

# *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



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

**BOPCO, LP**  
**Continental Federal Battery #1**  
**Eddy County, New Mexico**  
**Unit Letter "D" (NW/NW), Section 20, Township 25 South, Range 30 East**  
**Latitude 32.120920° North, Longitude 103.907974° 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

**May 2012**



Ben J. Arguijo  
Project Manager

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## 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 Continental Federal Battery #1. The legal description of the release site is Unit Letter "D" (NW/NW), Section 20, Township 25 South, Range 30 East, in Eddy County, New Mexico. The geographic coordinates of the release site are 32.120920° North latitude and 103.907974° 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 August 30, 2011, BOPCO discovered a release had occurred at the Continental Federal Battery #1 tank battery. Internal corrosion of the manway cover on a heater treater resulted in the release of crude oil. During initial response activities, the heater treater was isolated, and the manway cover was repaired. 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 thirty barrels (30 bbls) of crude oil were released, with no recovery. The release affected an area of pastureland measuring approximately three thousand, eight hundred square feet (3,800 ft<sup>2</sup>), which had been affected by several releases in the past. The Form C-141 is provided as Appendix A. General photographs of the release site are provided as Appendix B.

## 2.0 NMOCD SITE CLASSIFICATION

A search of the New Mexico Water Rights Reporting System (NMWRRS) database maintained by the New Mexico Office of the State Engineer (NMOSE) indicated information was unavailable for Section 20, Township 25 South, Range 30 East. A depth-to-groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately two hundred and thirty-five feet (235'). 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 1,000 feet of the release. Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

There are no surface water bodies within 1,000 feet of the release. Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

NMOCD guidelines indicate the Continental Federal Battery #1 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)
- BTEX – 50 mg/Kg (ppm)
- TPH – 5,000 mg/Kg (ppm)

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

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

Following initial response activities, on November 28, 2011, delineation of the release site commenced. One (1) delineation trench (Heater Trench) was advanced at the site to delineate the vertical extent of impact. The delineation trench was located in the pooling area of the release, approximately twenty feet (20') southeast of the release point. The trench was advanced to a total depth of approximately ten feet (10') bgs. Soil samples were collected at selected intervals and field-screened using a photo-ionization detector (PID) and chloride test kit. Three (3) soil samples (Heater Trench 2', Heater Trench 4', and Heater Trench 10') were collected from the trench and submitted to Cardinal Laboratories in Hobbs, New Mexico, for analysis of benzene, toluene, ethyl-benzene, and xylenes (BTEX), total petroleum hydrocarbon (TPH), and/or chloride concentrations using EPA methods SW-846 8021b, SW-846 8015M, and 4500 Cl-B, respectively.

Laboratory analytical results indicated benzene concentrations ranged from less than the laboratory method detection limit (MDL) in soil sample Heater Trench 10' to 0.061 mg/Kg in soil sample Heater Trench 2'. BTEX concentrations ranged from less than the appropriate laboratory MDL in soil sample Heater Trench 10' to 3.32 mg/Kg in soil sample Heater Trench 2'. TPH concentration ranged from less than the appropriate laboratory MDL in soil sample Heater Trench 10' to 9,000 mg/Kg in soil sample Heater Trench 2'. Chloride concentrations ranged from 912 mg/Kg in soil sample Heater Trench 2' to 1,570 mg/Kg in soil sample Heater Trench 4'. Table 1 summarizes the "Concentrations of Benzene, BTEX, TPH & Chloride in Soil". A "Site & Sample Location Map" is provided as Figure 2.

On November 29, 2011, excavation of impacted soil commenced at the site. A chloride test kit was used 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.

From November 30 through December 1, 2011, the stockpiled material was blended on-site with non-impacted material.

On December 7, 2011, six (6) soil samples (North Wall, North East Wall, North West Wall, South Wall, South East Wall, and South West Wall) were collected from the sidewalls of the excavation and submitted to the laboratory for analysis of TPH and chloride concentrations. Laboratory analytical results indicated TPH concentrations ranged from less than the laboratory MDL in soil samples North West Wall, South Wall, South East Wall, and South West Wall to 2,052 mg/Kg in soil sample North Wall. Chloride concentrations ranged from 128 mg/Kg in soil sample North West Wall to 528 mg/Kg in soil sample South Wall.

A five-point composite sample (Stockpile A) was collected from the stockpiled material and submitted to the laboratory for analysis of BTEX, TPH, and chloride concentrations. Laboratory analytical results indicated the benzene concentration was less than the laboratory MDL. The BTEX concentration was 1.136 mg/Kg, the TPH concentration was 1,321 mg/Kg, and the

chloride concentration was 736 mg/Kg. Soil represented by soil sample Stockpile A was deemed suitable for use as backfill material.

From December 7 through December 9, 2011, the stockpiled material was blended on-site with non-impacted material.

Based on the results of field-screens, it was determined that further vertical delineation would be required in the southern portion of the excavation. On December 8, 2011, one (1) delineation trench (South Trench) was advanced in the floor of the excavation, approximately seventy feet (70') to the south-southeast of the release point. The delineation trench was advanced to a total depth of approximately fifteen feet (15') bgs. Soil samples were collected at five-foot (5') intervals and field-screened using a chloride test kit. Three (3) soil samples (South Floor 5', South Trench 10', and South Trench 15') from the delineation trench were submitted to the laboratory for analysis of TPH and chloride concentrations. Soil sample South Trench 15' was also analyzed for concentrations of BTEX. Laboratory analytical results indicated TPH concentrations ranged from less than the laboratory MDL in soil sample South Floor 5' to 8,407 mg/Kg in soil sample South Trench 10'. Chloride concentrations ranged from 880 mg/Kg in soil sample South Trench 15' to 2,680 mg/Kg in soil sample South Floor 5'.

A five-point composite sample (Stockpile B) was collected from the stockpiled material and submitted to the laboratory for analysis of TPH and chloride concentrations. Laboratory analytical results indicated the TPH concentration was 3,113 mg/Kg, and the chloride concentration was 704 mg/Kg. Soil represented by soil sample Stockpile B was deemed suitable for use as backfill material.

On December 9, 2011, a five-point composite sample (Stockpile C) was collected from the stockpiled material and submitted to the laboratory for analysis of BTEX, TPH, and chloride concentrations. Laboratory analytical results indicated BTEX constituent concentrations were less than the appropriate laboratory MDL. The TPH concentration was 399 mg/Kg, and the chloride concentration was 896 mg/Kg. Soil represented by soil sample Stockpile C was deemed suitable for use as backfill material.

On December 13, 2011, approximately one hundred and twenty cubic yards (120 yd<sup>3</sup>) of impacted soil was transported to Lea Land, Inc. (NMOCD Permit # WM-01-035), for disposal.

Pursuant to a request by the BLM, on December 14 and 15, 2011, an historic drilling pit on-site was backfilled in eighteen-inch (18") lifts, compacted, and contoured to fit the surrounding topography.

