

# *Basin Environmental Service Technologies, LLC*

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

**BOPCO, LP  
NORTH INDIAN FLATS 26 FEDERAL #1  
Eddy County, New Mexico  
Unit Letter "G" (SW/NE), Section 26, Township 21 South, Range 28 East  
Latitude 32.452530° North, Longitude 104.054850 ° West  
NMOCD Reference #: 2RP-1624**

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

**December 2013**

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Ben J. Arguijo  
Project Manager

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## **1.0 INTRODUCTION & BACKGROUND INFORMATION**

Basin Environmental Service Technologies, LLC (Basin Environmental), on behalf of BOPCO, LP (BOPCO), has prepared this *Remediation Summary & Risk-Based Site Closure Request* for the release site known as North Indian Flats 26 Federal #1 (North Indian Flats). The legal description of the release site is Unit Letter "G" (SW/NE), Section 26, Township 21 South, Range 28 East, in Eddy County, New Mexico. The geographic coordinates of the release site are 32.452530° North latitude and 104.054850° West longitude. The property affected by the release is owned by the United States Department of the Interior - Bureau of Land Management (BLM). Please reference Figure 1 for a "Site Location Map".

On April 4, 2013, BOPCO discovered a release had occurred at the North Indian Flats 26 Federal #1 tank battery. A three-inch (3") water dump line from the heater treater to the on-site produced water storage tank developed a leak, resulting in a release of produced water. The release was attributed to internal corrosion. During initial response activities, a repair clamp was installed to mitigate the release, and heavily impacted soil was scraped up and stockpiled on-site, pending final disposition.

The release was reported to the New Mexico Oil Conservation Division (NMOCD) Artesia District Office on April 16, 2013. The "Release Notification and Corrective Action" (Form C-141) indicated twenty-five barrels (25 bbls) of produced water were released, with no recovery. The release impacted an area of the caliche well pad and tank battery pad measuring approximately five thousand, eight hundred square feet (5,800 ft<sup>2</sup>).

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

## **2.0 NMOCD SITE CLASSIFICATION**

A search of the New Mexico Water Rights Reporting System (NMWRRS) database maintained by the New Mexico Office of the State Engineer (NMOSE) indicated information was unavailable for Section 26, Township 21 South, Range 28 East. A depth-to-groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately one hundred and thirty-five feet (135') to one hundred and forty feet (140') below ground surface (bgs). Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

A search of the NMWRRS database indicated there are no water wells within one thousand feet (1,000') of the release. Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

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

NMOCD guidelines indicate the North Indian Flats release site has an initial ranking score of zero (0) points. The soil remediation levels for a site with a ranking score of zero (0) points are as follows:

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

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

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

Following initial response activities, on July 29, 2013, delineation of the release site commenced. A series of six (6) hand-augered soil borings were advanced along the flow path of the release to investigate the vertical and horizontal extent of impacted soil, beginning with soil boring HA-1 near the release point and ending with soil boring HA-6 near the terminus of the flow path. The soil borings were advanced in three-foot (3') increments. Soil boring HA-1 through HA-4 were each advanced to a total depth of approximately six feet (6') bgs, while soil borings HA-5 and HA-6 were each advanced to a total depth of approximately three feet (3') bgs. Core soil samples were field-screened using a chloride test kit and/or photo-ionization detector (PID).

A total of (4) soil samples (HA-1 @ 3', HA-3 @ 3', HA-4 @ 3', and HA-6 @ 3') were submitted to Cardinal Laboratories in Hobbs, New Mexico, for analysis of TPH, BTEX, and/or chloride concentrations in accordance with Environmental Protection Agency (EPA) methods SW-846 8015M, SW-846 8021b, and 4500 Cl-B, respectively. Table 1 summarizes the "Concentrations of Benzene, BTEX, TPH & Chloride in Soil". A "Site & Sample Location Map" is provided as Figure 2. Laboratory analytical reports are provided as Appendix C.

Laboratory analytical results indicated TPH and BTEX constituent concentrations were less than the appropriate laboratory method detection limit (MDL) in all submitted soil samples. Chloride concentrations ranged from 160 mg/kg in soil sample HA-6 @ 3' to 4,560 mg/kg in soil sample HA-1 @ 3'.

Review of laboratory analytical results and field-screens indicated that further vertical delineation would be required in the areas represented by soil borings HA- 1, HA-2, and HA-4.

On October 2, 2013, excavation of impacted soil commenced at the site. A chloride test kit was utilized to field-screen the horizontal extent of impacted soil and to guide the excavation. From October 2 through October 11, 2013, excavated soil was stockpiled on-site, pending final disposition.

On October 3, 2013, representatives of BOPCO and Basin Environmental met with a representative of the NMOCD Artesia District Office to discuss the remediation strategy for the site. Due to environmental and safety concerns related to an active pipeline and pump-jack adjacent to the release site, and to preserve the integrity of the on-site storage tanks, it was requested that the vertical extent of the excavation be limited to a total depth of approximately three feet (3') bgs in the area defined by hand-augered soil borings HA-1 through HA-4. The area represented by soil borings HA-5 and HA-6 would be limited to a total depth of one foot (1') bgs. It was also requested that a twenty (20) mil polyurethane liner be installed in the floor of the

excavation, in the area represented by soil borings HA-1 through HA-4. The requests were approved by the NMOCD representative.

From October 4 through October 15, 2013, approximately one thousand, one hundred and forty cubic yards (1,140 yd<sup>3</sup>) of impacted soil was transported to Lea Land, Inc. (NMOCD Permit # WM-01-035), for disposal.

On October 8, 2013, ten (10) soil samples (North Wall #1, North Wall #2, Floor #1, Floor #2, A #1, A#2, B #1, B #2, C #1, and C #2) were collected from the floor and sidewalls of the excavation and submitted to the laboratory for analysis of TPH and chloride concentrations. Soil samples Floor #2 and A #2 were also analyzed for concentrations of BTEX. Laboratory analytical results indicated TPH and BTEX constituent concentrations were less than the appropriate laboratory MDL in all submitted soil samples. Chloride concentrations ranged from less than the laboratory MDL in soil samples North Wall #2 and C #1 to 1,650 mg/kg in soil sample A #2.

On October 10, 2013, a single soil sample (South Wall) was collected from the sidewall of the excavation and submitted to the laboratory for analysis of TPH and chloride concentrations. Laboratory analytical results indicated the TPH concentration was less than the laboratory MDL, and the chloride concentration was 80.0 mg/kg.

A series of delineation trenches (D, E, and G) were also advanced in the floor of the excavation in an attempt to achieve vertical delineation of the release. Trench D was located in the southern portion of the excavation, near the on-site produced water tank. Trench E was located in the eastern portion of the excavation, between the on-site produced water tank and heater treater, in the area defined by soil boring HA-1. Trench G was located in the northwestern portion of the excavation, near an active pipeline bordering the release to the north. Soil samples collected from delineation trenches Trench D (D @ 6') and Trench E (E @ 10') were submitted to the laboratory for analysis of TPH and chloride concentrations. Soil sample E @ 10' was also analyzed for concentrations of BTEX. Laboratory analytical results indicated TPH concentrations were less than the laboratory MDL. Chloride concentrations ranged from 1,650 mg/kg in soil sample E @ 10' to 3,160 mg/kg in soil sample D @ 6'. The benzene concentration in soil sample E @ 10' was less than the laboratory MDL, and the BTEX concentration was 0.0658 mg/kg.

Permission was requested to leave soil represented by soil samples D @ 6' and E @ 10' in-situ. The request was approved by representatives of both the NMOCD and the BLM.

From October 14 through October 18, 2013, the excavation was backfilled with locally purchased, non-impacted material, compacted, and contoured to fit the surrounding topography. Prior to backfilling, a twenty (20) mil polyurethane liner was installed on the floor of the excavation at approximately three feet (3') bgs. A cushion of sand was installed both above and below the liner to protect the liner from damage during installation and backfilling activities. The final dimensions of the excavation were approximately one hundred and twenty feet (120') in length, varying in width from approximately twenty-two feet (22') to one hundred and ten feet (110'), and varying in depth from approximately one foot (1') to approximately three feet (3') bgs.

## **4.0 QA/QC PROCEDURES**

### **4.1 Soil Sampling**

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

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

### **4.2 Decontamination of Equipment**

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

### **4.3 Laboratory Protocol**

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

## **5.0 SITE CLOSURE REQUEST**

Soil samples collected from the floor and sidewalls of the North Indian Flats excavation were analyzed by an NMOCD-approved laboratory, and concentrations of benzene, BTEX, and TPH were below the regulatory remediation action levels established for the site by the NMOCD.

The release site was excavated to the extent practicable. A twenty (20) mil polyurethane liner was installed on the floor of the excavation prior to backfilling. This engineered control will help mitigate future releases and effectively inhibit vertical migration of contaminants to groundwater. In-situ soil exhibiting chloride contamination above the regulatory remediation action levels established for the site will be remediated upon decommission and/or abandonment of the currently well, pipelines, and/or storage facilities.

