner	Federal	Mineral Owner	Federal
		Lease No.	

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	25	24S	30E					Eddy

Latitude 32.194069° North

Longitude 103.827614° West

**NATURE OF RELEASE**

Type of Release: Crude Oil	Volume of Release: 40 bbls of crude oil	Volume Recovered: 30 bbls of crude oil
Source of Release: 500 bbl oil production tank	Date and Hour of Occurrence: 8/20/2011, time unknown	Date and Hour of Discovery: 8/20/2011, 8:00 AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? NMOCD emergency #104	
By Whom? Tony Savoie	Date and Hour 8/20/2011, 11:07 AM	
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.\* One of the oil production tanks overflowed. Cause unknown.

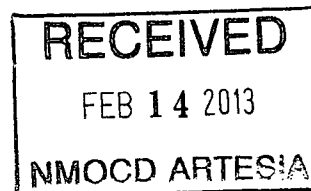
Describe Area Affected and Cleanup Action Taken.\* The spill was contained within the earthen containment around the tank battery. All of the free product was removed with a vacuum truck. Following initial response activities, the release was remediated per NMOCD guidelines in conjunction with two others releases that occurred on 5/13/10 & 7/7/10 and affected the same area. Please reference the attached *Remediation Summary & Risk-Based Site Closure Request* for details of remediation activities and laboratory analytical results from confirmation soil samples.

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**

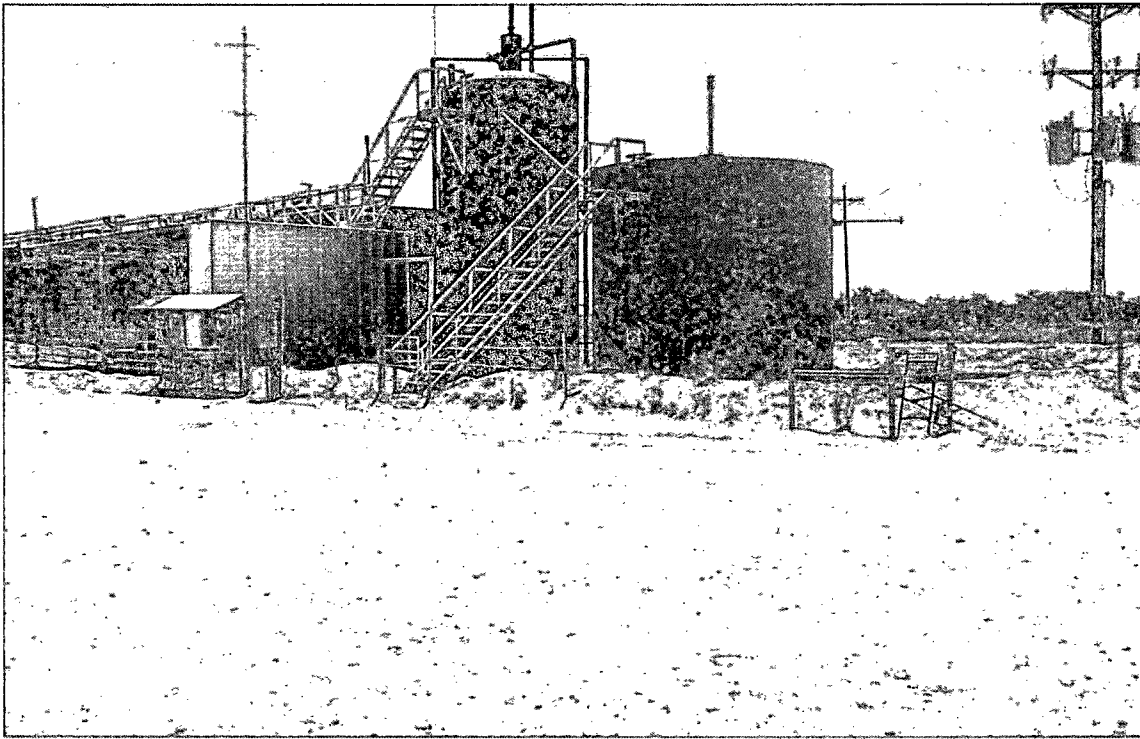
Signature:	Approved by District Supervisor:	
Printed Name: Ben J. Arguiz (Agent of BOPCO, LP)	Approval Date:	Expiration Date:
Title: Project Manager, Basin Environmental		
E-mail Address: TASavoie@BassPet.com	Conditions of Approval:	
Date: 2/14/13	Phone: (432)556-8730	

