## 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 **POKER LAKE UNIT #108 Eddy County, New Mexico** UNIT LTR "J" (NW/SE), Section 25, Township 24 South, Range 30 East Latitude 32.187010° North, Longitude 103.832130° West

Prepared For:

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

Prepared By:

Basin Environmental Service Technologies, LLC 2800 Plains Highway Lovington, New Mexico 88260

December 2011

 Ben J. Arguijo	
Project Manager	

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## 1.0 INTRODUCTION & BACKGROUND INFORMATION

Basin Environmental Service Technologies, LLC (Basin), on behalf of BOPCO, LP (BOPCO), has prepared this *Remediation Summary & Risk-Based Site Closure Request* for the release site known as Poker Lake Unit #108. The legal description of the release site is Unit Letter "J" (NW/SE), Section 25, Township 24 South, Range 30 East, in Eddy County, New Mexico. The geographic coordinates of the release site are 32.187010° North latitude and 103.832130° 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 August 26, 2011, BOPCO discovered a release had occurred at the Poker Lake Unit #108 pumping well. The packing in the pumping well's stuffing box failed, resulting in a release of produced water and crude oil. The release was reported to the New Mexico Oil Conservation Division (NMOCD) Artesia District Office on September 11, 2011. The "Release Notification and Corrective Action" (Form C-141) indicated approximately ten barrels (10 bbls) of produced water and less than one barrel (<1 bbl) of crude oil was released, with no recovery. The packing was replaced during initial response activities.

The release was confined to the caliche pad surrounding the Poker Lake Unit #108 pumping well and affected an area measuring approximately one thousand, five hundred square feet  $(1,500 \text{ ft}^2)$ . 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 25, Township 24 South, Range 30 East. A depth-to-groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately four hundred feet (400') 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 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 Poker Lake Unit #108 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 October 31, 2011, excavation of impacted soil commenced at the site. A Photo-Ionization Detector (PID) and Hach Quantab chloride titrators were used to field-screen the horizontal and vertical extent of impacted soil and to guide the excavation.

From October 31 through November 8, 2011, approximately seven hundred and twenty cubic yards (720 cy) of impacted soil was transported to Lea Land, Inc. (NMOCD Permit # WM-01-035) for disposal.

On November 3, 2011, one (1) delineation trench (Floor) was advanced at the site to delineate the vertical extent of impact at the site. The delineation trench was advanced in the floor of the excavation to a total depth of approximately eighteen feet (18') bgs.

Four (4) soil samples (North Wall, South Wall, East Wall, and West Well) collected from the sidewalls of the excavation and four (4) soil samples (Floor @ 6', Floor @ 10', Floor @ 14', and Floor @ 18') from delineation trench "Floor" were submitted to Cardinal Laboratories (Hobbs, New Mexico) for analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX), total petroleum hydrocarbons (TPH), and/or chlorides using EPA methods SW-846 8021b, SW-846 8015M, and 4500 Cl-B, respectively. Table 1 summarizes the "Concentrations of Benzene, BTEX, TPH & Chlorides in Soil". A "Site & Sample Location Map" is provided as Figure 2. Laboratory analytical reports are provided as Appendix C.

Laboratory analytical results indicated benzene and BTEX concentrations were less than the appropriate laboratory method detection limit (MDL) in all soil samples submitted. TPH concentrations ranged from less than the laboratory MDL in soil samples North Wall, South Wall, East Wall, West Well, Floor @ 6', and Floor @ 14' to 13.2 mg/Kg in soil sample Floor @ 10'. Chloride concentrations ranged from 16.0 mg/Kg in soil sample East Wall to 4,080 mg/Kg in soil sample Floor @ 6'. Review of laboratory analytical results indicated benzene, BTEX, and TPH concentrations were less than NMOCD regulatory standards in all soil samples submitted.

Based on laboratory analytical results and field-screens, from November 4 through November 9, 2011, the excavation was backfilled in eighteen inch (18") lifts, compacted, and contoured to fit the surrounding topography. Prior to backfilling, a 20 mil polyurethane liner was installed in the floor of the excavation at approximately four feet (4') bgs. Approximately one foot (1') 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 sixty-seven feet (67') in length, approximately sixty-four feet (64') in width, and ranging in depth from approximately one foot (1') to approximately five feet (5') bgs.