Basin Environmental recommends BOPCO provide the NMOCD Artesia District Office and the BLM a copy of this *Remediation Summary & Site Closure Request* and request the NMOCD grant site closure to the North Indian Flats 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 Environmental has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Basin Environmental has not conducted an independent examination of the facts contained in referenced materials and statements. Basin Environmental has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Basin Environmental has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin Environmental notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

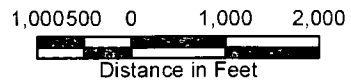
This report has been prepared for the benefit of BOPCO, LP. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or BOPCO, LP.

## **7.0 DISTRIBUTION:**

- Copy 1: Mike Bratcher  
New Mexico Energy, Minerals and Natural Resources Department  
Oil Conservation Division (District 2)  
1301 E. Grand Avenue  
Artesia, NM 88210
- Copy 2: James Amos  
United States Department of the Interior  
Bureau of Land Management  
620 East Greene Street  
P.O. Box 1778  
Carlsbad, New Mexico 87220
- Copy 3: Tony Savoie  
BOPCO, LP  
522 W. Mermod, Suite 704  
Carlsbad, NM 88220
- Copy 4: Basin Environmental Service Technologies, LLC  
P.O. Box 301  
Lovington, NM 88260

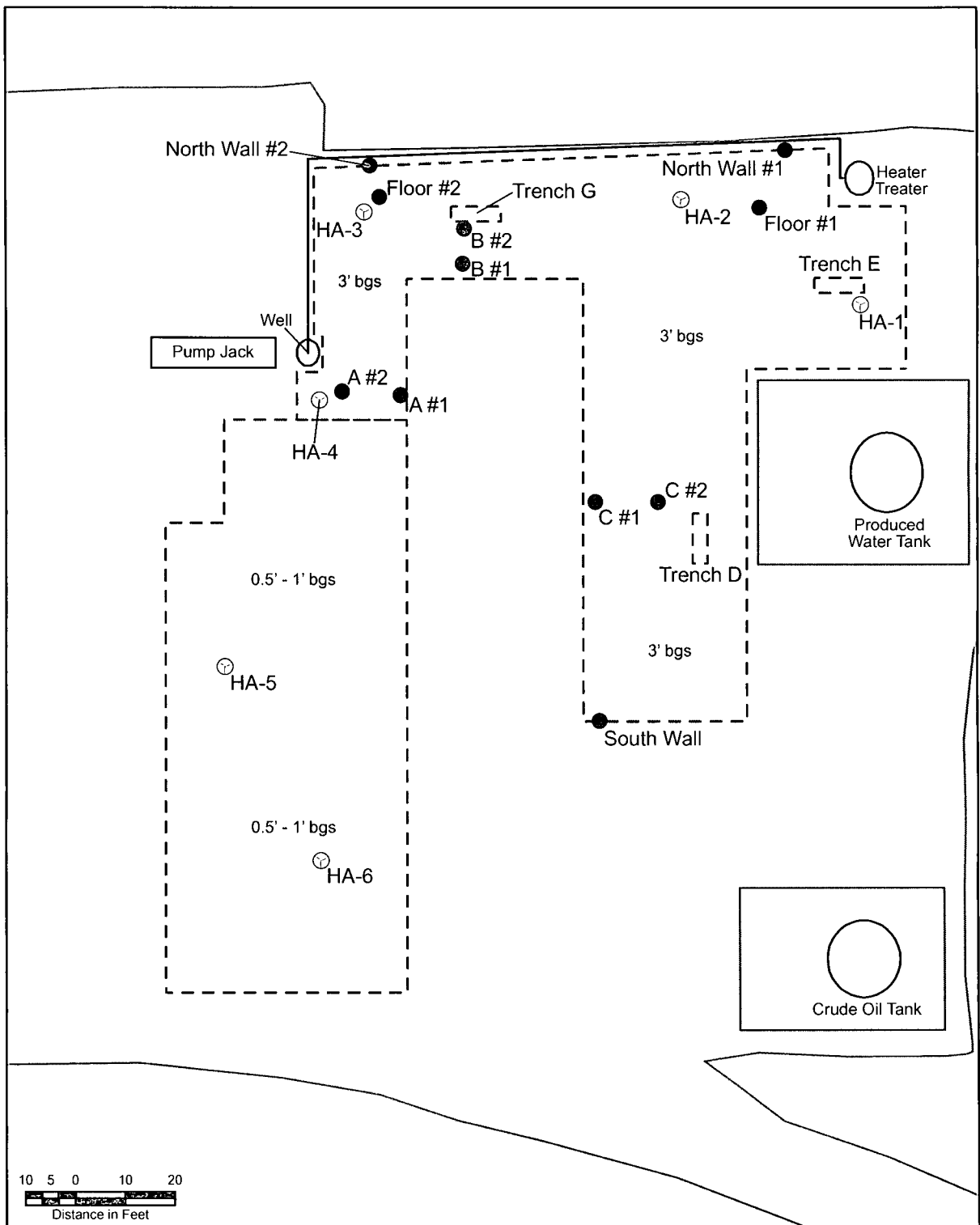




# Figures



Basin Environmental  
Effective Solutions  
Service Technologies

Drawn By: BJA	Checked By: BRB
August 17, 2013	Scale: 1" = 2000'



<b>Legend</b> -- Excavation — Pipeline — Berm — Caliche Pad/Road	 ⦿ Soil Boring ● Sample Location	<b>Figure 2</b> <b>Site &amp; Sample Location Map</b> <b>BOPCO, LP</b> <b>North Indian Flats 26 Federal #1</b> <b>Eddy County, New Mexico</b> <b>NMOCD Reference #: 2RP-1624</b>	 <div>Basin Environmental Service Technologies 3100 Plains Hwy. Lovington, NM 88260</div> <table><tr><td>Drawn By: BJA</td><td>Checked By: BRB</td></tr><tr><td>Dec. 6, 2013</td><td>Scale: 1" = 30'</td></tr></table>	Drawn By: BJA	Checked By: BRB	Dec. 6, 2013	Scale: 1" = 30'
Drawn By: BJA	Checked By: BRB						
Dec. 6, 2013	Scale: 1" = 30'						

# Tables

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

BOPCO, LP  
NORTH INDIAN FLATS 26 FEDERAL #1  
EDDY COUNTY, NEW MEXICO  
NMOCD REFERENCE #: 2RP-1624

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M			TOTAL TPH	4500 Cl-B
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORIDE (mg/Kg)
HA-1 @ 3'	3'	7/29/2013	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	4,560
HA-3 @ 3'	3'	7/29/2013	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	<10.0	576
HA-4 @ 3'	3'	7/29/2013	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	2,680
HA-6 @ 3'	3'	7/29/2013	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	<10.0	160
North Wall #1	2.5'	10/8/2013	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	208
North Wall #2	2.5'	10/8/2013	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	<16.0
Floor #1	3'	10/8/2013	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	192
Floor #2	3'	10/8/2013	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	<10.0	848
A #1	3'	10/8/2013	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	240
A #2	3'	10/8/2013	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	<10.0	1,650
B #1	3'	10/8/2013	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	720
B #2	3'	10/8/2013	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	96.0
C #1	3'	10/8/2013	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	<16.0
C #2	3'	10/8/2013	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	32.0
South Wall	2.5'	10/10/2013	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	80.0
D @ 6'	6'	10/10/2013	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	3,160
E @ 10'	10'	10/10/2013	In-Situ	<0.050	0.0658	<0.050	<0.150	0.0658	<10.0	<10.0	<10.0	<10.0	1,650
<b>NMOCD Criteria</b>				<b>10</b>					<b>50</b>			<b>5,000</b>	<b>1,000</b>

- = Not analyzed.

# **Appendices**

**Appendix A**

**Release Notification &**

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

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

RECEIVED

APR 16 2013

NMOCD ARTESIA

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

Form C-141  
Revised August 8, 2011

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

### Release Notification and Corrective Action

nJMW 1310754297

#### OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P. 260737	Contact: Tony Savoie
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: North Indian Flats 26 Federal #1	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-105-27556
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#### LOCATION OF RELEASE

Unit Letter G	Section 26	Township 21S	Range 28E	Feet from the 2150	North/South Line North	Feet from the 1980	East/West Line East	County Eddy
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Latitude N 32.452530 Longitude W 104.054850

#### NATURE OF RELEASE

Type of Release Produced water	Volume of Release 25 bbls	Volume Recovered: None
Source of Release 3" water dump line	Date and Hour of Occurrence 4/4/13 time unknown	Date and Hour of Discovery 4/4/13 10:00 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\* The 3" water dump line from the heater-treater to the water tank developed a leak due to internal corrosion. A repair clamp was placed on the affected area of the pipe.

Describe Area Affected and Cleanup Action Taken.\* The spill affected approximately 5800 sq.ft. of caliche well pad and tank battery pad. The saturated soil was scraped and stockpiled on site pending further remediation activities. The spill area will be remediated following the NMOCD and BLM guidelines for spills and releases.