Based on laboratory analytical results and field-screens, from December 15 through December 22, 2011, the Continental Federal Battery #1 excavation was backfilled in eighteen-inch (18") lifts, compacted, and contoured to fit the surrounding topography. Prior to backfilling, a twenty (20) mil polyurethane liner was installed in the floor of the excavation at approximately five feet (5') bgs. Approximately six inches (6") of non-impacted pad sand was installed both above and below the liner to protect the liner from damage during installation and backfilling activities. Final dimensions of the excavation were approximately one hundred and ten feet (110') in length, ranging in width from approximately thirty-one feet (31') to approximately thirty-nine feet (39'), and ranging in depth from approximately four feet (4') to approximately five feet (5').

The Continental Federal Battery #1 release site will be seeded with a BLM-approved seed mixture during the 2012 calendar year.

#### **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**

Soil samples collected from the floor and sidewalls of the Continental Federal Battery #1 excavation were analyzed by an NMOCD-approved laboratory, and concentrations of benzene, BTEX, TPH, and chloride were less than the remediation action levels established for the site by the NMOCD. Based on these analytical results, 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 Continental Federal Battery #1 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.

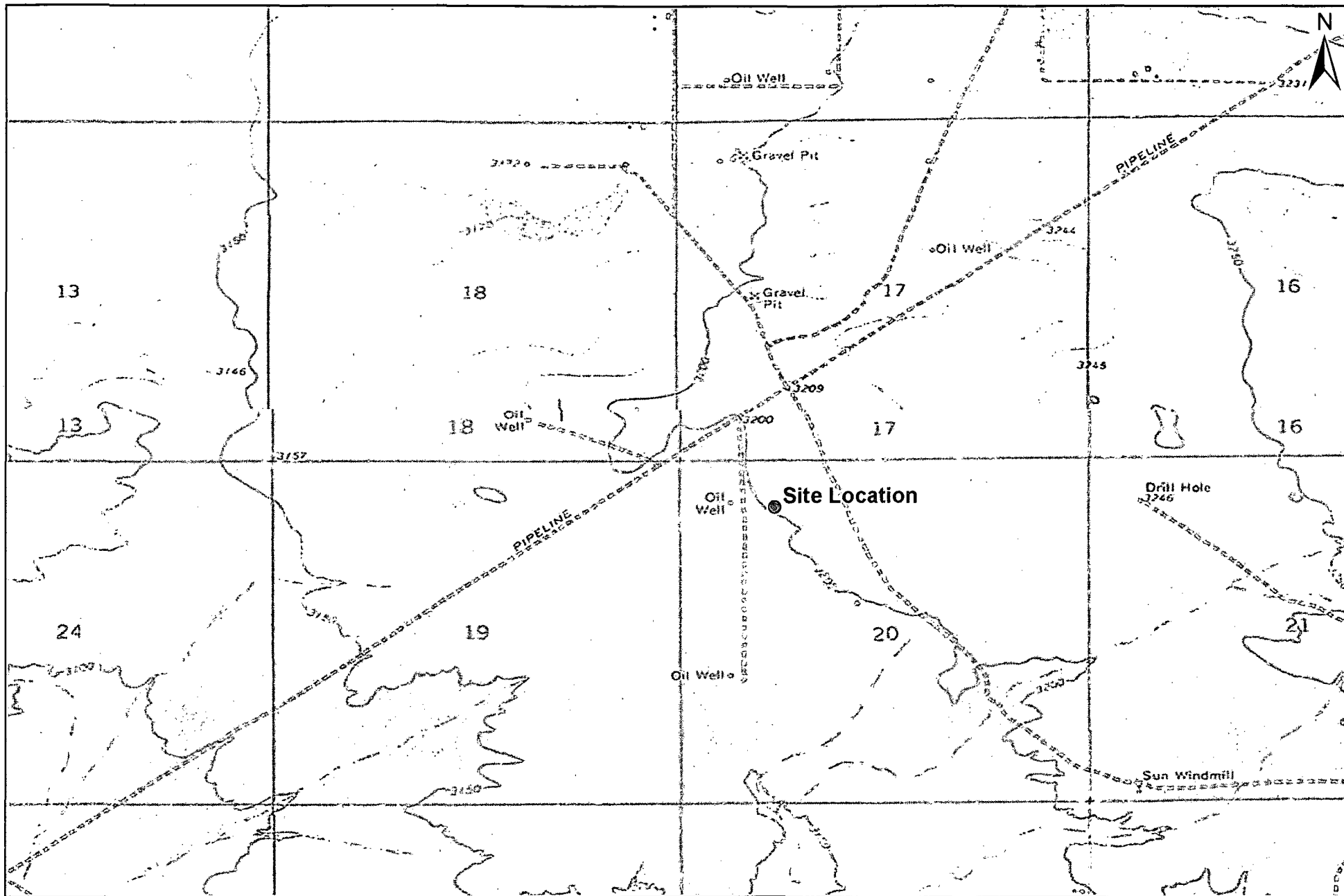
## **7.0 DISTRIBUTION:**

- 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

**Figure 1**  
**Site Location Map**



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

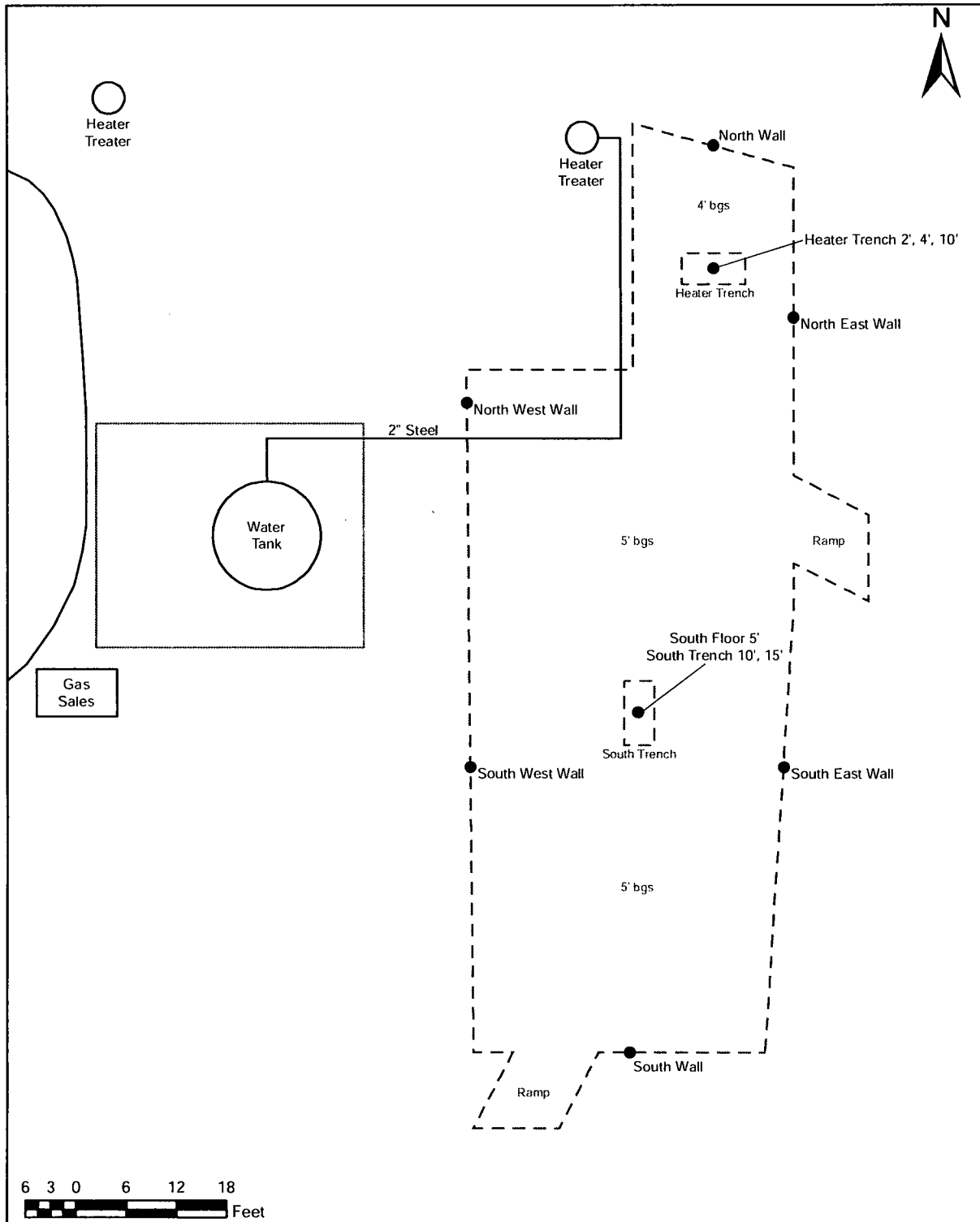
Figure 1  
Site Location Map  
BOPCO, LP  
Continental Federal Battery #1  
Eddy County, New Mexico