## 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 Poker Lake Unit #108 excavation were analyzed by an NMOCD-approved laboratory, and concentrations of benzene, BTEX, TPH, and chlorides were less than the remediation action levels established for the site. Based on these laboratory analytical results, Basin recommends BOPCO provide the NMOCD Artesia District and the BLM a copy of this *Remediation Summary & Risk-Based Site Closure Request* and request the NMOCD grant site closure to the Poker Lake Unit #108 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

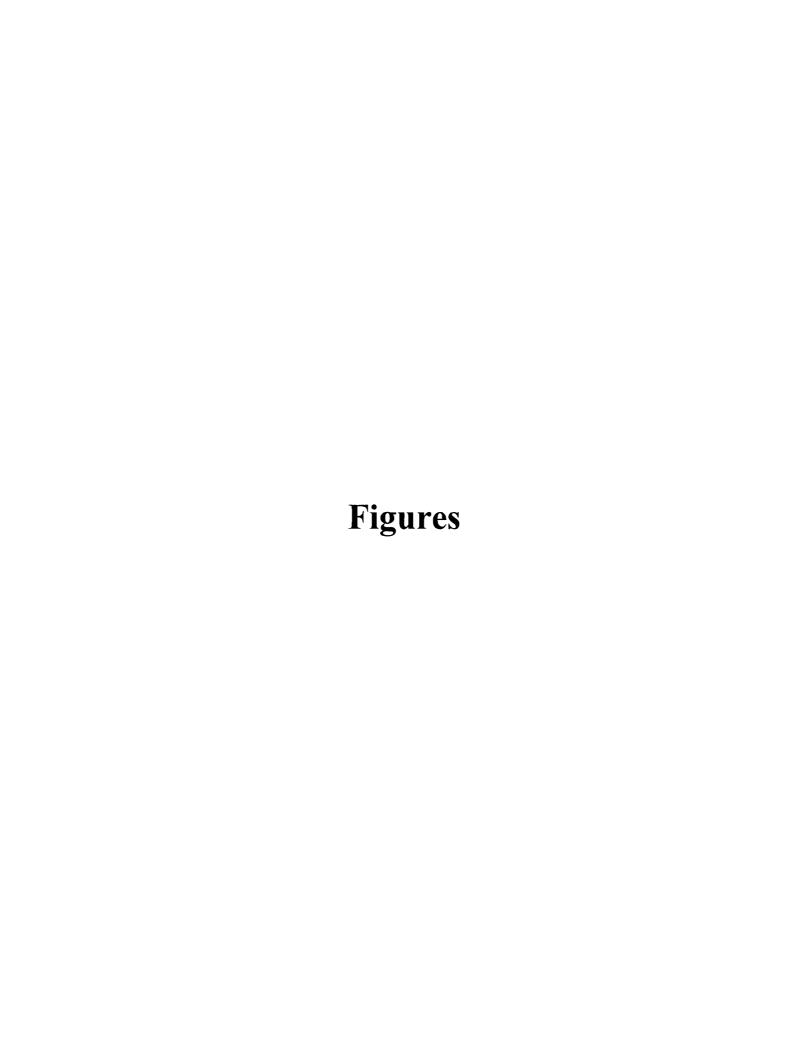
BOPCO, LP

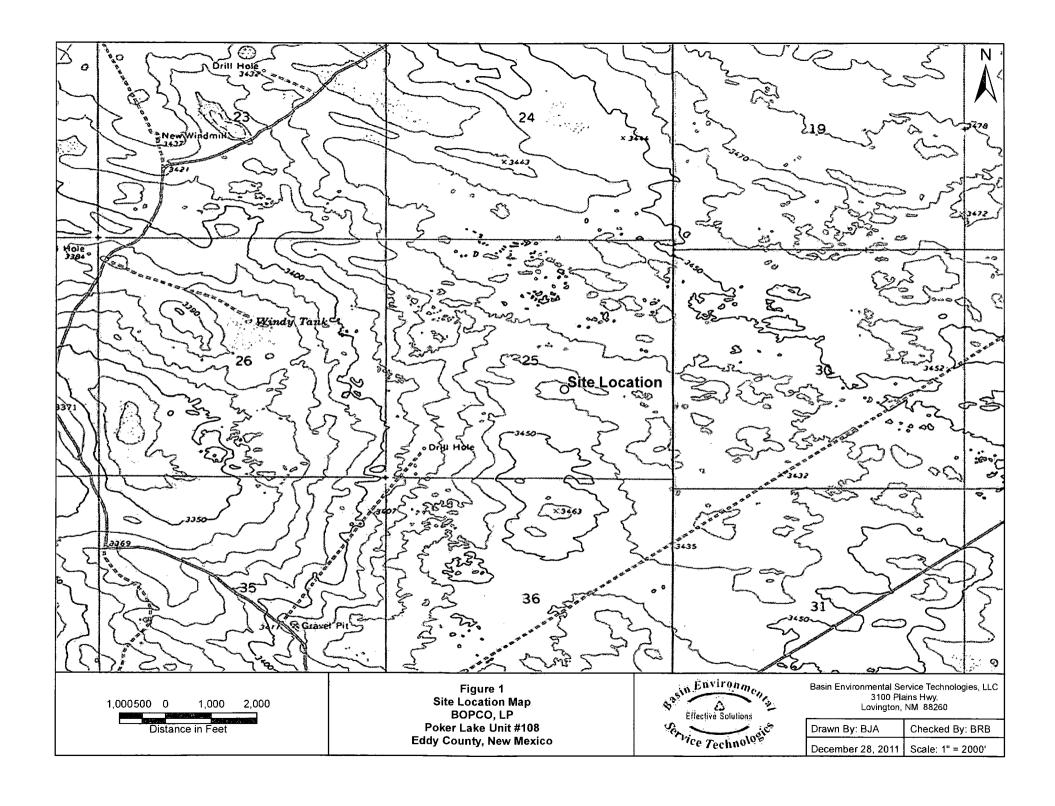
522 W. Mermod, Ste. 704 Carlsbad, New Mexico 88220

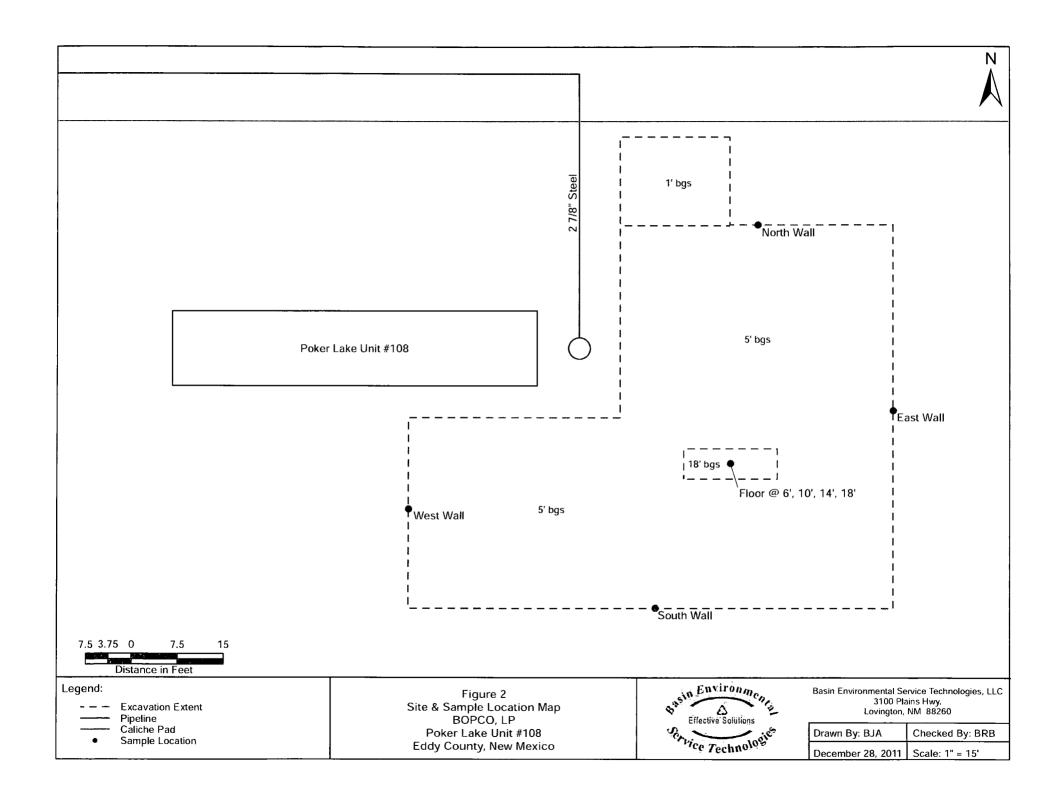
Copy 4: Basin Environmental Service Technologies, LLC