(826)544-9597

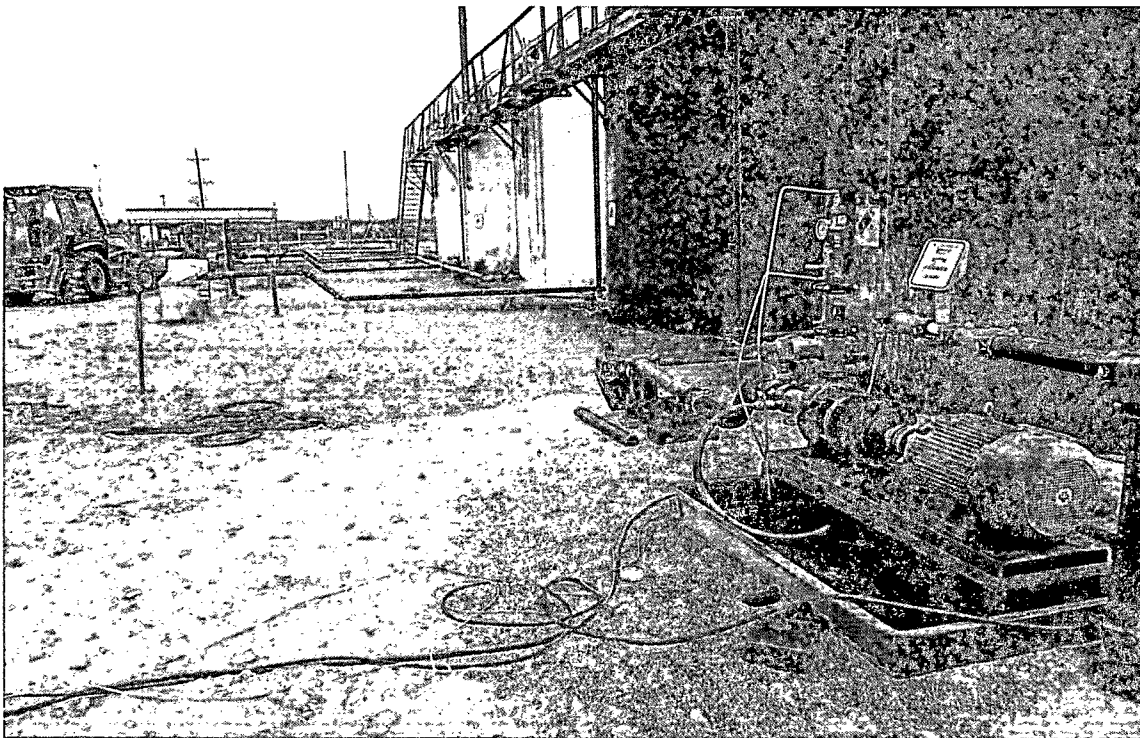


# **Appendix B**

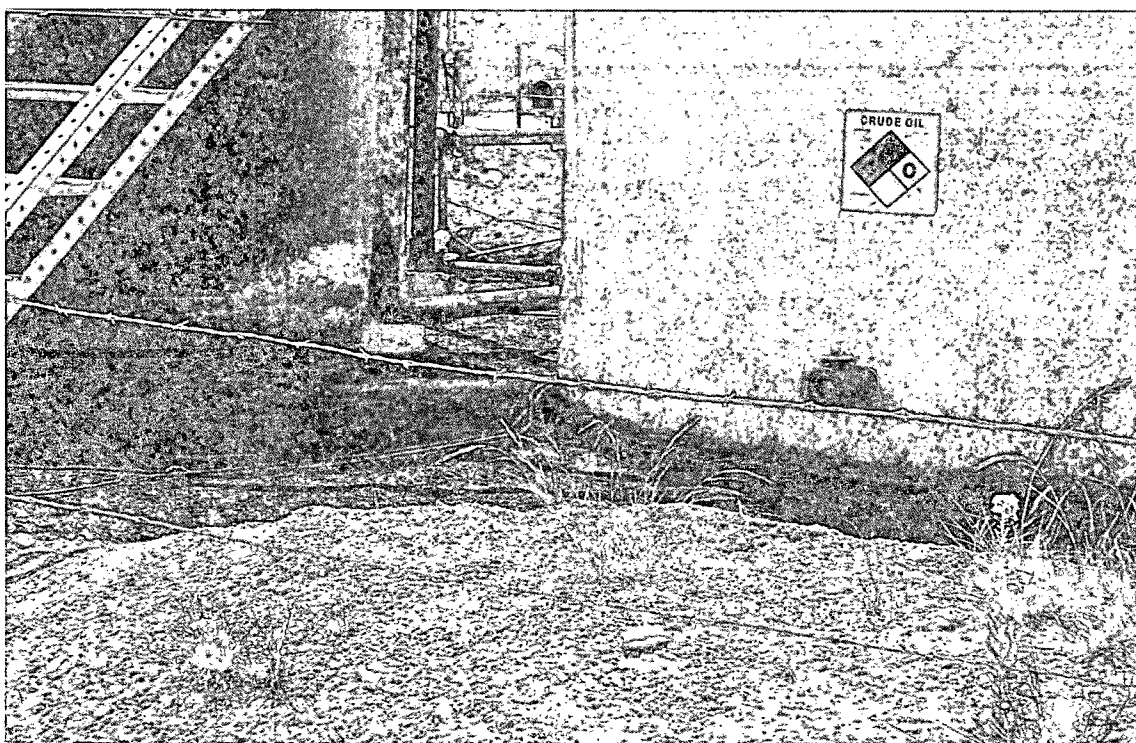