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

Drawn By: BJA	Checked By: BRB
May 22, 2012	Scale: 1" = 2000'

**Figure 2**  
**Site & Sample Location Map**



Legend:

- - - Excavation Extent
- Pipeline
- Caliche Pad
- Berm
- Sample Location

Figure 2  
Site & Sample Location Map  
BOPCO, LP  
Continental Federal Battery #1  
Eddy County, New Mexico



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

Drawn By: BJA

Checked By: BRB

May 21, 2012

Scale: 1" = 18'

# TABLES

**Table 1**

**Concentrations of Benzene, BTEX, TPH & Chloride  
in Soil**

TABLE 1

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

BOPCO, LP  
CONTINENTAL FEDERAL BATTERY #1  
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)	E 300 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)		
Heater Trench 2'	2'	11/28/2011	In-situ	0.061	0.296	0.877	2.09	3.32	480	8,520	<100	9,000	912
Heater Trench 4'	4'	11/28/2011	In-situ	-	-	-	-	-	<10.0	24.6	<10.0	24.6	1,570
Heater Trench 10'	10'	11/28/2011	In-situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	<10.0	1,010
North Wall	3.5'	12/7/2011	In-situ	-	-	-	-	-	184	1,720	148	2,052	256
North East Wall	3.5'	12/7/2011	In-situ	-	-	-	-	-	<10.0	20.8	<10.0	20.8	176
North West Wall	3.5'	12/7/2011	In-situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	128
South Wall	3.5'	12/7/2011	In-situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	528
South East Wall	3.5'	12/7/2011	In-situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	208
South West Wall	3.5'	12/7/2011	In-situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	512
Stockpile A	N/A	12/7/2011	Excavated	<0.050	0.052	0.386	0.698	1.136	221	1,100	<50.0	1,321	736
South Floor 5'	5'	12/8/2011	In-situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	2,680
South Trench 10'	10'	12/8/2011	In-situ	-	-	-	-	-	107	8,300	<50.0	8,407	1,310
South Trench 15'	15'	12/8/2011	In-situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	39.8	<10.0	39.8	880
Stockpile B	N/A	12/8/2011	Excavated	-	-	-	-	-	387	2,610	116	3,113	704
Stockpile C	N/A	12/9/2011	Excavated	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	399	<10.0	399	896
NMOCD Standard				10				50				5,000	1,000

- = Not analyzed.



# **APPENDICES**

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

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

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

Form C-141  
Revised October 10, 2003

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

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: Continental Federal Battery #1	Facility Type E&P

Surface Owner <del>State of New Mexico</del> Federal	Mineral Owner <del>State of New Mexico</del> Federal	Lease No.
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LOCATION OF RELEASE

Unit Letter D	Section 20	Township 25S	Range 30E	Feet from the	North/South Line	Feet from the	East/West Line	County Eddy
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Latitude N 32.120920 Longitude W 103.907974

NATURE OF RELEASE

Type of Release: Crude oil	Volume of Release: 30 bbls crude oil	Volume Recovered: 0
Source of Release: Heater Treater	Date and Hour of Occurrence 8/30/11, Hour unknown	Date and Hour of Discovery 8/30/11 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? NMOCD emergency #104 8/30/11	
By Whom? Tony Savoie	Date and Hour 8/23/11 approximately 1:00 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.\* The man way cover had internal corrosion. The heater was isolated and crews are working to repair the man way cover.

Describe Area Affected and Cleanup Action Taken.\* Approximately 3800 sq. ft of pasture land was affected by the release, all of the product had soaked into the ground, this was in an area that had been impacted by spills in the past.  
The Site remediation for the produced water and crude oil spill will follow the NMOCD and BLM guidelines for leaks and spills.

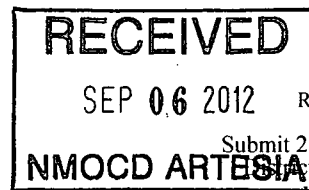
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger 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>		OIL CONSERVATION DIVISION	
Printed Name: Tony Savoie		Approved by District Supervisor:	
Title: Waste Mgmt & Remediation Specialist		Approval Date:	Expiration Date:
E-mail Address: TASavoie@BassPet.com		Conditions of Approval:	
Date: 9/11/11	Phone: 432-556-8730	Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary

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  
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: Continental Federal Battery #1	Facility Type E&P

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

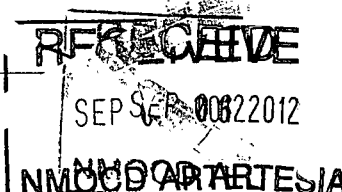
Unit Letter D	Section 20	Township 25S	Range 30E	Feet from the	North/South Line	Feet from the	East/West Line	County Eddy
------------------	---------------	-----------------	--------------	---------------	------------------	---------------	----------------	----------------

Latitude\_N 32.120920\_\_ Longitude W 103.907974\_\_

**NATURE OF RELEASE**

Type of Release: Crude oil	Volume of Release: 30 bls crude oil	Volume Recovered: 0
Source of Release: Heater Treater	Date and Hour of Occurrence 8/30/11, Hour unknown	Date and Hour of Discovery 8/30/11 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? NMOCD emergency #104	
By Whom? Tony Savoie	Date and Hour 8/30/11 approximately 1:00 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse:	

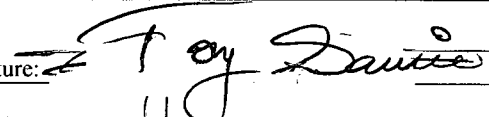
If a Watercourse was Impacted, Describe Fully.\*



Describe Cause of Problem and Remedial Action Taken.\* The man way cover had internal corrosion. The heater was isolated and crews are working to repair the man way cover.