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	Approved by Environmental Specialist Signed By Mike Brandon	
Printed Name: Tony Savoie	Approval Date: APR 17 2013	Expiration Date:
Title: Waste Management and Remediation Specialist	Conditions of Approval: Remediation per OCD Rule & Guidelines. <b>SUBMIT REMEDIATION PROPOSAL NO LATER THAN:</b>	
E-mail Address: tasavoie@basspet.com	Attached <input type="checkbox"/>	
Date: 4/16/13 Phone: 432-556-8730	2RP-1624	

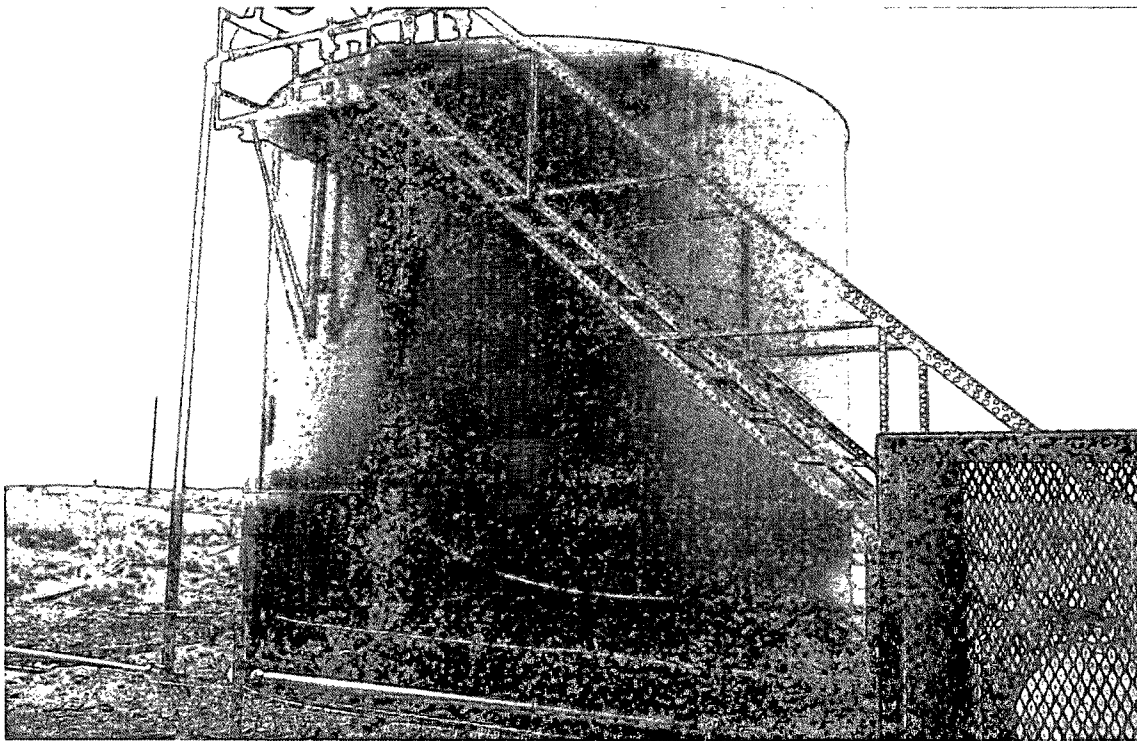
\* Attach Additional Sheets If Necessary