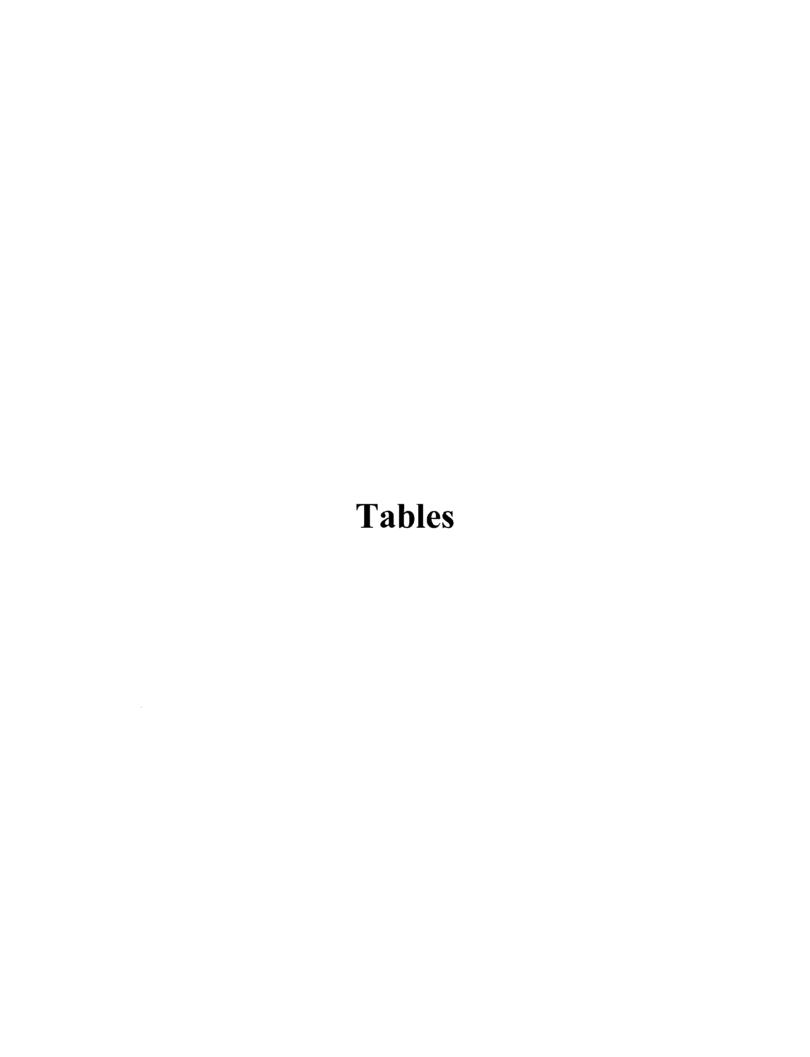
P.O. Box 301

Lovington, New Mexico 88260









## TABLE 1 CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDES IN SOIL

## BOPCO, LP POKER LAKE UNIT #108 EDDY COUNTY, NEW MEXICO

	SAMPLE				METHOD: EPA SW 846-8021B, 5030						5M	TOTAL	4500 CI-B
SAMPLE LOCATION	DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	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)	TPH $C_6$ - $C_{35}$ (mg/Kg)	CHLORIDE (mg/Kg)
North Wall	4'	11/3/2011	In-situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	608
South Wall	4'	11/3/2011	In-situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	384
East Wall	4'	11/3/2011	In-situ	-	-	_	-	-	<10.0	<10.0	<10.0	<10.0	16.0
West Wall	4'	11/3/2011	In-situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	752
Floor @ 6'	6'	11/3/2011	In-situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	4,080
Floor @ 10'	10'	11/3/2011	In-situ	-	-	-	-	-	<10.0	13.2	<10.0	13.2	3,160
Floor @ 14'	14'	11/3/2011	In-situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	1,520
Floor @ 18'	18'	11/3/2011	In-situ	<0.050	<0.050	< 0.050	<0.150	<0.150	<10.0	13,0	<10.0	13.0	448
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NMOCD Criteria				10				50				5,000	

<sup>- =</sup> Not analyzed.