Describe Area Affected and Cleanup Action Taken.\* Approximately 3800 sq. ft of pasture land was affected by the release, all of the product had soaked into the ground, this was in an area that had been impacted by spills in the past.  
The Site was remediated to the NMOCD and BLM standards. Please see attached Remediation Summary and Closure Request dated May 2012, for details of the remediation activities.

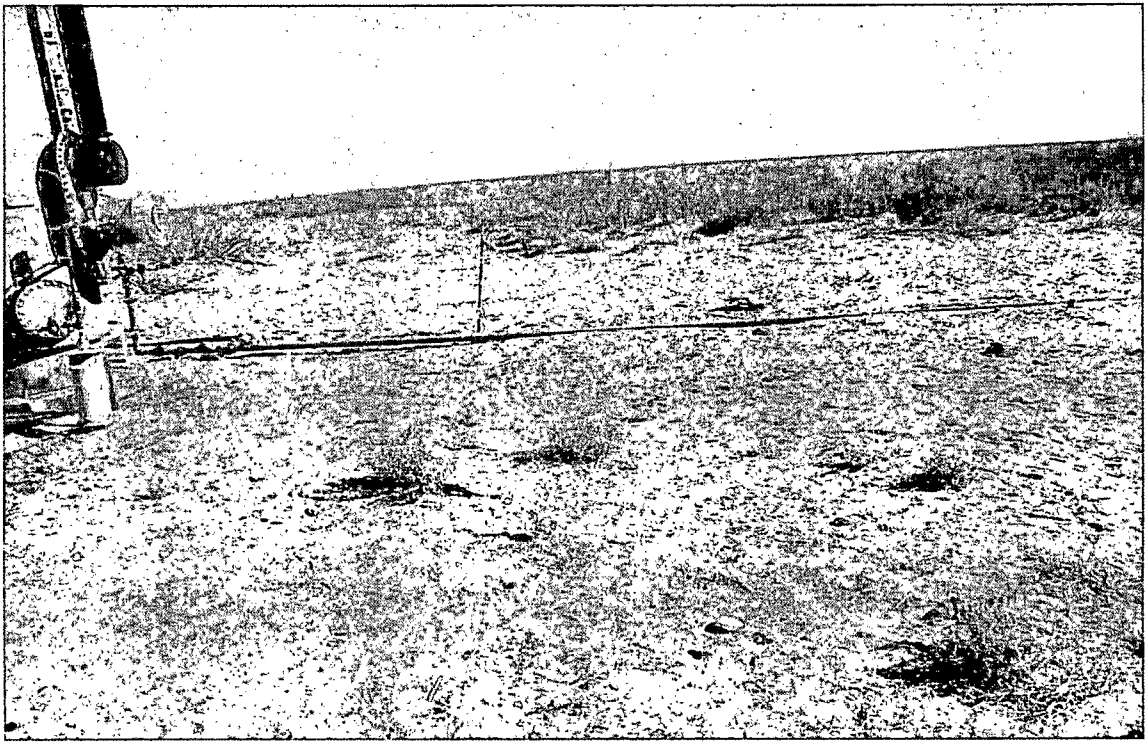
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger 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: Waste Mgmt. & Remediation Specialist	Approval Date:	Expiration Date:	
E-mail Address: TASavoie@BassPet.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 9/5/12	Phone: 432-556-8730		

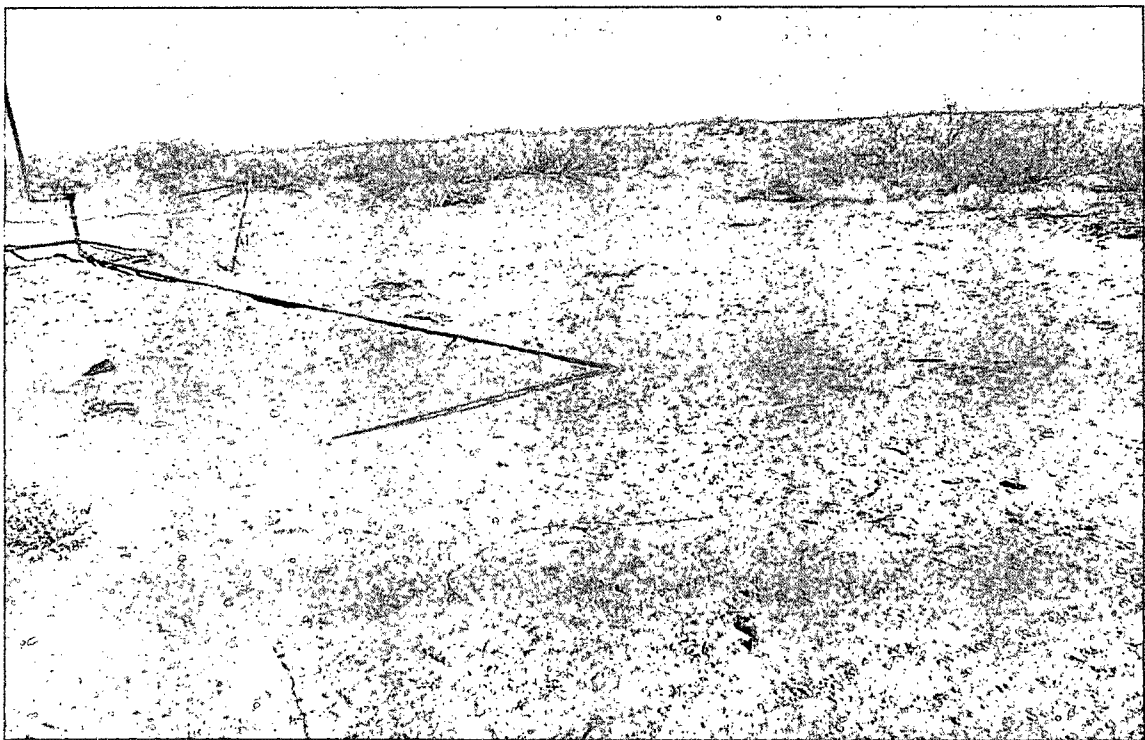
\* Attach Additional Sheets If Necessary