May 17, 2013

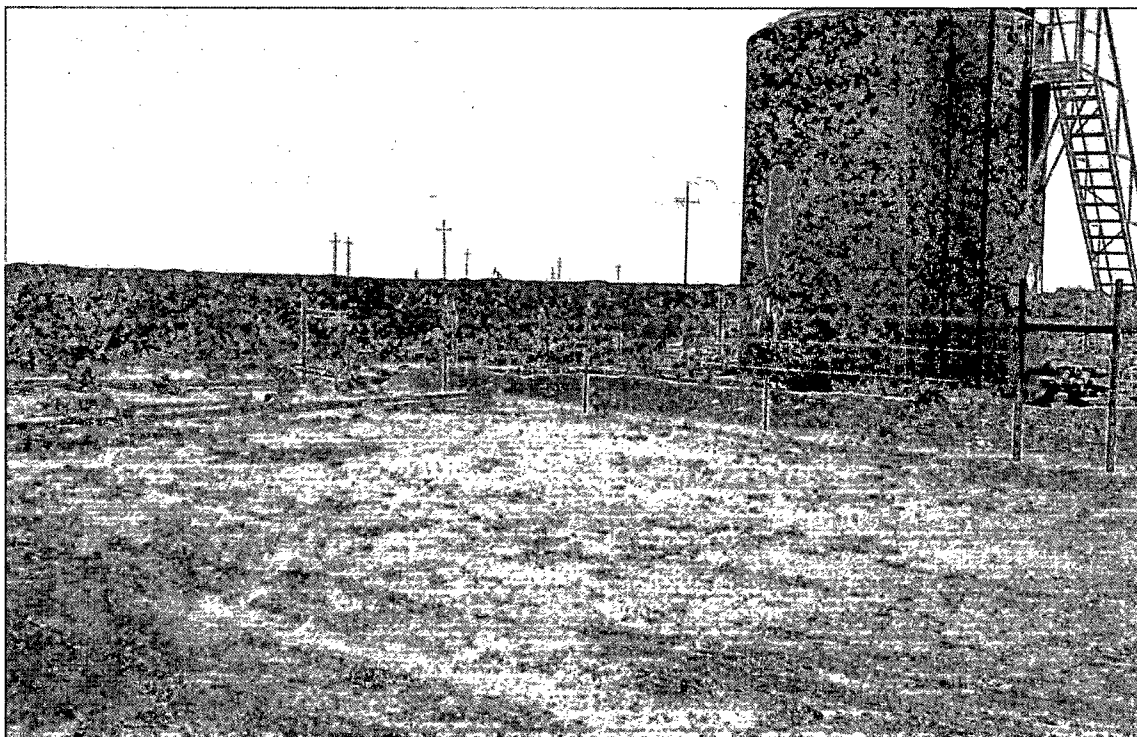


# **Appendix B**

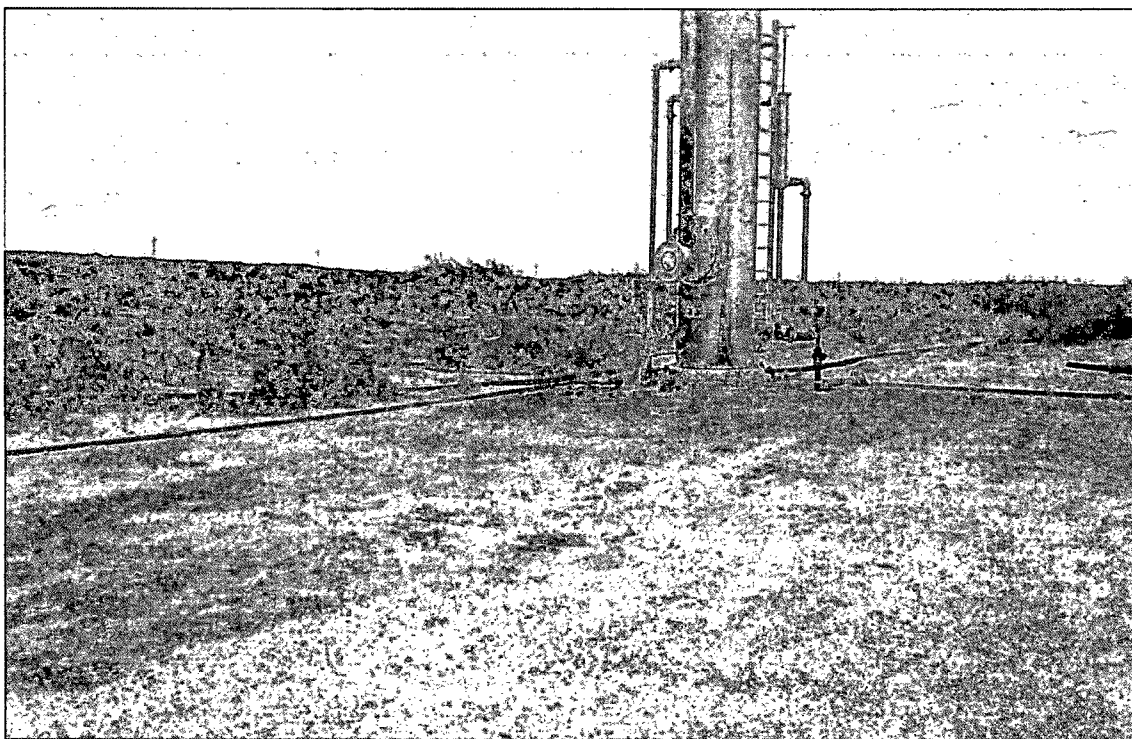
## **Photographs**



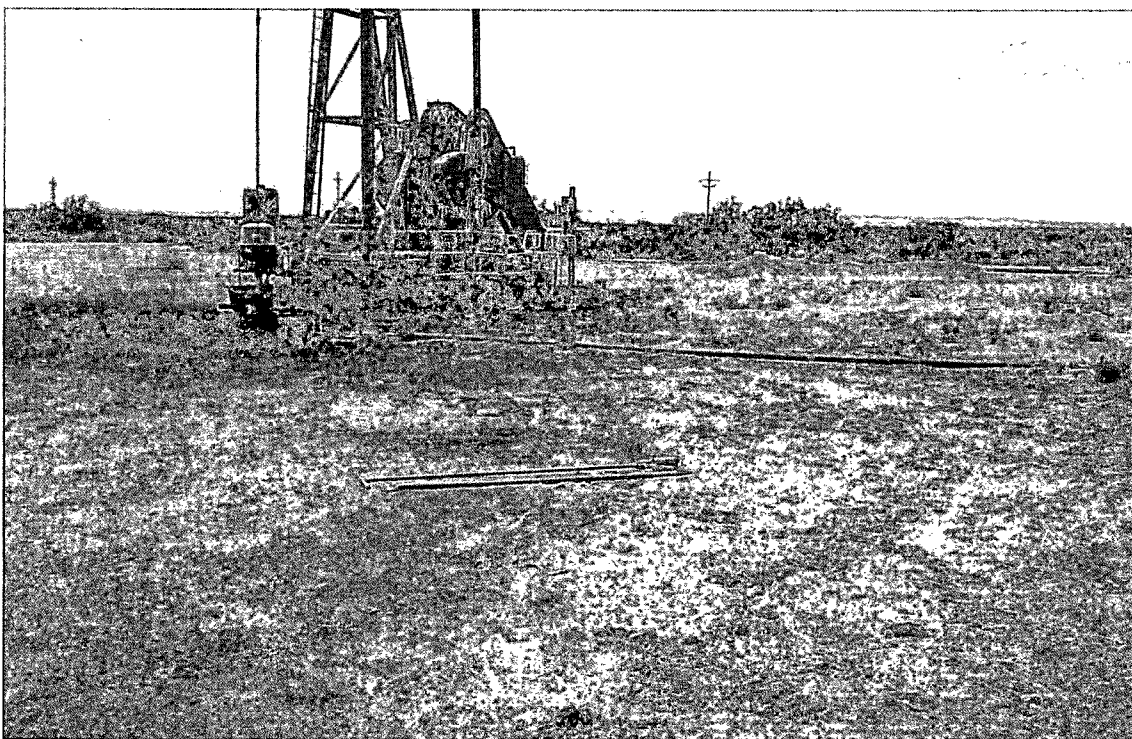
North Indian Flats 26 Federal Battery #1 - Release Site



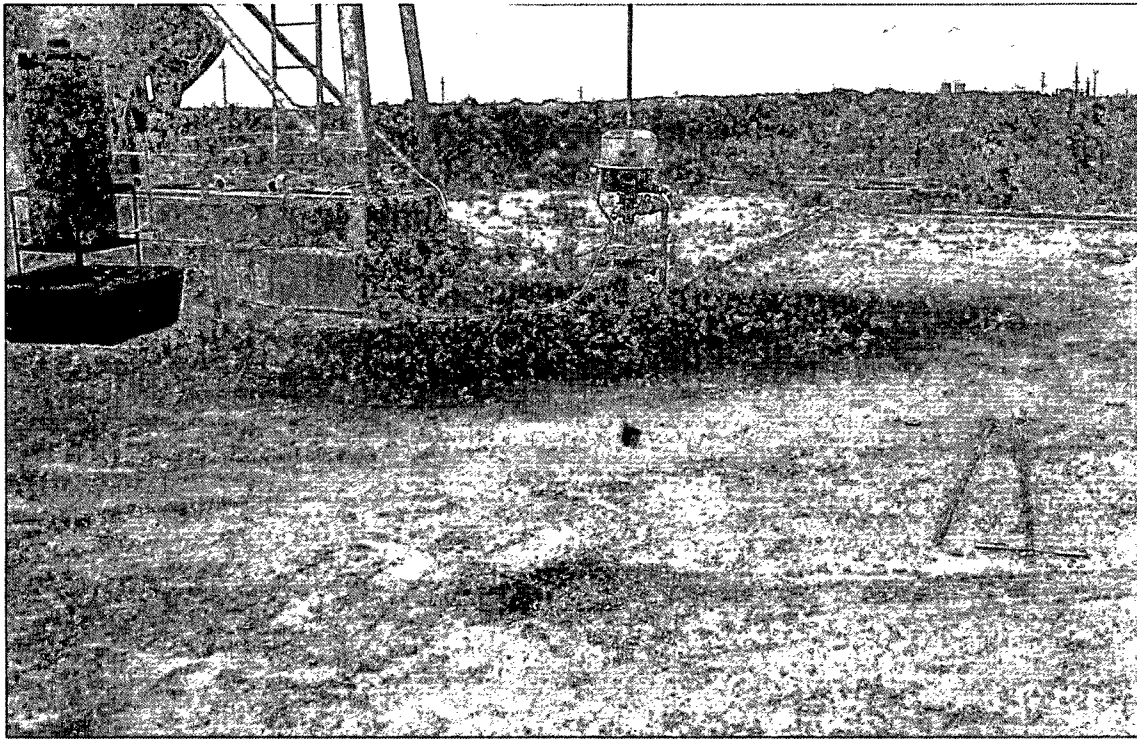
North Indian Flats 26 Federal Battery #1 - Release Site (Soil Boring HA-1 Flagged in Orange)



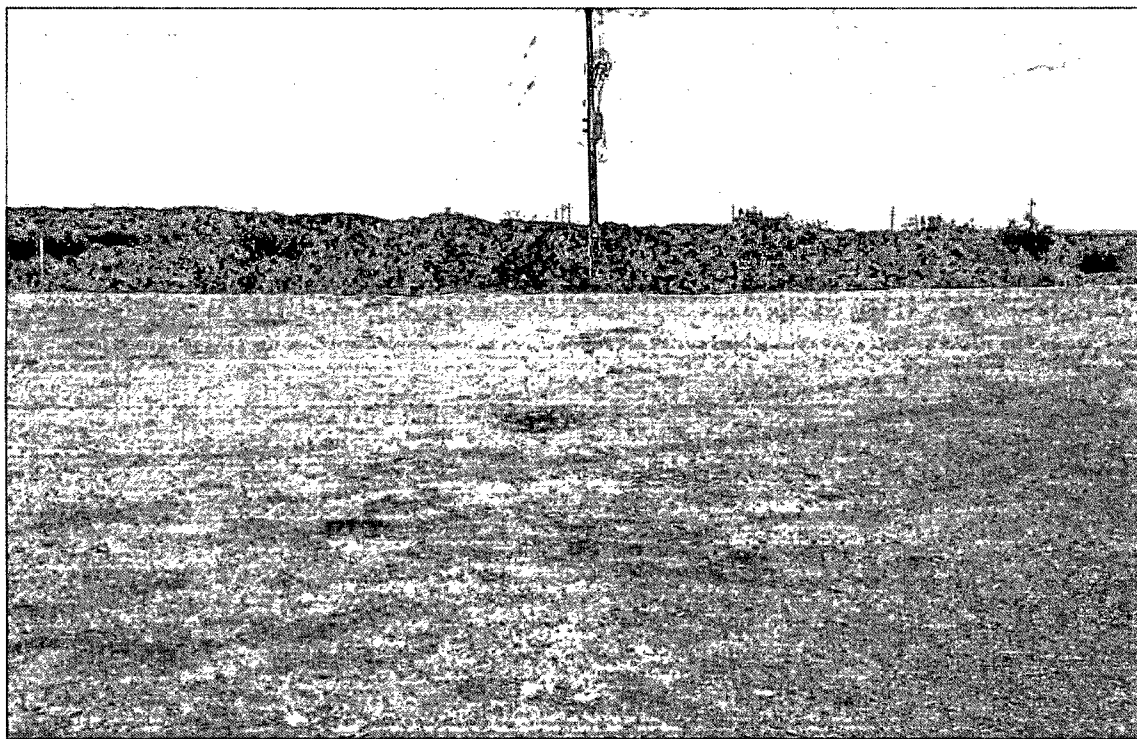
North Indian Flats 26 Federal Battery #1 - Flow Path (Soil Boring HA-2 Flagged in Orange)



North Indian Flats 26 Federal Battery #1 - Flow Path (Soil Boring HA-3 Flagged in Orange)



North Indian Flats 26 Federal Battery #1 - Soil Boring HA-4 (Flagged in Orange)