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

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

## State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Attached

Form C-141 Revised October 10, 2003

Basin

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Printed Name	e: Tony Sav	oie		·····								
Title: Waste	Momt & Re	mediation Sp	ecialist			Approval Da	te:		Expiration	Date:		
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Conditions of Approval:

Phone:432-556-8730

\* Attach Additional Sheets If Necessary

Date: 9/11/11

E-mail Address: TASavoic@BassPct.com

BLM- 13:30 9/13/11 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

Revised October 10, 2003

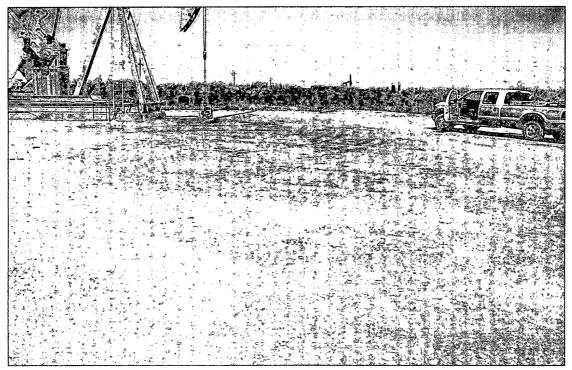
Form C-141

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

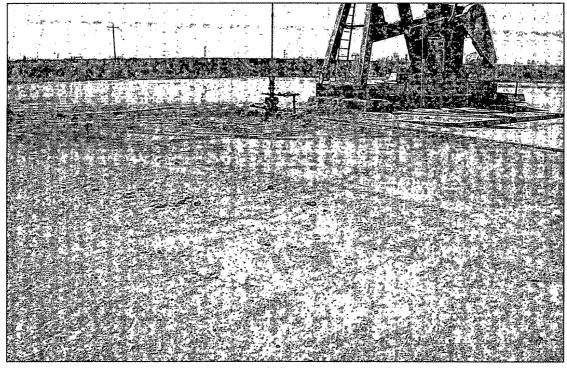
## **Release Notification and Corrective Action**

					OPE	<b>OPERATOR</b> Initial Report X Final R						Report
Name of Co		BOPCO, LI				Contact To						
				sbad, NM 8822	20		No. (432)556-8	730				
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Surface Ow	ner Feder	ral		Mineral C	)wner	Federal			Lease N	lo.	_	
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Printed Name	,					Approved by	District Supervise	or:				
Title: Waste	Mgmt. & R	emediation S	pecialist			Approval Dat	e:	Ex	xpiration I	Date:		
E-mail Addre	ss: TASavo	oie@BassPet.o	com			Conditions of	`Approval:					
Date: 12/29/2	011			Phone: (432)556-	8730							