# **Appendix B**

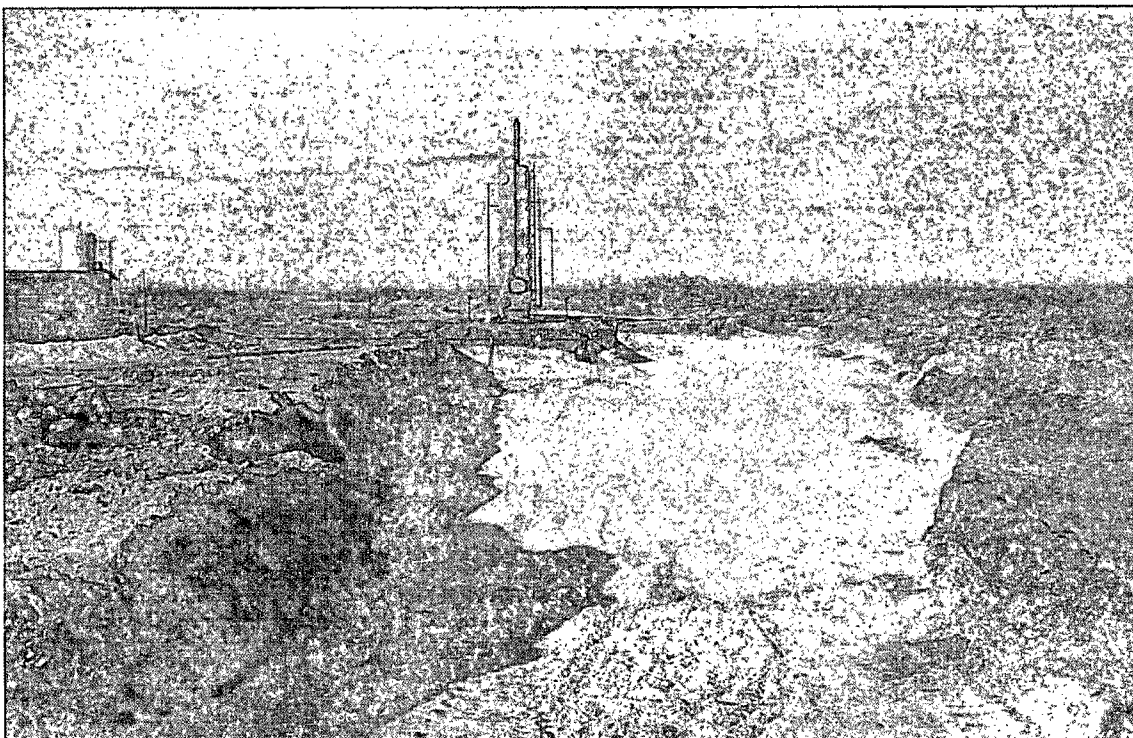
## **Photographs**



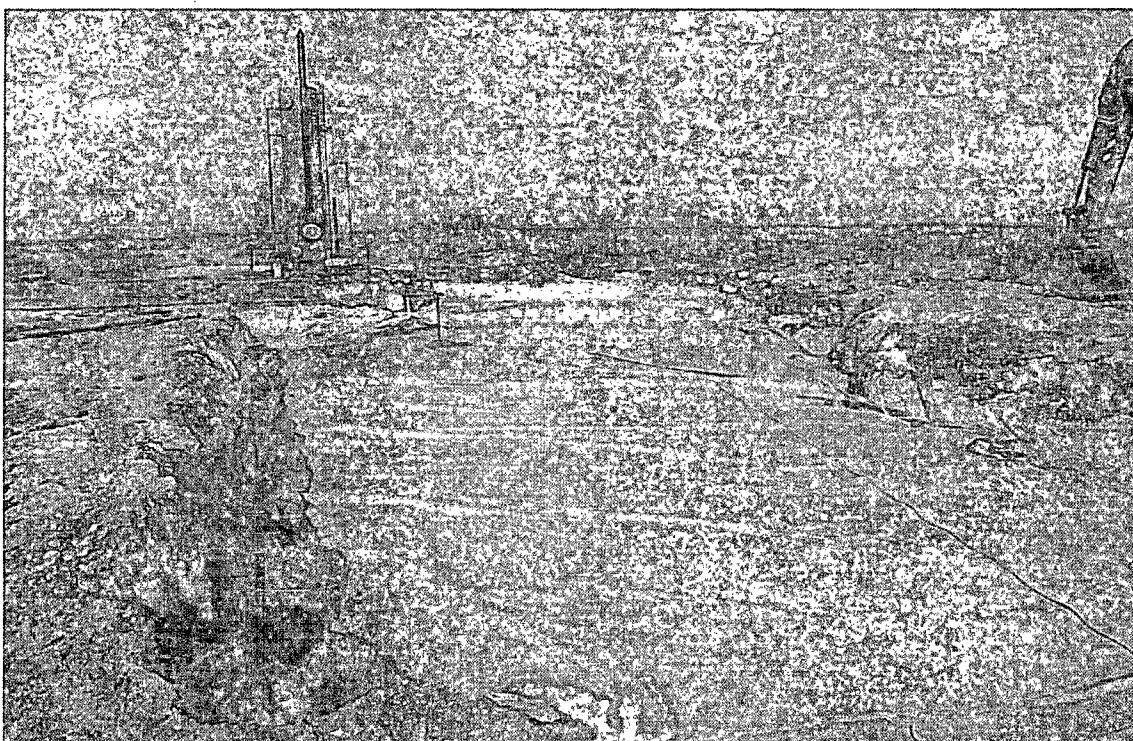
Continental Federal Battery #1 - Release Site (Looking East)



Continental Federal Battery #1 - Release Site (Looking Northeast)

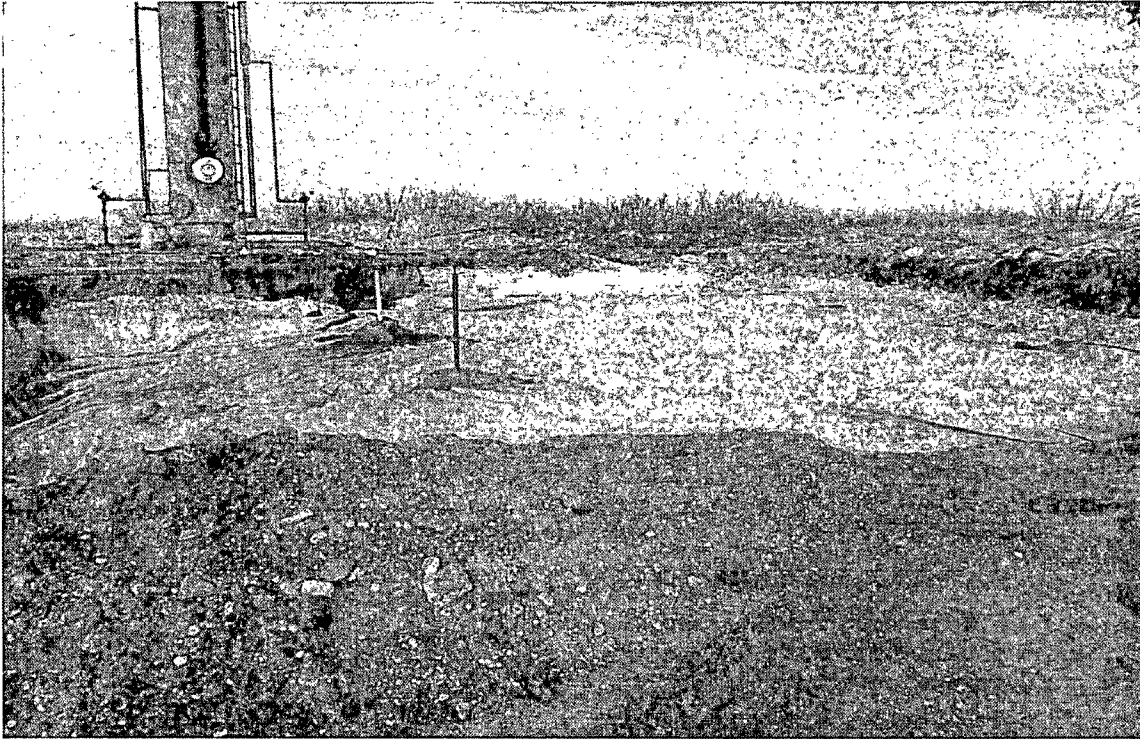


Continental Federal Battery #1 - Excavation (Looking North)