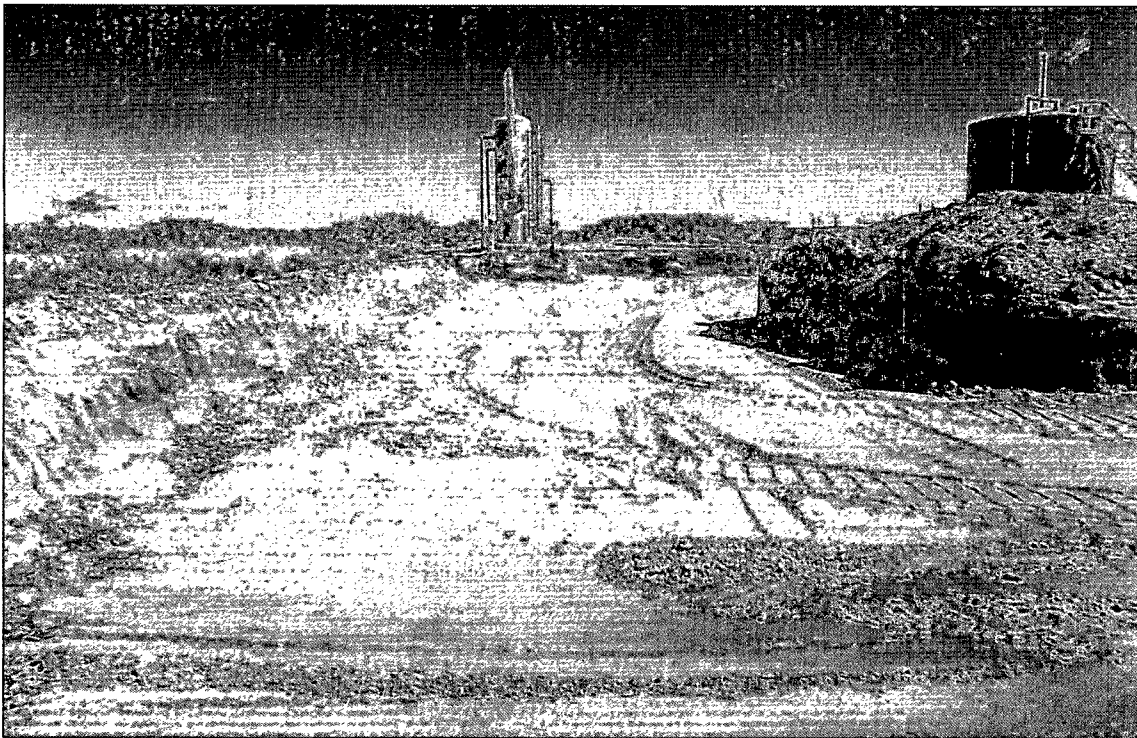


North Indian Flats 26 Federal Battery #1 - Flow Path  
(Looking South (Soil Boring HA-5 Flagged in Orange))

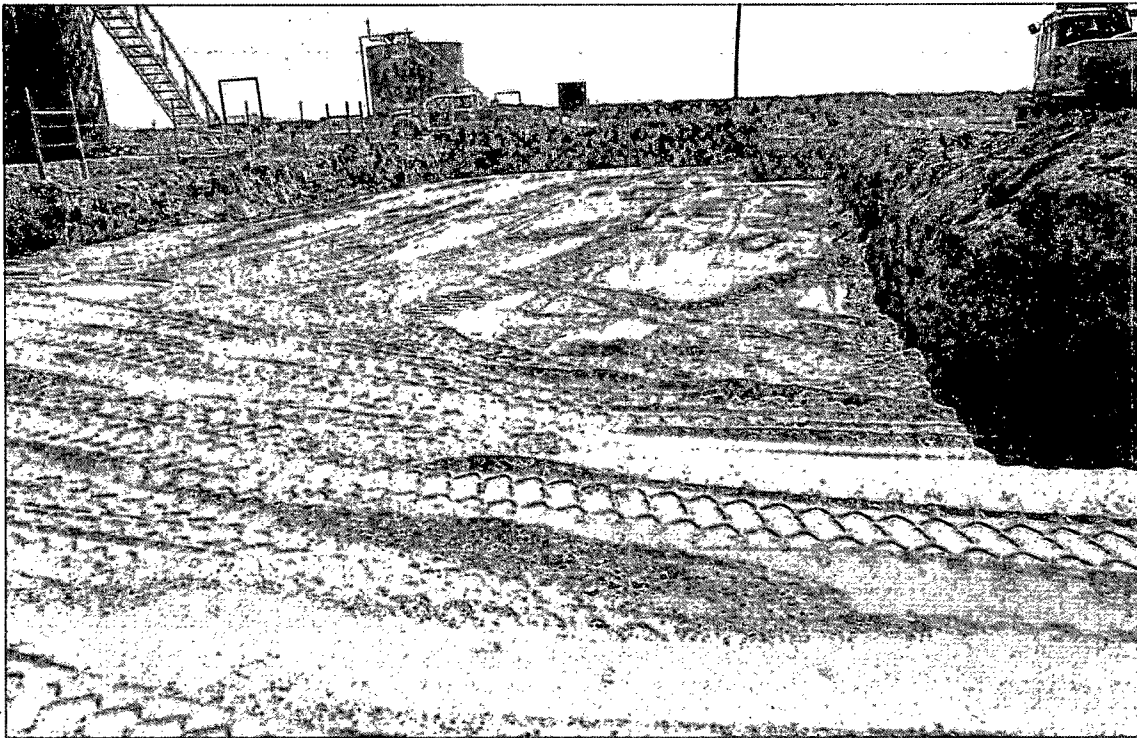




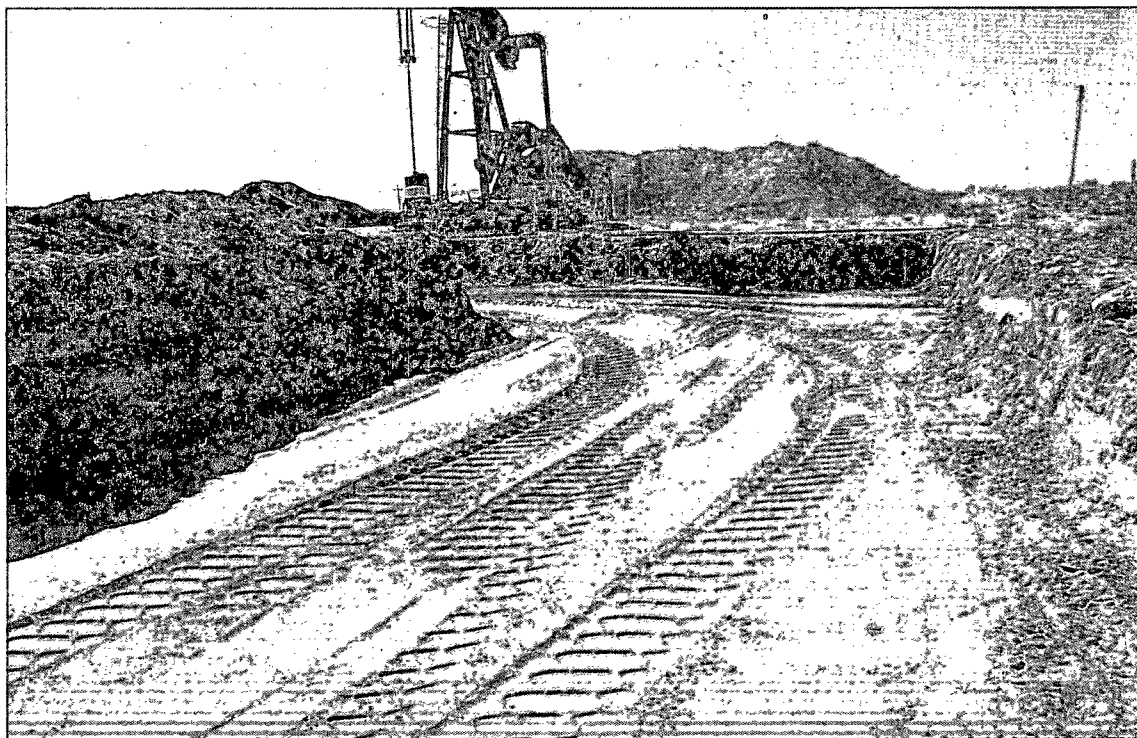
North Indian Flats 26 Federal Battery #1 - Excavation (Looking North)



North Indian Flats 26 Federal Battery #1 - Excavation (Looking East)



North Indian Flats 26 Federal Battery #1 - Excavation (Looking South)



North Indian Flats 26 Federal Battery #1 - Excavation (Looking West)