## **Photographs**



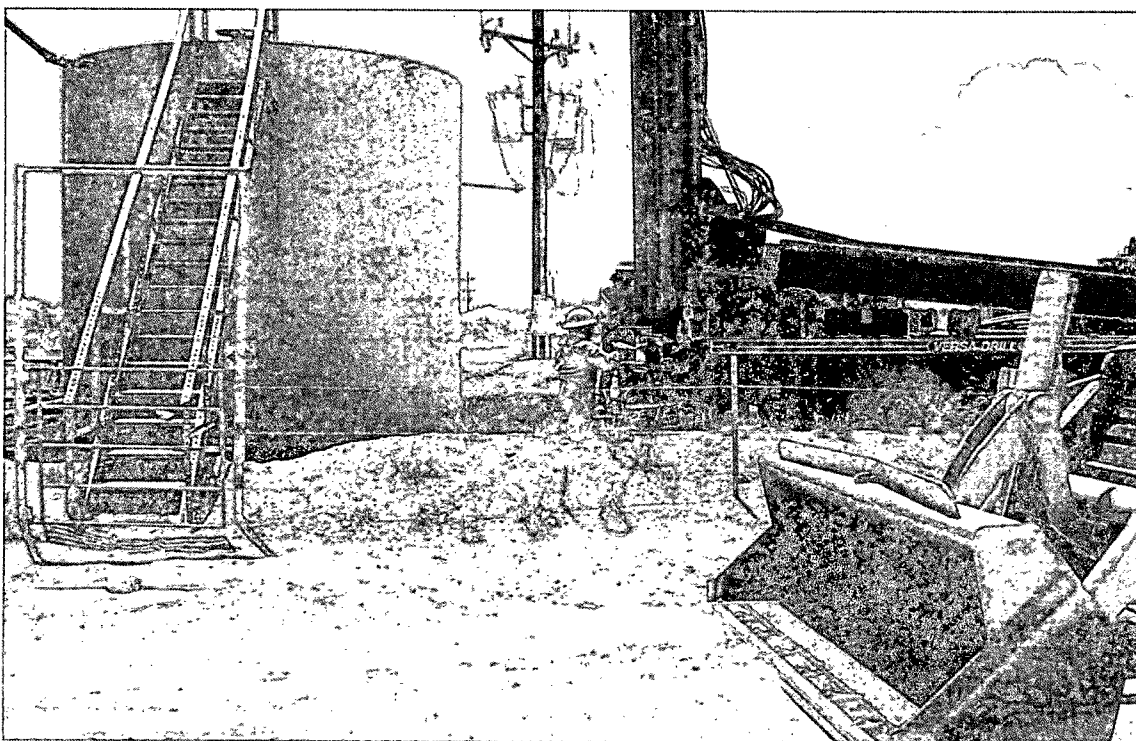
Poker Lake Unit #78 Delaware B Tank Battery