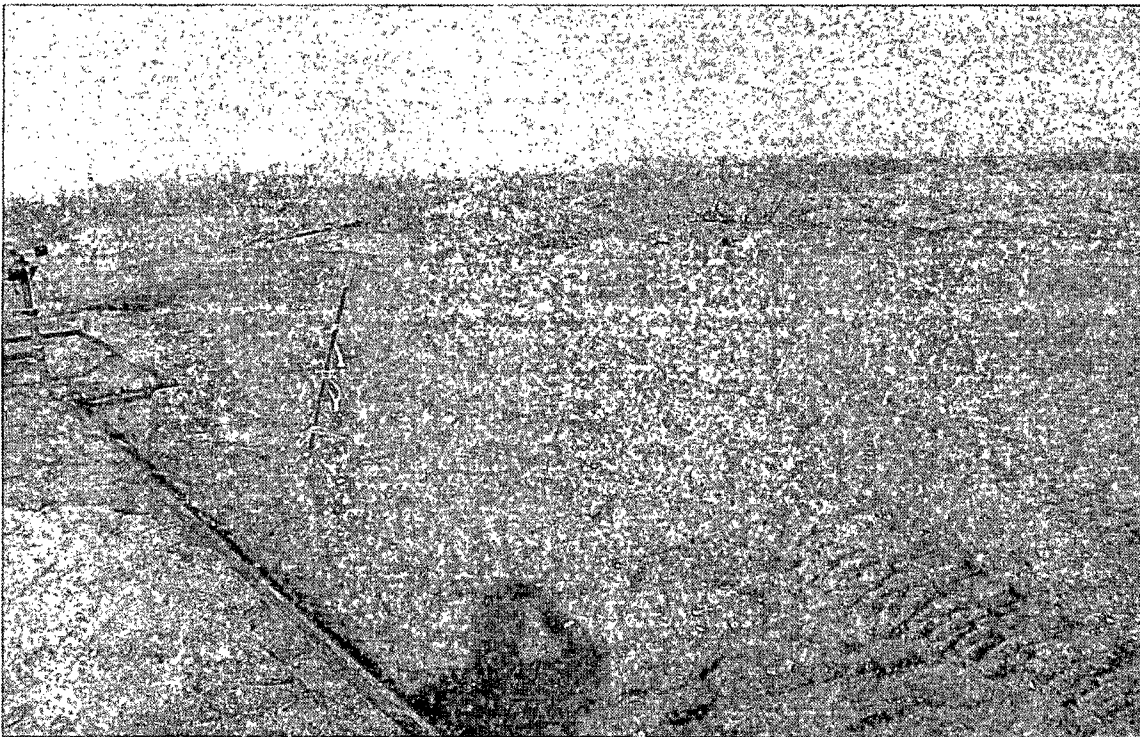


Continental Federal Battery #1 - Liner Installation





Continental Federal Battery #1 - Excavation (Backfilling Activities, Looking Northeast)



Continental Federal Battery #1 - Excavation (Following Backfill, Looking Northeast)



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

December 02, 2011

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: CONTINENTAL FEDERAL BATTERY #1 HEATER

Enclosed are the results of analyses for samples received by the laboratory on 11/29/11 16:25.

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.

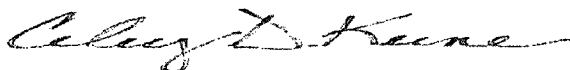
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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:	11/29/2011	Sampling Date:	11/28/2011
Reported:	12/02/2011	Sampling Type:	Soil
Project Name:	CONTINENTAL FEDERAL BATTERY #1 HI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: TRENCH 2' HEATER (H102574-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.061	0.050	12/01/2011	ND	2.02	101	2.00	6.79	
Toluene*	0.296	0.050	12/01/2011	ND	1.96	97.9	2.00	7.39	
Ethylbenzene*	0.877	0.050	12/01/2011	ND	2.23	112	2.00	7.93	
Total Xylenes*	2.09	0.150	12/01/2011	ND	6.47	108	6.00	7.96	

Surrogate: 4-Bromofluorobenzene (PIL) 119 % 64.4-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	912	16.0	12/01/2011	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	480	100	12/02/2011	ND	170	85.1	200	1.77	
DRO >C10-C28	8520	100	12/02/2011	ND	176	87.8	200	0.0911	
EXT DRO >C28-C35	<100	100	12/02/2011	ND					

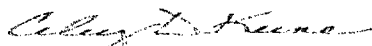
Surrogate: 1-Chlorooctane 147 % 55.5-154

Surrogate: 1-Chlorooctadecane 152 % 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:	11/29/2011	Sampling Date:	11/28/2011
Reported:	12/02/2011	Sampling Type:	Soil
Project Name:	CONTINENTAL FEDERAL BATTERY #1 HI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

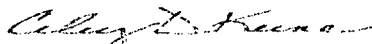
**Sample ID: TRENCH 4' HEATER (H102574-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>1570</b>	16.0	12/01/2011	ND	432	108	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/01/2011	ND	170	85.1	200	1.77	
<b>DRO &gt;C10-C28</b>	<b>24.6</b>	10.0	12/01/2011	ND	176	87.8	200	0.0911	
EXT DRO >C28-C35	<10.0	10.0	12/01/2011	ND					
<hr/>									
Surrogate: 1-Chlorooctane	93.6 %	55.5-154							
Surrogate: 1-Chlorooctadecane	86.3 %	57.6-158							

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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. ARGUJO  
P.O. Box 301  
Lovington NM, 88260  
Fax To: (575) 396-1429

Received:	11/29/2011	Sampling Date:	11/28/2011
Reported:	12/02/2011	Sampling Type:	Soil
Project Name:	CONTINENTAL FEDERAL BATTERY #1 HI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: TRENCH 10' HEATER (H102574-03)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/01/2011	ND	2.02	101	2.00	6.79	
Toluene*	<0.050	0.050	12/01/2011	ND	1.96	97.9	2.00	7.39	
Ethylbenzene*	<0.050	0.050	12/01/2011	ND	2.23	112	2.00	7.93	
Total Xylenes*	<0.150	0.150	12/01/2011	ND	6.47	108	6.00	7.96	

Surrogate: 4-Bromofluorobenzene (PII) 105 % 64.4-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1010	16.0	12/01/2011	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/02/2011	ND	170	85.1	200	1.77	
DRO >C10-C28	<10.0	10.0	12/02/2011	ND	176	87.8	200	0.0911	
EXT DRO >C28-C35	<10.0	10.0	12/02/2011	ND					


Surrogate: 1-Chlorooctane 91.8 % 55.5-154

Surrogate: 1-Chlorooctadecane 85.6 % 57.6-158

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

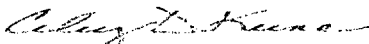
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received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

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Celey D. Keene, Lab Director/Quality Manager

[illegible]

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

December 13, 2011

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: CONTINENTAL FEDERAL BATTERY #1 HEATER

Enclosed are the results of analyses for samples received by the laboratory on 12/07/11 16:10.