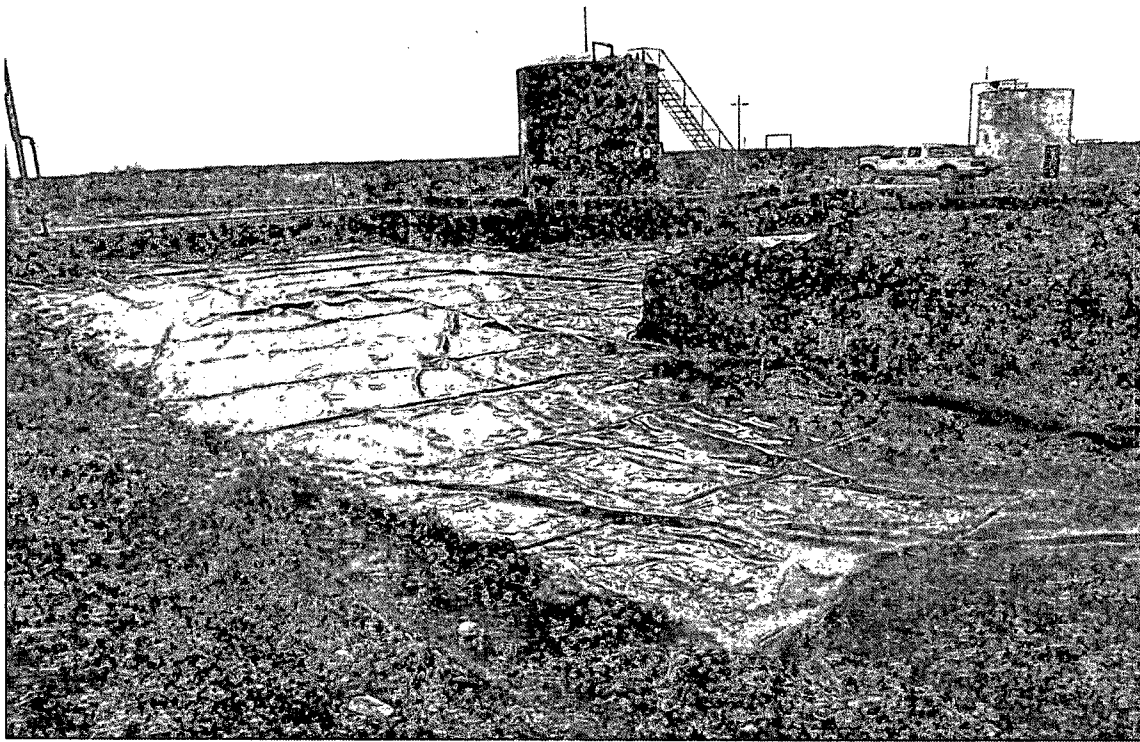


North Indian Flats 26 Federal Battery #1 - Liner Installation

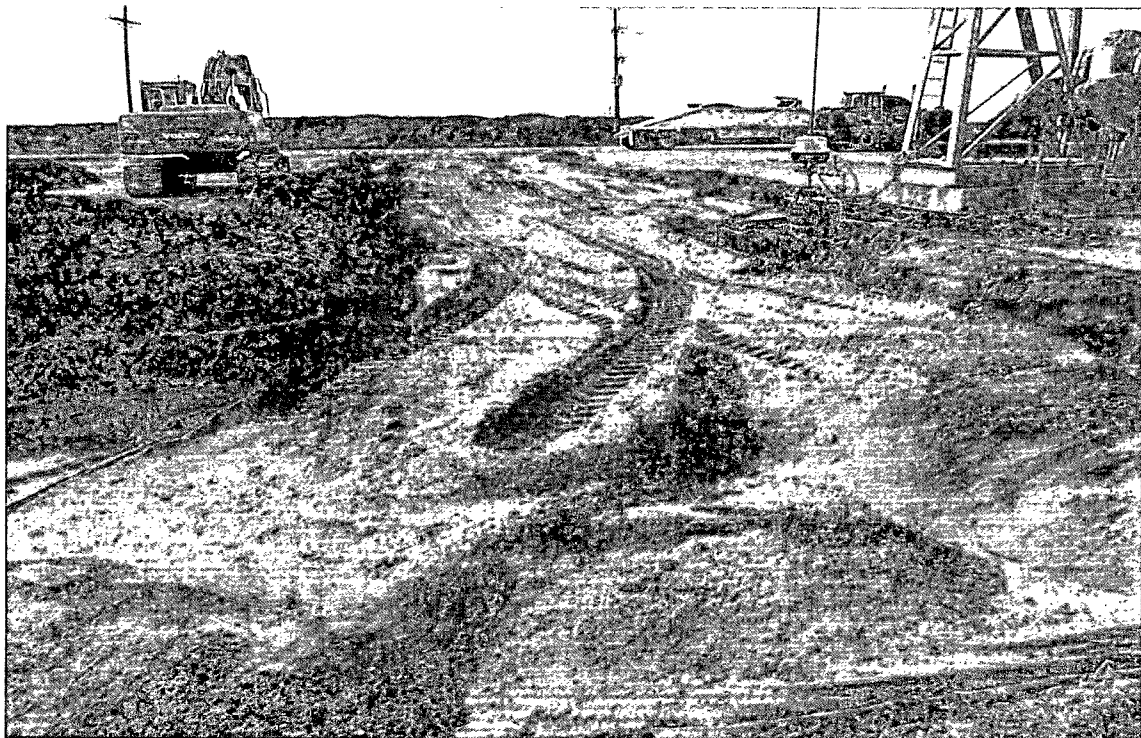


North Indian Flats 26 Federal Battery #1 - Liner Installation





North Indian Flats 26 Federal Battery #1 - Installation of Pad Sand



North Indian Flats 26 Federal Battery #1 - Installation of Pad Sand

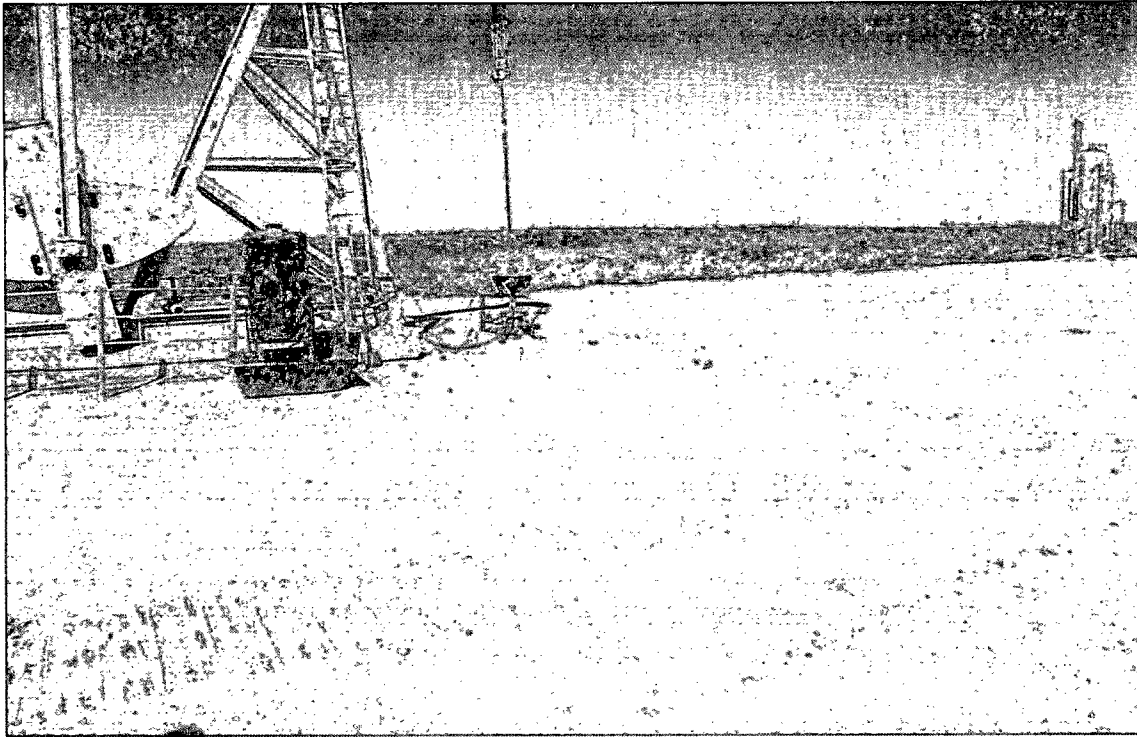




North Indian Flats 26 Federal Battery #1 - Following Backfill (Looking East-northeast)



North Indian Flats 26 Federal Battery #1 - Following Backfill (Looking East-southeast)



North Indian Flats 26 Federal Battery #1 - Following Backfill (Looking Northeast)

# **Appendix C**

## **Laboratory Analytical Reports**



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

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August 07, 2013

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: NORTH INDIAN FLATS 26 FEDERAL #1

Enclosed are the results of analyses for samples received by the laboratory on 07/30/13 11:25.

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: 07/30/2013  
Reported: 08/07/2013  
Project Name: NORTH INDIAN FLATS 26 FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: EDDY COUNTY, NM

Sampling Date: 07/29/2013  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

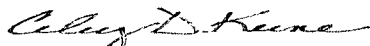
**Sample ID: HA-1 @ 3' (H301791-01)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4560	16.0	07/31/2013	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	08/01/2013	ND	183	91.5	200	10.9	
DRO >C10-C28	<10.0	10.0	08/01/2013	ND	190	95.0	200	10.7	
EXT DRO >C28-C35	<10.0	10.0	08/01/2013	ND					
Surrogate: 1-Chlorooctane									
	86.4 %	65.2-140							
Surrogate: 1-Chlorooctadecane									
	115 %	63.6-154							

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:	07/30/2013	Sampling Date:	07/29/2013
Reported:	08/07/2013	Sampling Type:	Soil
Project Name:	NORTH INDIAN FLATS 26 FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: HA-3 @ 3' (H301791-02)**

BTX 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/06/2013	ND	1.91	95.4	2.00	5.78	
Toluene*	<0.050	0.050	08/06/2013	ND	1.77	88.4	2.00	6.21	
Ethylbenzene*	<0.050	0.050	08/06/2013	ND	1.75	87.3	2.00	5.70	
Total Xylenes*	<0.150	0.150	08/06/2013	ND	5.21	86.9	6.00	5.13	

Surrogate: Dibromofluoromethane 96.5 % 61.3-142

Surrogate: Toluene-d8 98.3 % 71.3-129

Surrogate: 4-Bromofluorobenzene 100 % 65.7-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	07/31/2013	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	08/01/2013	ND	183	91.5	200	10.9	
DRO >C10-C28	<10.0	10.0	08/01/2013	ND	190	95.0	200	10.7	
EXT DRO >C28-C35	<10.0	10.0	08/01/2013	ND					

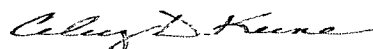
Surrogate: 1-Chlorooctane 83.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 108 % 63.6-154