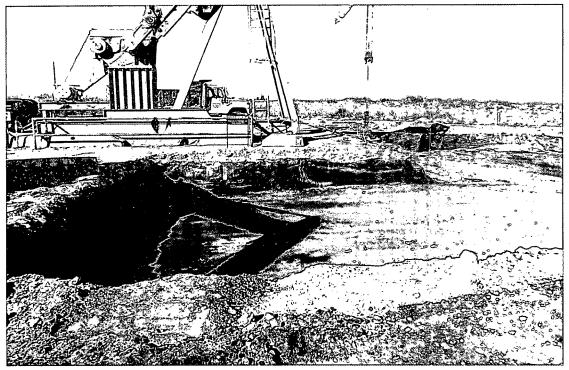
Appendix B Photographs



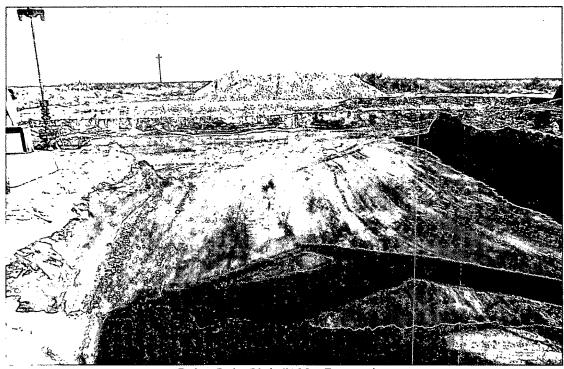
Poker Lake Unit #108 - Release Site



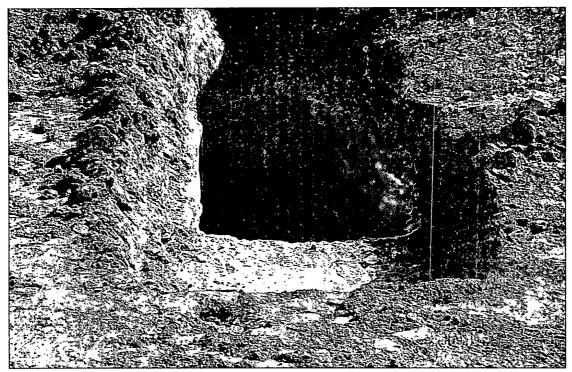
Poker Lake Unit #108 - Release Site



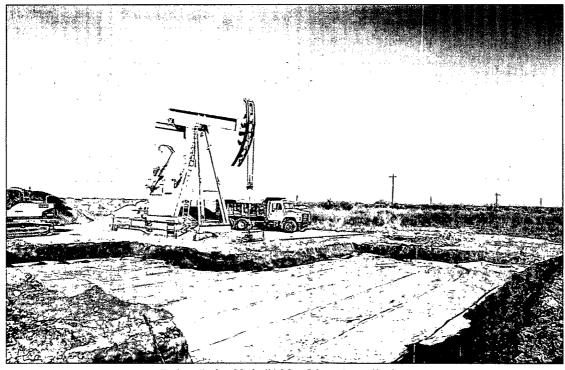
Poker Lake Unit #108 - Excavation



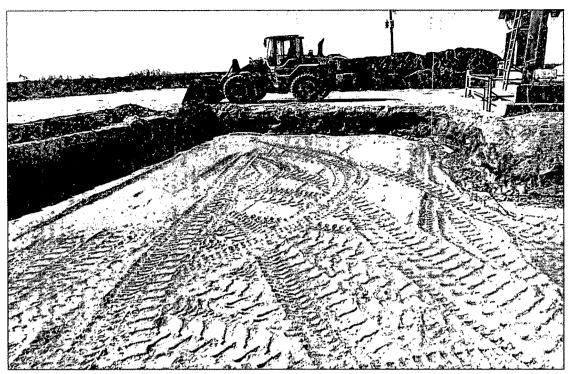
Poker Lake Unit #108 - Excavation



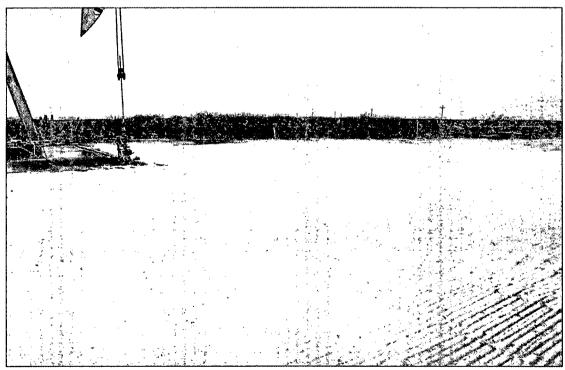
Poker Lake Unit #108 - Delineation Trench ("Floor")



Poker Lake Unit #108 - Liner Installation



Poker Lake Unit #108 - Excavation (Following Installation of Liner & Pad Sand)



Poker Lake Unit #108 - Excavation (Following Backfill)

## Appendix C Laboratory Analytical Reports



November 10, 2011

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: POKER LAKE UNIT 108

Enclosed are the results of analyses for samples received by the laboratory on 11/03/11 16:36.

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 Hydorcarbons

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

Cardinal Laboratories is accreditated 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.