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:	12/07/2011	Sampling Date:	12/07/2011
Reported:	12/13/2011	Sampling Type:	Soil
Project Name:	CONTINENTAL FEDERAL BATTERY #1 HI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: NORTH WALL (H102621-01)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>256</b>	16.0	12/08/2011	ND	416	104	400	0.00	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10</b>	<b>184</b>	10.0	12/08/2011	ND	177	88.7	200	3.39	
<b>DRO &gt;C10-C28</b>	<b>1720</b>	10.0	12/08/2011	ND	157	78.7	200	5.35	
<b>EXT DRO &gt;C28-C35</b>	<b>148</b>	10.0	12/08/2011	ND					
<hr/>									
Surrogate: 1-Chlorooctane	87.9 %	55.5-154							
Surrogate: 1-Chlorooctadecane	86.0 %	57.6-158							

**Sample ID: NORTH EAST WALL (H102621-02)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>176</b>	16.0	12/08/2011	ND	416	104	400	0.00	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10</b>	<b>&lt;10.0</b>	10.0	12/09/2011	ND	177	88.7	200	3.39	
<b>DRO &gt;C10-C28</b>	<b>20.8</b>	10.0	12/09/2011	ND	157	78.7	200	5.35	
<b>EXT DRO &gt;C28-C35</b>	<b>&lt;10.0</b>	10.0	12/09/2011	ND					
<hr/>									
Surrogate: 1-Chlorooctane	71.3 %	55.5-154							
Surrogate: 1-Chlorooctadecane	56.4 %	57.6-158							

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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:	12/07/2011	Sampling Date:	12/07/2011
Reported:	12/13/2011	Sampling Type:	Soil
Project Name:	CONTINENTAL FEDERAL BATTERY #1 HI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: NORTH WEST WALL (H102621-03)**

Chloride, SM4500CI-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>128</b>	16.0	12/08/2011	ND	416	104	400	0.00	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/08/2011	ND	177	88.7	200	3.39	
DRO >C10-C28	<10.0	10.0	12/08/2011	ND	157	78.7	200	5.35	
EXT DRO >C28-C35	<10.0	10.0	12/08/2011	ND					
<i>Surrogate: 1-Chlorooctane</i>									
	84.4 %	55.5-154							
<i>Surrogate: 1-Chlorooctadecane</i>									
	66.9 %	57.6-158							

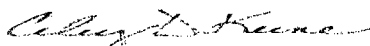
**Sample ID: SOUTH EAST WALL (H102621-04)**

Chloride, SM4500CI-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>208</b>	16.0	12/08/2011	ND	416	104	400	0.00	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/09/2011	ND	177	88.7	200	3.39	
DRO >C10-C28	<10.0	10.0	12/09/2011	ND	157	78.7	200	5.35	
EXT DRO >C28-C35	<10.0	10.0	12/09/2011	ND					
<i>Surrogate: 1-Chlorooctane</i>									
	84.7 %	55.5-154							
<i>Surrogate: 1-Chlorooctadecane</i>									
	64.4 %	57.6-158							

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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:	12/07/2011	Sampling Date:	12/07/2011
Reported:	12/13/2011	Sampling Type:	Soil
Project Name:	CONTINENTAL FEDERAL BATTERY #1 HI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: SOUTH WEST WALL (H102621-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>512</b>	16.0	12/08/2011	ND	416	104	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/09/2011	ND	177	88.7	200	3.39	
DRO >C10-C28	<10.0	10.0	12/09/2011	ND	157	78.7	200	5.35	
EXT DRO >C28-C35	<10.0	10.0	12/09/2011	ND					
<hr/>									
Surrogate: 1-Chlorooctane	82.4 %	55.5-154							
Surrogate: 1-Chlorooctadecane	63.3 %	57.6-158							

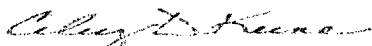
**Sample ID: SOUTH WALL (H102621-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>528</b>	16.0	12/08/2011	ND	416	104	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/09/2011	ND	177	88.7	200	3.39	
DRO >C10-C28	<10.0	10.0	12/09/2011	ND	157	78.7	200	5.35	
EXT DRO >C28-C35	<10.0	10.0	12/09/2011	ND					
<hr/>									
Surrogate: 1-Chlorooctane	87.8 %	55.5-154							
Surrogate: 1-Chlorooctadecane	65.5 %	57.6-158							

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

Received:	12/07/2011	Sampling Date:	12/07/2011
Reported:	12/13/2011	Sampling Type:	Soil
Project Name:	CONTINENTAL FEDERAL BATTERY #1 HI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: STOCK PILE A (H102621-07)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/08/2011	ND	2.00	100	2.00	0.748	
Toluene*	0.052	0.050	12/08/2011	ND	1.95	97.4	2.00	0.380	
Ethylbenzene*	0.386	0.050	12/08/2011	ND	2.24	112	2.00	0.550	
Total Xylenes*	0.698	0.150	12/08/2011	ND	6.51	109	6.00	0.285	

Surrogate: 4-Bromofluorobenzene (PIL) 172 % 64.4-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	736	16.0	12/08/2011	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	221	50.0	12/09/2011	ND	177	88.7	200	3.39	
DRO >C10-C28	1100	50.0	12/09/2011	ND	157	78.7	200	5.35	
EXT DRO >C28-C35	<50.0	50.0	12/09/2011	ND					

Surrogate: 1-Chlorooctane 88.8 % 55.5-154

Surrogate: 1-Chlorooctadecane 87.4 % 57.6-158

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

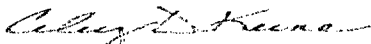
S-LOW	Low surrogate recovery confirmed as a matrix effect by a second analysis.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does 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

# Laboratories

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

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

Company Name: Basin Environmental Service Technologies, LLC				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																			
Project Manager: Ben J. Arquijo				P.O. #:																							
Address: P.O. Box 301				Company: BOPCO, LP																							
City: Lovington State: NM Zip: 88260				Attn: Tony Savcie																							
Phone #: (575) 396-2378 Fax #: (575) 396-1429				Address: 522 W. Hermod																							
Project #: Project Owner: BOPCO, LP				City: Carlsbad																							
Project Name: Continental Federal Battery #1				State: NM Zip: 88220																							
Project Location: EDDY NM				Phone #: (432) 556-8730																							
Sampler Name: Joey Walters				Fax #:																							
FOR LAB USE ONLY						MATRIX		PRESERV		SAMPLING																	
Lab I.D.	Sample I.D.	IGRAB OR (COMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	NEUTRAL	OTHER	DATE	TIME													
H1021621																											
1	North wall	G	1		X					X			12-7-11	11:00	X	X											
2	North EAST wall	G	1		X					X			12-7-11	11:10	X	X											
3	North West wall	G	1		X					X			12-7-11	11:20	X	X											
4	South EAST wall	G	1		X					X			12-7-11	11:30	X	X											
5	South West wall	G	1		X					X			12-7-11	11:40	X	X											
6	South wall	G	1		X					X			12-7-11	11:50	X	X											
7	Stock pile A	G	1		X					X			12-7-11	12:00	X	X	X										

**PLEASE NOTE:** Integrity and Damages. Cardinal's liability and its exclusive remedy for loss, claim arising whether based on contract or tort, shall be limited to the amount payable by the client for the analyses. All claims involving those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and recovered 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 losses of profits incurred by a unit, its subsidiaries, affiliates or customers, alone, and not related to the performance of services rendered by Cardinal. Limitations of whether a claim is based upon any of the above stated risks or otherwise.