Poker Lake Unit #78 Delaware B Tank Battery - Release Site

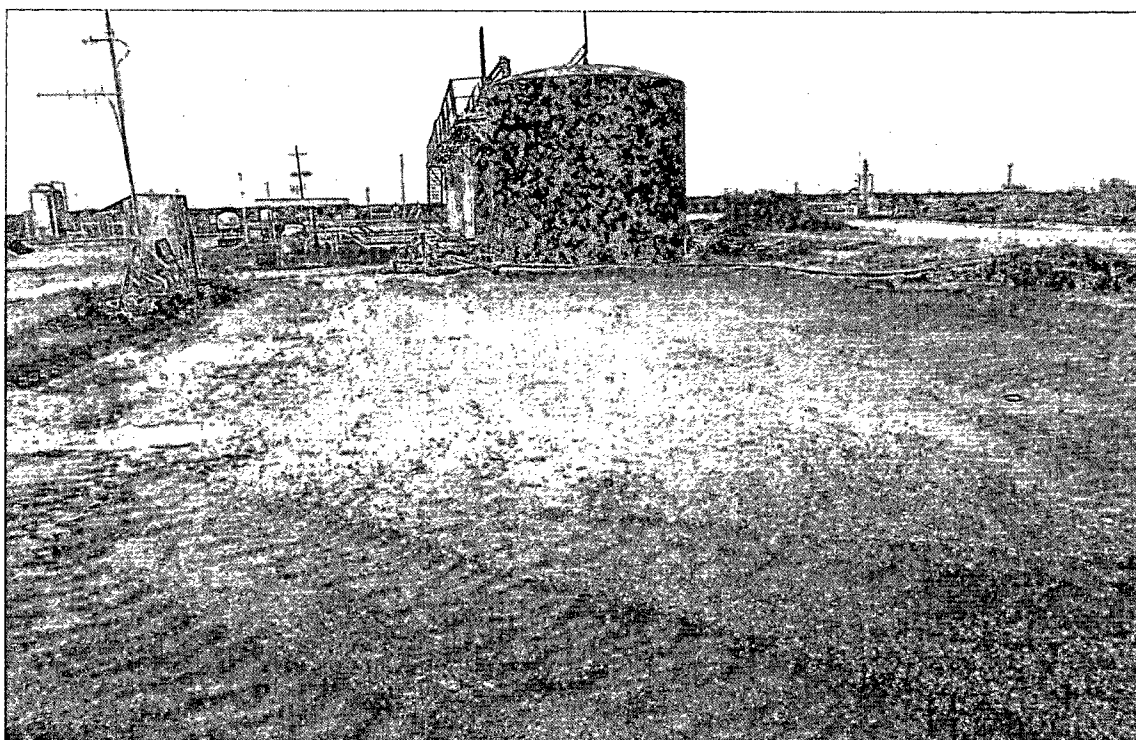


Poker Lake Unit #78 Delaware B Tank Battery - Release Site

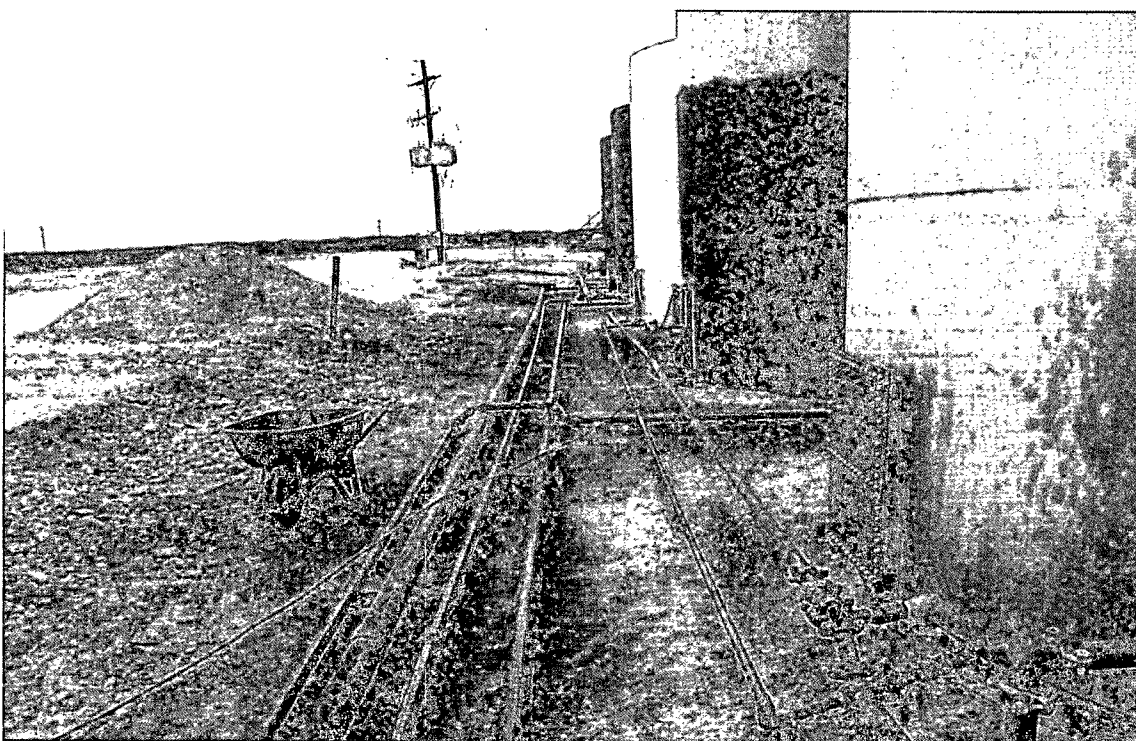


Poker Lake Unit #78 Delaware B Tank Battery - Advancement of Soil Boring SB-1

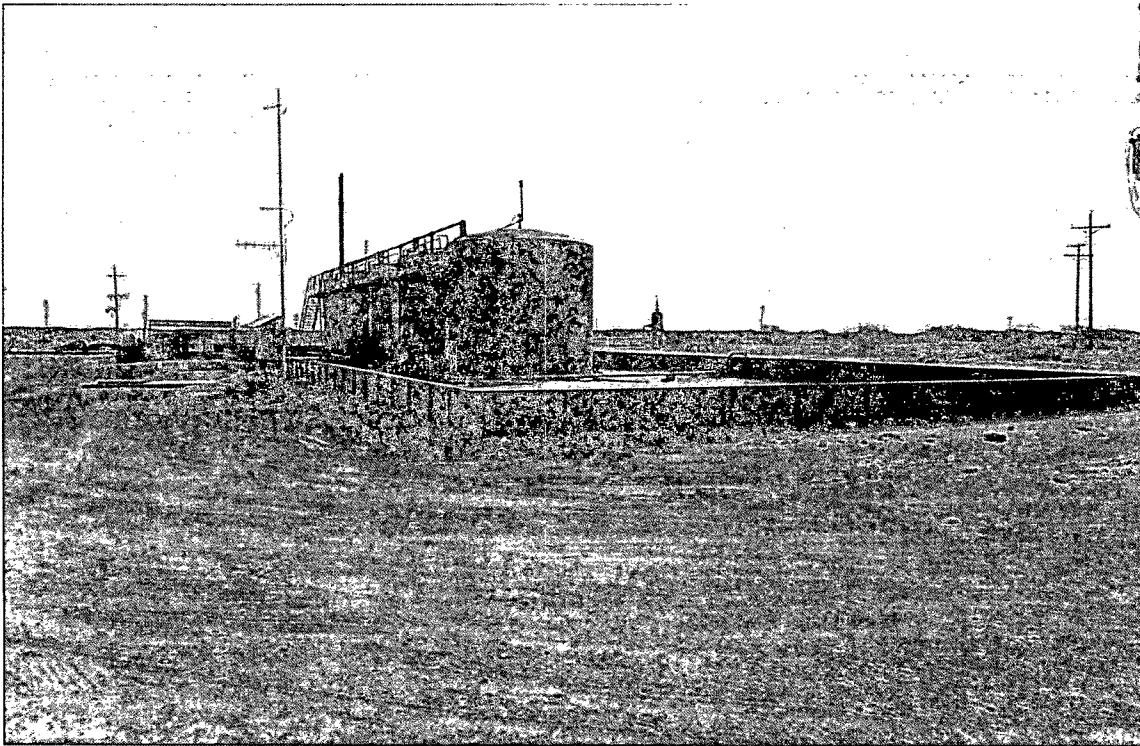




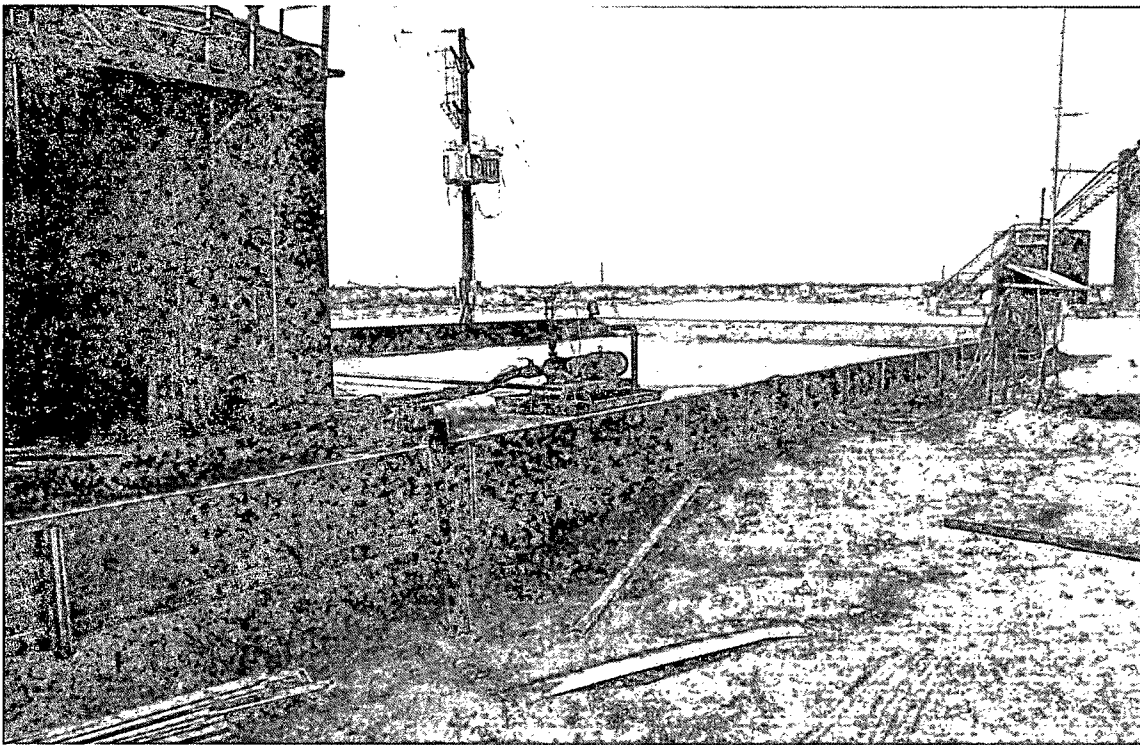
Poker Lake Unit #78 Delaware B Tank Battery - West Excavation  
(Following Backfill, Looking East)



Poker Lake Unit #78 Delaware B Tank Battery - East Excavation  
(Following Backfill, Looking West)



Poker Lake Unit #78 Delaware B Tank Battery - New Containment Area



Poker Lake Unit #78 Delaware B Tank Battery -  
New Containment Area & Polyurethane Liner

# Soil Boring SB-1

## Boring SB-1

Depth  
below  
ground  
surface

0  
5  
10  
15  
20  
25  
30  
35  
40  
45



Soil  
Columns

Chloride  
Field Test

PID  
Reading

Petroleum  
Odor

Petroleum  
Stain

Soil Description

0-5' - Caliche, Tannish, dry

5-10' - Sand with caliche, tan, dry

10-15' - Sand, reddish brown, fine grained, damp

15-20' - Sand and sandstone, reddish brown, fine grained, damp

20-25' - Sand with sandstone, tan, dry

25-45' - Sand, reddish brown, fine grained, dry

Date Drilled May 25, 2010  
Thickness of Bentonite Seal 45 Ft  
Depth of Exploratory Boring 45 Ft bgs  
Depth to Groundwater \_\_\_\_\_  
Ground Water Elevation \_\_\_\_\_

▼ 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.