Celey D. Keene

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



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

Received: Reported: 11/03/2011

11/10/2011

Project Name:

POKER LAKE UNIT 108

Project Number: Project Location:

NONE GIVEN EDDY, NM Sampling Date:

11/03/2011

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact

Jodi Henson

## Sample ID: FLOOR 6' (H102386-01)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4080	16.0	11/07/2011	ND	448	112	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/08/2011	ND	185	92.5	200	1.55	
DRO >C10-C28	<10.0	10.0	11/08/2011	ND	218	109	200	0.781	
EXT DRO >C28-C35	<10.0	10.0	11/08/2011	ND					
Surrogate: 1-Chlorooctane	73.2	% 55.5-15	4						
Surrogate: 1-Chlorooctadecane	85.6	% 57.6-15	8						

## Sample ID: FLOOR 10' (H102386-02)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3160	16.0	11/07/2011	ND	448	112	400	0.00	
TPH 8015M	mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/08/2011	ND	185	92.5	200	1.55	
DRO >C10-C28	13.2	10.0	11/08/2011	ND	218	109	200	0.781	
EXT DRO >C28-C35	<10.0	10.0	11/08/2011	ND					
Surrogate: 1-Chlorooctane	64.6	% 55.5-15	4						
Surrogate: 1-Chlorooctadecane	70.9	% 57.6-15	8						

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\*=Accredited Analyte

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Celey & Keene



Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260

Fax To:

(575) 396-1429

Received:

11/03/2011

Reported:

11/10/2011

Project Name: Project Number: **POKER LAKE UNIT 108** 

Project Location:

NONE GIVEN

Sampling Date:

11/03/2011

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

EDDY, NM

Sample ID: FLOOR 14' (H102386-03)

Chloride, SM4500CI-B	mg,	/ Kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1520	16.0	11/07/2011	ND	448	112	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/08/2011	ND	185	92.5	200	1.55	
DRO >C10-C28	<10.0	10.0	11/08/2011	ND	218	109	200	0.781	
EXT DRO >C28-C35	<10.0	10.0	11/08/2011	ND					

55.5-154 Surrogate: 1-Chlorooctane 71.2% Surrogate: 1-Chlorooctadecane 98.5 % 57.6-158

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Celey D. Keine



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

Received:

11/03/2011

Reported:

11/10/2011

Project Name: Project Number: POKER LAKE UNIT 108

Project Location:

NONE GIVEN EDDY, NM Sampling Date:

11/03/2011

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

## Sample ID: FLOOR 18' (H102386-04)

BTEX 80218	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/07/2011	ND	1.85	92.5	2.00	4.41	
Toluene*	<0.050	0.050	11/07/2011	ND	1.75	87.7	2.00	4.31	
Ethylbenzene*	<0.050	0.050	11/07/2011	ND	2.02	101	2.00	3.76	
Total Xylenes*	<0.150	0.150	11/07/2011	ND	5.76	95.9	6.00	3.33	
Surrogate: 4-Bromofluorobenzene (PIL	96.4	% 64.4-13	4				_		
Chloride, SM4500CI-B mg/kg			Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	11/07/2011	ND	448	112	400	0.00	
TPH 8015M	mg/	kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/08/2011	ND	185	92.5	200	1.55	
DRO >C10-C28	13.0	10.0	11/08/2011	ND	218	109	200	0.781	
EXT DRO >C28-C35	<10.0	10.0	11/08/2011	ND					
Surrogate: 1-Chlorooctane	74.2	% 55.5-15	4						
Surrogate: 1-Chlorooctadecane	86.7	% 57.6-15	8						

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Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260

(575) 396-1429

Fax To:

Received:

11/03/2011

Reported: Project Name: 11/10/2011

Project Number:

POKER LAKE UNIT 108 NONE GIVEN

110 %

57.6-158

Project Location:

Surrogate: 1-Chlorooctadecane

EDDY, NM

Sampling Date:

11/03/2011

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact

Jodi Henson

## Sample ID: SOUTH WALL 4' (H102386-05)

Chloride, SM4500Cl-B	mg,	/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	11/07/2011	ND	448	112	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/09/2011	ND	174	86.9	200	1.91	
DRO >C10-C28	<10.0	10.0	11/09/2011	ND	193	96.4	200	2.10	
EXT DRO >C28-C35	<10.0	10.0	11/09/2011	ND					
Surrogate: 1-Chlorooctane	103	% 55.5-15	4						