Relinquished By: <i>[Signature]</i>		Date: <i>12/19/13</i>	Received By: <i>[Signature]</i>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Time: <i>4:10</i>				Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By:		Date:	Received By:	REMARKS:	
Time:					
Delivered By: (Circle One)		Sample Condition		CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other:		Cool Intact			
		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No		<i>[Initials]</i>	

Please email results to [pw@basincnv.com](mailto:pw@basincnv.com)  
 & [Tasavola@BassPwr.com](mailto:Tasavola@BassPwr.com)

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

December 14, 2011

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: CONTINENTAL FEDERAL BATTERY #1 HEATER

Enclosed are the results of analyses for samples received by the laboratory on 12/08/11 16:30.

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

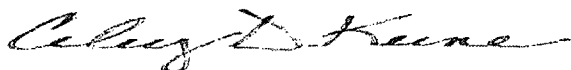
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	12/08/2011	Sampling Date:	12/08/2011
Reported:	12/14/2011	Sampling Type:	Soil
Project Name:	CONTINENTAL FEDERAL BATTERY #1 HI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: SOUTH FLOOR 5' (H102641-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2680	16.0	12/09/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/12/2011	ND	194	96.9	200	4.73		
DRO >C10-C28	<10.0	10.0	12/12/2011	ND	189	94.5	200	0.994		
EXT DRO >C28-C35	<10.0	10.0	12/12/2011	ND						
<hr/>										
Surrogate: 1-Chlorooctane	101 %	55.5-154								
Surrogate: 1-Chlorooctadecane	94.5 %	57.6-158								

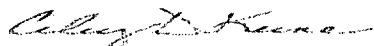
**Sample ID: SOUTH TRENCH 10' (H102641-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1310	16.0	12/09/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						S-HI
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	107	50.0	12/12/2011	ND	194	96.9	200	4.73		
DRO >C10-C28	8300	50.0	12/12/2011	ND	189	94.5	200	0.994		
EXT DRO >C28-C35	<50.0	50.0	12/12/2011	ND						
Surrogate: 1-Chlorooctane	141 %	55.5-154								
Surrogate: 1-Chlorooctadecane	229 %	57.6-158								

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received:	12/08/2011	Sampling Date:	12/08/2011
Reported:	12/14/2011	Sampling Type:	Soil
Project Name:	CONTINENTAL FEDERAL BATTERY #1 HI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: SOUTH TRENCH 15' (H102641-03)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/09/2011	ND	1.98	98.8	2.00	2.72	
Toluene*	<0.050	0.050	12/09/2011	ND	1.83	91.5	2.00	3.07	
Ethylbenzene*	<0.050	0.050	12/09/2011	ND	2.07	103	2.00	3.27	
Total Xylenes*	<0.150	0.150	12/09/2011	ND	5.88	97.9	6.00	3.27	

Surrogate: 4-Bromofluorobenzene (PIE) 107 % 64.4-134

Chloride, SM4500C1-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	880	16.0	12/09/2011	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/12/2011	ND	194	96.9	200	4.73	
DRO >C10-C28	39.8	10.0	12/12/2011	ND	189	94.5	200	0.994	
EXT DRO >C28-C35	<10.0	10.0	12/12/2011	ND					

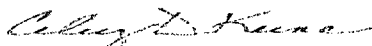
Surrogate: 1-Chlorooctane 115 % 55.5-154

Surrogate: 1-Chlorooctadecane 135 % 57.6-158

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	12/08/2011	Sampling Date:	12/08/2011
Reported:	12/14/2011	Sampling Type:	Soil
Project Name:	CONTINENTAL FEDERAL BATTERY #1 HI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

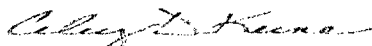
**Sample ID: STOCKPILE B (H102641-04)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>704</b>	16.0	12/12/2011	ND	432	108	400	0.00	
TPH 8015M		mg/kg	Analyzed By: ZZZ						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10</b>	<b>387</b>	50.0	12/09/2011	ND	186	93.2	200	3.31	
<b>DRO &gt;C10-C28</b>	<b>2610</b>	50.0	12/09/2011	ND	161	80.5	200	13.5	
<b>EXT DRO &gt;C28-C35</b>	<b>116</b>	50.0	12/09/2011	ND					
<hr/>									
Surrogate: 1-Chlorooctane	92.2 %	55.5-154							
Surrogate: 1-Chlorooctadecane	130 %	57.6-158							

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

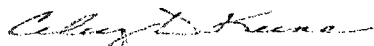
S-HI	High surrogate recovery was confirmed as a matrix effect by a second analysis.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B 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


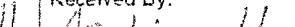

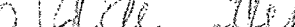

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Celey D. Keene, Lab Director/Quality Manager

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

Page 6 of 6

December 14, 2011

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: CONTINENTAL FEDERAL BATTERY #1 HEATER

Enclosed are the results of analyses for samples received by the laboratory on 12/09/11 16:33.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	12/09/2011	Sampling Date:	12/09/2011
Reported:	12/14/2011	Sampling Type:	Soil
Project Name:	CONTINENTAL FEDERAL BATTERY #1 HI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: STOCKPILE "C" (H102649-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/14/2011	ND	2.02	101	2.00	1.23	
Toluene*	<0.050	0.050	12/14/2011	ND	1.90	95.1	2.00	0.630	
Ethylbenzene*	<0.050	0.050	12/14/2011	ND	2.15	107	2.00	0.633	
Total Xylenes*	<0.150	0.150	12/14/2011	ND	6.14	102	6.00	0.343	

Surrogate: 4-Bromofluorobenzene (PIC) 112 % 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	896	16.0	12/12/2011	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/12/2011	ND	194	96.9	200	4.73	
DRO >C10-C28	399	10.0	12/12/2011	ND	189	94.5	200	0.994	
EXT DRO >C28-C35	<10.0	10.0	12/12/2011	ND					

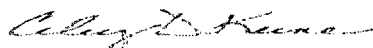
Surrogate: 1-Chlorooctane 90.3 % 55.5-154

Surrogate: 1-Chlorooctadecane 102 % 57.6-158

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

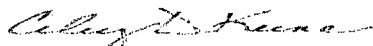
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

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Cardinal Laboratories

\*=Accredited Analyte

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---

Celey D. Keene, Lab Director/Quality Manager