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:	07/30/2013	Sampling Date:	07/29/2013
Reported:	08/07/2013	Sampling Type:	Soil
Project Name:	NORTH INDIAN FLATS 26 FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

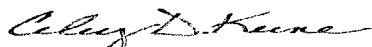
**Sample ID: HA-4 @ 3' (H301791-03)**

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	07/31/2013	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	08/01/2013	ND	183	91.5	200	10.9	
DRO >C10-C28	<10.0	10.0	08/01/2013	ND	190	95.0	200	10.7	
EXT DRO >C28-C35	<10.0	10.0	08/01/2013	ND					
Surrogate: 1-Chlorooctane	98.3 %	65.2-140							
Surrogate: 1-Chlorooctadecane	127 %	63.6-154							

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	07/30/2013	Sampling Date:	07/29/2013
Reported:	08/07/2013	Sampling Type:	Soil
Project Name:	NORTH INDIAN FLATS 26 FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: HA-6 @ 3' (H301791-04)**

BTX 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/06/2013	ND	1.91	95.4	2.00	5.78	
Toluene*	<0.050	0.050	08/06/2013	ND	1.77	88.4	2.00	6.21	
Ethylbenzene*	<0.050	0.050	08/06/2013	ND	1.75	87.3	2.00	5.70	
Total Xylenes*	<0.150	0.150	08/06/2013	ND	5.21	86.9	6.00	5.13	

Surrogate: Dibromofluoromethane 98.5 % 61.3-142

Surrogate: Toluene-d8 99.3 % 71.3-129

Surrogate: 4-Bromofluorobenzene 100 % 65.7-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	07/31/2013	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	08/01/2013	ND	183	91.5	200	10.9	
DRO >C10-C28	<10.0	10.0	08/01/2013	ND	190	95.0	200	10.7	
EXT DRO >C28-C35	<10.0	10.0	08/01/2013	ND					

Surrogate: 1-Chlorooctane 95.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 120 % 63.6-154

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Notes and Definitions**

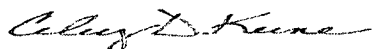
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



# CARDINAL LABORATORIES

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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 7 of 7

Company Name: Basin Environmental Service Technologies, LLC				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>											
Project Manager: Ben Arguijo				P.O. #:				<div style="display: flex; flex-direction: column; align-items: center;"> <div>Chloride</div> <div>TPH (8015M)</div> <div>BTEX (8021B)</div> <div>BTEX added 8/5</div> </div>											
Address: P.O. Box 301				Company: BOPCO, LP															
City: Lovington State: NM Zip: 88260				Attn: Tony Savoie															
Phone #: (575)396-2378 Fax #: (575)396-1429				Address: 522 W. Marland															
Project #: Project Owner:				City: Carlsbad															
Project Name: North Indian Flats 26 Federal #1				State: NM Zip: 88220															
Project Location: Eddy Co., NM				Phone #: (432)556-8730															
Sampler Name: Ben J. Arguijo				Fax #:															

FOR LAB USE ONLY		Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.		SAMPLING		DATE	TIME	Chloride	TPH (8015M)	BTEX (8021B)	BTEX added 8/5
						GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER							
1		H301791	HA-1 @ 3'	G	1		X					X		7/29/13	1210	X	X				
2			HA-3 @ 3'	G	1		X					X		7/29/13	1230	X	X				
3			HA-4 @ 3'	G	1		X					X		7/29/13	1245	X	X				
4			HA-6 @ 3'	G	1		X					X		7/29/13	1310	X	X				

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Relinquished By:	Date: 7/29/13	Received By:	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Relinquished By:	Date: 11/25	Received By:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:			REMARKS: ****Run BTEX if Chloride is ≤ 1,000 mg/kg AND TPH is ≤ 5,000 mg/kg **** Please email results to bjarguijo@basinenv.com, TASavoie@BassPet.com & SJWalters@BassPet.com
Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No		CHECKED BY:	

Revision 1.0

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

#54



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

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October 16, 2013

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: NORTH INDIAN FLATS 26 FEDERAL #1

Enclosed are the results of analyses for samples received by the laboratory on 10/08/13 15:35.

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: 10/08/2013  
Reported: 10/16/2013  
Project Name: NORTH INDIAN FLATS 26 FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: EDDY COUNTY, NM

Sampling Date: 10/08/2013  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: NORTH WALL #1 (H302432-01)**

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>208</b>	16.0	10/09/2013	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	10/12/2013	ND	201	101	200	0.560	
DRO >C10-C28	<10.0	10.0	10/12/2013	ND	211	105	200	8.27	
EXT DRO >C28-C35	<10.0	10.0	10/12/2013	ND					
Surrogate: 1-Chlorooctane		99.4 %	65.2-140						
Surrogate: 1-Chlorooctadecane		107 %	63.6-154						

**Sample ID: NORTH WALL #2 (H302432-02)**

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>&lt;16.0</b>	16.0	10/09/2013	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	10/08/2013	ND	201	101	200	0.560	
DRO >C10-C28	<10.0	10.0	10/08/2013	ND	211	105	200	8.27	
EXT DRO >C28-C35	<10.0	10.0	10/08/2013	ND					
Surrogate: 1-Chlorooctane		96.7 %	65.2-140						
Surrogate: 1-Chlorooctadecane		102 %	63.6-154						

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:	10/08/2013	Sampling Date:	10/08/2013
Reported:	10/16/2013	Sampling Type:	Soil
Project Name:	NORTH INDIAN FLATS 26 FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		


**Sample ID: FLOOR #1 (H302432-03)**

Chloride, SM4500Cl-B			mg/kg							Analyzed By: AP
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>192</b>	16.0	10/09/2013	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	10/08/2013	ND	201	101	200	0.560		
DRO >C10-C28	<10.0	10.0	10/08/2013	ND	211	105	200	8.27		
EXT DRO >C28-C35	<10.0	10.0	10/08/2013	ND						
<hr/>										
Surrogate: 1-Chlorooctane	88.6 %	65.2-140								
Surrogate: 1-Chlorooctadecane	102 %	63.6-154								

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	10/08/2013	Sampling Date:	10/08/2013
Reported:	10/16/2013	Sampling Type:	Soil
Project Name:	NORTH INDIAN FLATS 26 FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: FLOOR #2 (H302432-04)**

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	10/15/2013	ND	1.94	97.1	2.00	4.35	
Toluene*	<0.050	0.050	10/15/2013	ND	1.97	98.3	2.00	4.23	
Ethylbenzene*	<0.050	0.050	10/15/2013	ND	2.00	99.9	2.00	5.82	
Total Xylenes*	<0.150	0.150	10/15/2013	ND	5.82	97.0	6.00	4.78	
Total BTX	<0.300	0.300	10/15/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 100 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	848	16.0	10/09/2013	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	10/09/2013	ND	200	100	200	0.683	
DRO >C10-C28	<10.0	10.0	10/09/2013	ND	194	97.0	200	2.22	
EXT DRO >C28-C35	<10.0	10.0	10/09/2013	ND					

Surrogate: 1-Chlorooctane 99.9 % 65.2-140

Surrogate: 1-Chlorooctadecane 104 % 63.6-154

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:	10/08/2013	Sampling Date:	10/08/2013
Reported:	10/16/2013	Sampling Type:	Soil
Project Name:	NORTH INDIAN FLATS 26 FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

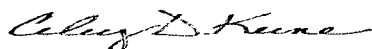
**Sample ID: A #1 (H302432-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	10/09/2013	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	10/09/2013	ND	200	100	200	0.683		
DRO >C10-C28	<10.0	10.0	10/09/2013	ND	194	97.0	200	2.22		
EXT DRO >C28-C35	<10.0	10.0	10/09/2013	ND						
<hr/>										
Surrogate: 1-Chlorooctane	115 %	65.2-140								
Surrogate: 1-Chlorooctadecane	114 %	63.6-154								

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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: 10/08/2013  
Reported: 10/16/2013  
Project Name: NORTH INDIAN FLATS 26 FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: EDDY COUNTY, NM

Sampling Date: 10/08/2013  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: A #2 (H302432-06)**

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	10/15/2013	ND	1.94	97.1	2.00	4.35	
Toluene*	<0.050	0.050	10/15/2013	ND	1.97	98.3	2.00	4.23	
Ethylbenzene*	<0.050	0.050	10/15/2013	ND	2.00	99.9	2.00	5.82	
Total Xylenes*	<0.150	0.150	10/15/2013	ND	5.82	97.0	6.00	4.78	
Total BTEX	<0.300	0.300	10/15/2013	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1650	16.0	10/09/2013	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	10/09/2013	ND	200	100	200	0.683	
DRO >C10-C28	<10.0	10.0	10/09/2013	ND	194	97.0	200	2.22	
EXT DRO >C28-C35	<10.0	10.0	10/09/2013	ND					

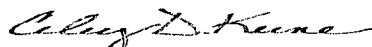
Surrogate: 1-Chlorooctane 95.7 % 65.2-140

Surrogate: 1-Chlorooctadecane 95.9 % 63.6-154

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received:	10/08/2013	Sampling Date:	10/08/2013
Reported:	10/16/2013	Sampling Type:	Soil
Project Name:	NORTH INDIAN FLATS 26 FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: B #1 (H302432-07)**