## 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  
Delaware "B" Tank Battery  
Eddy County, New Mexico

Basin Environmental Consulting

Prep By: JWL

Checked By: CJB

June 24, 2010

# **Appendix D**

## **Laboratory Analytical Reports**



# ARDINAL LABORATORIES

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

June 3, 2010

Camille Bryant  
Basin Environmental Consulting, LLC.  
P.O. Box 381  
Lovington, NM 88260

Re: Delaware B (BOPCO)

Enclosed are the results of analyses for sample number H19993, received by the laboratory on 05/28/10 at 8:20 am.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

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

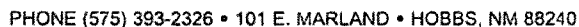
Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.2	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 4 (includes Chain of Custody)

Sincerely,

Celey D. Keene  
Laboratory Director



Analysis Date: 06/01/10  
Sampling Date: 05/25/10  
Sample Type: SOIL  
Sample Condition: COOL & INTACT @ -4°C  
Sample Received By: JH  
Analyzed By: HM

Note: Analyses performed on 1:4 w:v aqueous extracts.  
Not accredited for Chloride.

Date 06/03/10

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 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.



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

ANALYTICAL RESULTS FOR  
BASIN ENVIRONMENTAL CONSULTING, LLC  
ATTN: CAMILLE BRYANT  
P.O. BOX 381  
LOVINGTON, NM 88260  
FAX TO: (575) 396-1429

Receiving Date: 05/28/10  
Reporting Date: 06/01/10  
Project Owner: BOPCO  
Project Name: DELAWARE B  
Project Location: EDDY CO., NM


Sampling Date: 05/25/10  
Sample Type: SOIL  
Sample Condition: COOL & INTACT @ -4 °C  
Sample Received By: JH  
Analyzed By: AB/ZL


LAB NO.	SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/kg)	DRO (>C <sub>10</sub> -C <sub>28</sub> ) (mg/kg)	DRO ext. (>C <sub>28</sub> -C <sub>35</sub> ) (mg/kg)	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL BENZENE (mg/kg)	TOTAL XYLENES (mg/kg)
ANALYSIS DATE:		05/28/10	05/28/10	05/28/10	05/28/10	05/28/10	05/28/10	05/28/10
H19993-2*	SB-1 @ 5'	19.4	107	<10.0	<0.050	0.131	0.321	1.72
H19993-5	SB-1 @ 25'	<10.0	32.8	<10.0	<0.050	<0.050	<0.050	<0.300
H19993-7	SB-1 @ 40'	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.300
H19993-8	SB-1 @ 45'	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.300
Quality Control		469	435	-	0.019	0.020	0.022	0.066
True Value QC		500	500	-	0.020	0.020	0.020	0.060
% Recovery		93.8	87.0	-	95.0	100	110	110
Relative Percent Difference		0.5	7.2	-	4.2	1.7	9.3	11.9

METHODS: TPH GRO & DRO - EPA SW-846 8015 M; BTEX - SW-846 8021B.

TEXAS NELAP ACCREDITATION T104704398-08-TX FOR BENZENE, TOLUENE, ETHYL BENZENE,  
AND TOTAL XYLENES. Reported on wet weight. Not accredited for GRO/DRO/DRO ext.

\*One or more TPH surrogates outside historical limits due to matrix interference.

  
Lab Director

  
Date

H19993 TPHextBTEX BASIN

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 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.



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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 hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: <i>320c (owner)</i>		Date: <i>5/28/10</i>		Received By:		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
		Time: <i>8:20</i>				Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #:	
Relinquished By:		Date: <i>5/28/10</i>		Received By: <i>Jodi Jensen</i>		REMARKS:	
		Time: <i>8:20</i>					
Delivered By: (Circle One) Sampler - UPS - Bus - <i>(Other)</i>		Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No		CHECKED BY: (Initials) <i>JS</i>			

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

#26



October 25, 2011

BEN J. ARGUJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: DELAWARE B

Enclosed are the results of analyses for samples received by the laboratory on 10/19/11 15:30.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

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 (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: 10/19/2011  
 Reported: 10/25/2011  
 Project Name: DELAWARE B  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 10/14/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SAMPLE #1 (H102263-01)**

TPH 8015M	mg/kg	Analyzed By: AB							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	3200	50.0	10/22/2011	ND	182	91.1	200	3.87	
DRO >C10-C28	7970	50.0	10/22/2011	ND	172	86.1	200	4.36	
EXT DRO >C28-C35	640	50.0	10/22/2011	ND					
<hr/>									
Surrogate: 1-Chlorooctane	128 %	55.5-154							
Surrogate: 1-Chlorooctadecane	106 %	57.6-158							

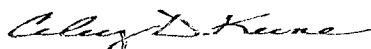
**Sample ID: SAMPLE #2 (H102263-02)**

TPH 8015M	mg/kg	Analyzed By: AB							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/22/2011	ND	182	91.1	200	3.87	
DRO >C10-C28	12.2	10.0	10/22/2011	ND	172	86.1	200	4.36	
EXT DRO >C28-C35	<10.0	10.0	10/22/2011	ND					
<hr/>									
Surrogate: 1-Chlorooctane	94.7 %	55.5-154							
Surrogate: 1-Chlorooctadecane	101 %	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: 10/19/2011  
 Reported: 10/25/2011  
 Project Name: DELAWARE B  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 10/14/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SAMPLE #3 (H102263-03)**