## Sample ID: NORTH WALL 4' (H102386-06)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	11/07/2011	ND	448	112	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/09/2011	ND	174	86.9	200	1.91	
DRO >C10-C28	<10.0	10.0	11/09/2011	ND	193	96.4	200	2.10	
EXT DRO >C28-C35	<10.0	10.0	11/09/2011	ND					
Surrogate: 1-Chlorooctane	103	% 55.5-15	4						
Surrogate: 1-Chlorooctadecane	106	% 57.6-15	8						

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Basin Environmental Service BEN J. ARGUIJO P.O. Box 301 Lovington NM, 88260

Fax To:

(575) 396-1429

Received:

11/03/2011

Sampling Date:

11/03/2011

Reported:

11/10/2011

Sampling Type:

Soil

Project Name:

**POKER LAKE UNIT 108** 

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Jodi Henson

Project Location:

EDDY, NM

## Sample ID: WEST WALL 4' (H102386-07)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	752	16.0	11/07/2011	ND	448	112	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/09/2011	ND	174	86.9	200	1.91	
DRO >C10-C28	<10.0	10.0	11/09/2011	ND	193	96.4	200	2.10	
EXT DRO >C28-C35	<10.0	10.0	11/09/2011	ND					
Surrogate: 1-Chlorooctane	99.6	% 55.5-15	4						
Surrogate: 1-Chlorooctadecane	102	% 57.6-15	8						

## Sample ID: EAST WALL 4' (H102386-08)

Chloride, SM4500CI-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	11/07/2011	ND	448	112	400	0.00	
TPH 8015M mg/kg		/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	11/10/2011	ND	174	86.9	200	1.91	
DRO >C10-C28	<10.0	10.0	11/10/2011	ND	193	96.4	200	2.10	
EXT DRO >C28-C35	<10.0	10.0	11/10/2011	ND					
Surrogate: 1-Chlorooctane	111	% 55.5-15	4						
Surrogate: 1-Chlorooctadecane	113	% 57.6-15	8						

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Celeg & Keine



ND

## **Notes and Definitions**

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

Analyte NOT DETECTED at or above the reporting limit

Samples reported on an as received basis (wet) unless otherwise noted on report

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## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Basin Environment Series Techologies (K			BILL TO			ANALYSIS REQUEST			
Project Manager: BEN J ARguijo				P.O. #:			TTT		
Address: PD. Box 301				Company: BOPCO LP					
City: Louington State: NM Zip: 88 760			Attn: Tony Squoie						
Phone #: 575 · 396 · 2378 Fax #: 575 - 396 · /429			Attn: Tony Squair Address: 527 W. Mermad						
Project #: Project Owner: BoPco LP			city: Carlsbad						
				State: 717M Zip: 88220					
				Phone #: 432-556-8730					
Sampler Name: Jody Welters				Fax #:					
FOR LAB USE ONLY	,		MATRIX	PRESERV. SAMPL	ING				
Lab I.D. H102386	Sample I.C	<b>).</b>	(G)RAB OR (C)OMP  # CONTAINERS  GROUNDWATER  WASTEWATER  SOIL  OIL	OTHER: ACID/BASE: ACID	TIME	Boism Chloride BTEX			
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2	-1 -1	G	5 I X	Y 11-3-11	1.00	* * *			
3	Floor 10 Floor 18' Floor 18' South wall 4' North Wall 4' West wall 4' EAST Wall 4'	6	FI	X 11-3-11	1.30	X X X			1 odd to streetmann graning a vigat
4	Floor 18'		- 1 ×	X 11-3-11	2:00	XXX			
5	South wall 4	G		X 11-3-11	2:15	*   X			
6	North Wall 4'		E I Y	X 113-11	2:20	*   <del>*</del>   -			
	west wall 4	G		Y 11-3-11					
- P	EAST Wall 4		<u> </u>	11-3-11	2:30				i shakararara kalanda i
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Relinquished By		Date: 3/11	Received By:	MOON	Phone Result: Fax Result: REMARKS:	ilt: □ Yes □ No □ Yes □ No	Add I Phone # Add I Fax #:	The second seco	
Delivered B.	1	rinid.	Sample Condit	ion , CHECKED BY:					
Delivered By: (Circle One)  Sample Condition CHECKED BY: Còol Intact (Initials) Sampler - UPS - Bus - Other:  Sampler - UPS - Bus - Other:  No No No									
			THE INC. LAN.	4 1/-	<u> </u>			<del></del>	