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>720</b>	16.0	10/09/2013	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	10/09/2013	ND	200	100	200	0.683		
DRO >C10-C28	<10.0	10.0	10/09/2013	ND	194	97.0	200	2.22		
EXT DRO >C28-C35	<10.0	10.0	10/09/2013	ND						
<hr/>										
Surrogate: 1-Chlorooctane	101 %	65.2-140								
Surrogate: 1-Chlorooctadecane	97.6 %	63.6-154								


**Sample ID: B #2 (H302432-08)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>96.0</b>	16.0	10/09/2013	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	10/09/2013	ND	200	100	200	0.683		
DRO >C10-C28	<10.0	10.0	10/09/2013	ND	194	97.0	200	2.22		
EXT DRO >C28-C35	<10.0	10.0	10/09/2013	ND						
<hr/>										
Surrogate: 1-Chlorooctane	98.5 %	65.2-140								
Surrogate: 1-Chlorooctadecane	100 %	63.6-154								

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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:	10/08/2013	Sampling Date:	10/08/2013
Reported:	10/16/2013	Sampling Type:	Soil
Project Name:	NORTH INDIAN FLATS 26 FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: C #1 (H302432-09)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/09/2013	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	10/09/2013	ND	200	100	200	0.683	
DRO >C10-C28	<10.0	10.0	10/09/2013	ND	194	97.0	200	2.22	
EXT DRO >C28-C35	<10.0	10.0	10/09/2013	ND					
Surrogate: 1-Chlorooctane	103 %	65.2-140							
Surrogate: 1-Chlorooctadecane	102 %	63.6-154							

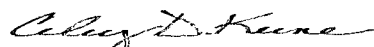
**Sample ID: C #2 (H302432-10)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	10/09/2013	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	10/09/2013	ND	200	100	200	0.683		
DRO >C10-C28	<10.0	10.0	10/09/2013	ND	194	97.0	200	2.22		
EXT DRO >C28-C35	<10.0	10.0	10/09/2013	ND						
Surrogate: 1-Chlorooctane	102 %	65.2-140								
Surrogate: 1-Chlorooctadecane	102 %	63.6-154								

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions


QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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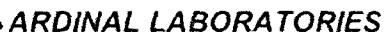
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Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240

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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 10 of 10

<b>Company Name:</b> Basin Environmental Service Technologies, LLC <b>Project Manager:</b> Ben Arguijo <b>Address:</b> P.O. Box 301 <b>City:</b> Lovington <b>State:</b> NM <b>Zip:</b> 88260 <b>Phone #:</b> (575)396-2378 <b>Fax #:</b> (575)396-1429 <b>Project #:</b> <b>Project Owner:</b> <b>Project Name:</b> North Indian Flats 26-1 <b>Project Location:</b> Eddy Co., NM <b>Sampler Name:</b> Steve Taylor				<b>BILL TO</b> <b>P.O. #:</b> <b>Company:</b> BOPCO, LP <b>Attn:</b> Tony Savoie <b>Address:</b> 522 W. Marland <b>City:</b> Carlsbad <b>State:</b> NM <b>Zip:</b> 88220 <b>Phone #:</b> (432)556-8730 <b>Fax #:</b>				<b>ANALYSIS REQUEST</b>																																	
								Chloride TPH (8015M) BTEX (8021B) <i>added</i> 10/15/13																																	
FOR LAB USE ONLY						MATRIX		PRESERV.		SAMPLING																															
Lab I.D.		Sample I.D.		GIRAB OR (C)OMP.		# CONTAINERS		GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER :		ACID/BASE:		ICE / COOL		OTHER :		DATE		TIME													
H302432																																									
1		North Wall #2																								10/8/13		10:00													
2		North Wall #2																										10:15													
3		Floor #1																										10:30													
4		Floor #2																										10:45		X											
5		H#1																										11:00													
6		H#2																										11:15		X											
7		B#1																										11:30													
8		B#2																										11:45													
9		C#1																										12:00													
10		C#2																										12:15													

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<b>Relinquished By:</b> <i>Steve Taylor</i> <b>Relinquished By:</b>				<b>Date:</b> 10/8/13 <b>Time:</b> 3:35 <b>Date:</b>				<b>Received By:</b> <i>Jodi Benson</i> <b>Received By:</b>				<b>Date:</b>				<b>Time:</b>			
<b>Delivered By: (Circle One)</b> Sampler - UPS - Bus - Other:				Sample Condition Cool - Intact <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No				CHECKED BY: <i>[Signature]</i>				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 #:							

FORM-006 4.6°C

Please email results to bjarguijo@basinenv.com, TASavoie@BassPet.com & SJWalters@BassPet.com

Revision 1.0

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

# 54



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

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October 16, 2013

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: NORTH INDIAN FLATS 26 FEDERAL #1

Enclosed are the results of analyses for samples received by the laboratory on 10/10/13 15:25.

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,

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

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:	10/10/2013	Sampling Date:	10/10/2013
Reported:	10/16/2013	Sampling Type:	Soil
Project Name:	NORTH INDIAN FLATS 26 FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: SOUTH WALL (H302463-01)**

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>80.0</b>	16.0	10/11/2013	ND	416	104	400	3.92	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/11/2013	ND	206	103	200	6.70	
DRO >C10-C28	<10.0	10.0	10/11/2013	ND	197	98.3	200	7.58	
EXT DRO >C28-C35	<10.0	10.0	10/11/2013	ND					
<i>Surrogate: 1-Chlorooctane</i>									
	102 %	65.2-140							
<i>Surrogate: 1-Chlorooctadecane</i>									
	109 %	63.6-154							

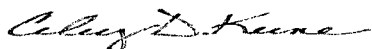
**Sample ID: D @ 6' (H302463-02)**

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>3160</b>	16.0	10/11/2013	ND	416	104	400	3.92	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/11/2013	ND	206	103	200	6.70	
DRO >C10-C28	<10.0	10.0	10/11/2013	ND	197	98.3	200	7.58	
EXT DRO >C28-C35	<10.0	10.0	10/11/2013	ND					
<i>Surrogate: 1-Chlorooctane</i>									
	99.8 %	65.2-140							
<i>Surrogate: 1-Chlorooctadecane</i>									
	105 %	63.6-154							

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:	10/10/2013	Sampling Date:	10/10/2013
Reported:	10/16/2013	Sampling Type:	Soil
Project Name:	NORTH INDIAN FLATS 26 FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: E @ 10' (H302463-03)**

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	10/15/2013	ND	1.94	97.1	2.00	4.35	
<b>Toluene*</b>	<b>0.068</b>	0.050	10/15/2013	ND	1.97	98.3	2.00	4.23	
Ethylbenzene*	<0.050	0.050	10/15/2013	ND	2.00	99.9	2.00	5.82	
Total Xylenes*	<0.150	0.150	10/15/2013	ND	5.82	97.0	6.00	4.78	
Total BTX	<0.300	0.300	10/15/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 96.6 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>1650</b>	16.0	10/11/2013	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/11/2013	ND	206	103	200	6.70	
DRO >C10-C28	<10.0	10.0	10/11/2013	ND	197	98.3	200	7.58	
EXT DRO >C28-C35	<10.0	10.0	10/11/2013	ND					

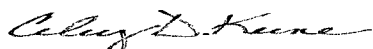
Surrogate: 1-Chlorooctane 84.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 91.6 % 63.6-154

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

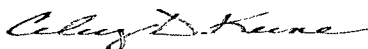
QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager





# CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240

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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 5 of 5

Company Name: Basin Environmental Service Technologies, LLC				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																													
Project Manager: Ben Arguijo				P.O. #:				<div style="display: flex; justify-content: space-around;"> <div>Chloride</div> <div>TPH (8015M)</div> <div>BTEX (8021B)</div> </div>																													
Address: P.O. Box 301				Company: BOPCO, LP																																	
City: Lovington State: NM Zip: 88260				Attn: Tony Savoie																																	
Phone #: (575)396-2378 Fax #: (575)396-1429				Address: 522 W. Marland																																	
Project #: Project Owner:				City: Carlsbad																																	
Project Name: North Indian Flats 26-1				State: NM Zip: 88220																																	
Project Location: Eddy Co., NM				Phone #: (432)556-8730																																	
Sampler Name: Steve Taylor				Fax #:																																	
FOR LAB USE ONLY						MATRIX		PRESERV.		SAMPLING																											
Lab I.D.		Sample I.D.		(GRAB OR (C)OMP.		# CONTAINERS		GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER:		ACID/BASE:		ICE / COOL		OTHER:		DATE		TIME									
H302463																																					
1 South Wall																										10/10/13		12:30		X		X					
2 De 6'																												10/10/13		1:00		X		X			
3 E@ 10'																												10/10/13		1:30		X		X		X	

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Relinquished By:		Date: 10/10/13		Received By:		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
		Time: 3:25				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:			
Sampler - UPS - Bus - Other:				Cool Intact		Initials			
FORM-006				4.6°C					

Revision 1.0

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

#34

Please email results to bjarguijo@basinenv.com,  
TASavoie@BassPet.com & SJWalters@BassPet.com