TPH 8015M	mg/kg	Analyzed By: AB							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	690	10.0	10/22/2011	ND	182	91.1	200	3.87	
DRO >C10-C28	1380	10.0	10/22/2011	ND	172	86.1	200	4.36	
EXT DRO >C28-C35	90.1	10.0	10/22/2011	ND					
<hr/>									
Surrogate: 1-Chlorooctane	99.9 %	55.5-154							
Surrogate: 1-Chlorooctadecane	106 %	57.6-158							

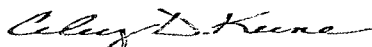
**Sample ID: SAMPLE #4 (H102263-04)**

TPH 8015M	mg/kg	Analyzed By: AB							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	239	10.0	10/22/2011	ND	182	91.1	200	3.87	
DRO >C10-C28	1600	10.0	10/22/2011	ND	172	86.1	200	4.36	
EXT DRO >C28-C35	116	10.0	10/22/2011	ND					
<hr/>									
Surrogate: 1-Chlorooctane	102 %	55.5-154							
Surrogate: 1-Chlorooctadecane	93.0 %	57.6-158							

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

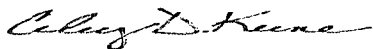
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

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Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

[illegible]

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Relinquished By: 		Date: 12/19/11		Received By: Gadi Benson		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
		Time: 3:30				Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:	
Relinquished By:		Date:		Received By:		REMARKS: Please email results to gme@basinenv.com @ TA.savoie@BassPet.com			
		Time:							
Delivered By: (Circle One)				Sample Condition		CHECKED BY:			
Sampler - UPS - Bus - Other:				Cool Intact 25°C <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		(Initials) 			

November 06, 2011

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: DELAWARE B

Enclosed are the results of analyses for samples received by the laboratory on 10/20/11 16:20.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

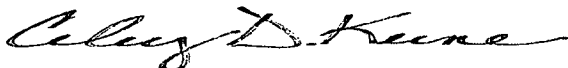
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (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: 10/20/2011  
Reported: 11/06/2011  
Project Name: DELAWARE B  
Project Number: NONE GIVEN  
Project Location: EDDY CO., NM

Sampling Date: 10/20/2011  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SAMPLE 3A 10' BGS (H102279-01)**

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	11/02/2011	ND	2.23	112	2.00	1.14	
Toluene*	<0.050	0.050	11/02/2011	ND	2.17	109	2.00	2.23	
Ethylbenzene*	<0.050	0.050	11/02/2011	ND	2.12	106	2.00	2.41	
Total Xylenes*	<0.150	0.150	11/02/2011	ND	6.37	106	6.00	3.43	

Surrogate: 4-Bromofluorobenzene (PIE) 87.7 % 64.4-134

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4800	16.0	11/06/2011	ND	464	116	400	3.51	

TPH 8015M			mg/kg		Analyzed By: AB				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/23/2011	ND	181	90.6	200	3.21	
DRO >C10-C28	36.6	10.0	10/23/2011	ND	167	83.5	200	3.42	
EXT DRO >C28-C35	<10.0	10.0	10/23/2011	ND					

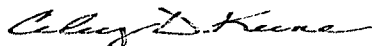
Surrogate: 1-Chlorooctane 100 % 55.5-154

Surrogate: 1-Chlorooctadecane 103 % 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: 10/20/2011  
 Reported: 11/06/2011  
 Project Name: DELAWARE B  
 Project Number: NONE GIVEN  
 Project Location: EDDY CO., NM

 Sampling Date: 10/20/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SAMPLE 4A 6' BGS (H102279-02)**

TPH 8015M	mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/23/2011	ND	181	90.6	200	3.21	
DRO >C10-C28	<10.0	10.0	10/23/2011	ND	167	83.5	200	3.42	
EXT DRO >C28-C35	<10.0	10.0	10/23/2011	ND					
Surrogate: 1-Chlorooctane	92.8 %	55.5-154							
Surrogate: 1-Chlorooctadecane	104 %	57.6-158							

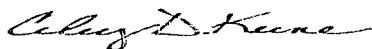
**Sample ID: TANK 5 SOUTH (H102279-03)**

TPH 8015M	mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	10/23/2011	ND	181	90.6	200	3.21	
DRO >C10-C28	643	50.0	10/23/2011	ND	167	83.5	200	3.42	
EXT DRO >C28-C35	104	50.0	10/23/2011	ND					
Surrogate: 1-Chlorooctane	99.3 %	55.5-154							
Surrogate: 1-Chlorooctadecane	108 %	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: 10/20/2011  
Reported: 11/06/2011  
Project Name: DELAWARE B  
Project Number: NONE GIVEN  
Project Location: EDDY CO., NM

Sampling Date: 10/20/2011  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: TANK 4 SOUTH (H102279-04)**

TPH 8015M	mg/kg	Analyzed By: AB						S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	1440	100	10/23/2011	ND	181	90.6	200	3.21	
DRO >C10-C28	19300	100	10/23/2011	ND	167	83.5	200	3.42	
EXT DRO >C28-C35	1510	100	10/23/2011	ND					
<hr/>									
Surrogate: 1-Chlorooctane	172 %	55.5-154							
Surrogate: 1-Chlorooctadecane	95.3 %	57.6-158							

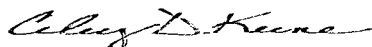
**Sample ID: TANK 3 SOUTH (H102279-05)**

TPH 8015M	mg/kg	Analyzed By: AB						S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	1920	100	10/23/2011	ND	181	90.6	200	3.21	
DRO >C10-C28	24600	100	10/23/2011	ND	167	83.5	200	3.42	
EXT DRO >C28-C35	2030	100	10/23/2011	ND					
<hr/>									
Surrogate: 1-Chlorooctane	204 %	55.5-154							
Surrogate: 1-Chlorooctadecane	112 %	57.6-158							

Cardinal Laboratories

\*=Accredited Analyte

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Celest D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

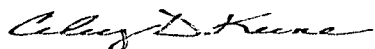
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.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

\* = Accredited Analyte

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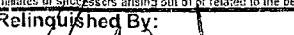
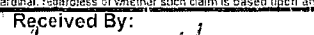
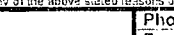


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Celestine D. Keene, Lab Director/Quality Manager

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Relinquished By: 		Date: <u>6/20/01</u> Time: <u>1:20</u>		Received By: 		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #: Add'l Fax #:	
Relinquished By:		Date: Time:		Received By:		REMARKS:			
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool Intact 30 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		CHECKED BY: (Initials) 					

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

November 06, 2011

BEN J. ARGUJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: DELAWARE B

Enclosed are the results of analyses for samples received by the laboratory on 11/01/11 16:12.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

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 (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: 11/01/2011  
Reported: 11/06/2011  
Project Name: DELAWARE B  
Project Number: NONE GIVEN  
Project Location: EDDY CO., NM

Sampling Date: 10/31/2011  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SAMPLE #5 (H102369-01)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	336	16.0	11/04/2011	ND	448	112	400	3.64		
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	11/05/2011	ND	162	81.1	200	2.02		
DRO >C10-C28	<10.0	10.0	11/05/2011	ND	169	84.6	200	5.33		
EXT DRO >C28-C35	<10.0	10.0	11/05/2011	ND						
Surrogate: 1-Chlorooctane	103 %	55.5-154								
Surrogate: 1-Chlorooctadecane	123 %	57.6-158								

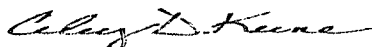
**Sample ID: TANK 2 NORTH (H102369-02)**

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	11/05/2011	ND	162	81.1	200	2.02		
DRO >C10-C28	<10.0	10.0	11/05/2011	ND	169	84.6	200	5.33		
EXT DRO >C28-C35	<10.0	10.0	11/05/2011	ND						
Surrogate: 1-Chlorooctane	111 %	55.5-154								
Surrogate: 1-Chlorooctadecane	141 %	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: 11/01/2011  
Reported: 11/06/2011  
Project Name: DELAWARE B  
Project Number: NONE GIVEN  
Project Location: EDDY CO., NM

Sampling Date: 10/31/2011  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: TANK 4 NORTH (H102369-03)**

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	11/05/2011	ND	162	81.1	200	2.02	
DRO >C10-C28	<10.0	10.0	11/05/2011	ND	169	84.6	200	5.33	
EXT DRO >C28-C35	<10.0	10.0	11/05/2011	ND					
Surrogate: 1-Chlorooctane	111 %	55.5-154							
Surrogate: 1-Chlorooctadecane	130 %	57.6-158							

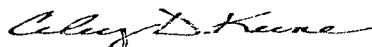
**Sample ID: TANK 5 NORTH (H102369-04)**

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	11/05/2011	ND	162	81.1	200	2.02	
DRO >C10-C28	<10.0	10.0	11/05/2011	ND	169	84.6	200	5.33	
EXT DRO >C28-C35	<10.0	10.0	11/05/2011	ND					
Surrogate: 1-Chlorooctane	111 %	55.5-154							
Surrogate: 1-Chlorooctadecane	134 %	57.6-158							

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

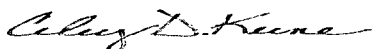
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

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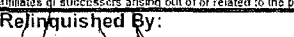

Celest D. Keene, Lab Director/Quality Manager

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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(575) 393-2326 FAX (575) 393-2476

[illegible]

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Relinquished By: 		Date: 1-31-11		Received By: 		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
Time: 4:12		Time:		Time:		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:	
Relinquished By:		Date:		Received By:		REMARKS:			
Time:		Time:		Time:					
Delivered By: (Circle One)				Sample Condition		CHECKED BY:			
Sampler - UPS - Bus - Other:				Cool Intact 50 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No		(Initials) 