Basin Environmental Service Technologies, LLC

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REMEDIATION SUMMARY AND SITE CLOSURE REQUEST

BOPCO, LP JAMES RANCH UNIT WELL #16 Eddy County, New Mexico

Unit Letter "H" (SE/NE), Section 36, Township 22 South, Range 30 East Latitude 32.350408° North, Longitude 103.826691° West NMOCD Reference #2RP- 2310

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

June 2014

NM OIL CONSERVATION
ARTESIA DISTRICT

JUL 0 1 2014

RECEIVED

Joel W. Lowry

Project Manager

TABLE OF CONTENTS

INTRODUCTION & BACKGROUND INFORMATION	1
NMOCD SITE CLASSIFICATION	1
SUMMARY OF SOIL REMEDIATION ACTIVITIES	2
QA/QC PROCEDURES	2
4.2 Decontamination of Equipment	2
4.3 Laboratory Protocol	3
SITE CLOSURE REQUEST	
LIMITATIONS	3
DISTRIBUTION	4
	NMOCD SITE CLASSIFICATION SUMMARY OF SOIL REMEDIATION ACTIVITIES QA/QC PROCEDURES. 4.1 Soil Sampling. 4.2 Decontamination of Equipment. 4.3 Laboratory Protocol. SITE CLOSURE REQUEST. LIMITATIONS.

FIGURES

Figure 1 - Site Location Map

Figure 2 – Site & Sample Location Map

TABLES

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

APPENDICES

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

Appendix B – Photographs

Appendix C – Laboratory Analytical Reports

1.0 INTRODUCTION & BACKGROUND INFORMATION

Basin Environmental Service Technologies, LLC (Basin), on behalf of BOPCO, LP (BOPCO), has prepared this *Remediation Summary and Site Closure Request* for the release site known as James Ranch Unit Well #16 (JRU #16). The legal description of the release site is Unit Letter "H" (SE/NE), Section 36, Township 22 South, Range 30 East, in Eddy County, New Mexico. The geographic coordinates of the release site are 32.350408° North latitude and 103.826691° West longitude. The property affected by the release is owned by the State of New Mexico and administered by the New Mexico State Land Office (NMSLO). A "Site Location Map" is provided as Figure 1.

On May 16, 2014, BOPCO discovered a release had occurred at the JRU #16 Well. The release was attributed to the failure of the stuffing box packing due to high pressure on the flow line. An "E-Pot" on the wellhead failed to shut down the well due to a faulty float switch. The "Release Notification and Corrective Action" (Form C-141) indicated a release of approximately three barrels (3 bbls) of crude oil and ten barrels (10 bbls) of produced water affected approximately one thousand square feet (1,000 ft²) of caliche well pad. The stuffing box packing was replaced immediately. 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 depth to groundwater information was unavailable for Section 36, Township 22 South, Range 30 East. A depth to groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately two hundred feet (200') 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 JRU #16 release site has an initial ranking score of zero (0) points. The soil remediation levels for a site with a ranking score of zero (0) points are as follows:

- Benzene 10 mg/Kg (ppm)
- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) 50 mg/Kg (ppm)
- Total Petroleum Hydrocarbons (TPH) 5,000 mg/Kg (ppm)

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

3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES

On June 2, 2014, Basin began excavating impacted soil at the release site. The floor and sidewalls of the excavation were advanced until field tests suggested concentrations of BTEX, TPH and chloride were below NMOCD regulatory standards. Excavated soil was stockpiled on-site, pending final disposition.

On June 3, 2014, fifteen (15) confirmation soil samples (NSW #1, NSW #2, ESW #1, ESW #2, ESW #3, SSW #1, SSW #2, SSW #3, WSW #1, WSW #2, WSW #3, WSW #4, Floor #1, Floor #2 and Floor #3) were collected from the excavation floor and sidewalls and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 48.0 ppm for soil sample SSW #3 to 672 ppm for soil sample ESW #2. Soil samples Floor #2 and Floor #3 were also analyzed for concentrations of TPH and BTEX. Laboratory analytical results indicated TPH concentrations ranged from 22.4 ppm for soil sample Floor #2 to 308 ppm for soil sample Floor #3. BTEX concentrations were less than the laboratory method detection limit. A summary of "Concentrations of Benzene, BTEX, TPH & Chloride in Soil" is provided in Table 1. A "Site and Sample Location Map" is provided as Figure 2. Laboratory analytical reports are provided as Appendix C.

Between June 3 and 4, 2014, approximately two hundred and twenty cubic yards (220 yd³) of impacted material was transported to Lea Land, Inc. (NMOCD Permit #WM-01-035), for disposal. The final dimensions of the excavation were approximately twelve (12) to forty feet (40') in width, seventy feet (70') in length and four feet (4') in depth. Upon receiving laboratory analytical data from confirmation soil samples, the excavated area was backfilled with locally purchased, non-impacted caliche. Following backfilling, areas affected by the remediation activities were compacted and graded to match the surrounding well pad.

4.0 OA/QC PROCEDURES

4.1 Soil Sampling

Soil samples were delivered to Cardinal Laboratories, Inc., 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 Method 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

Confirmation soil samples collected from the floor and sidewalls of the JRU #16 excavation were analyzed by an NMOCD-approved laboratory, which determined concentrations of BTEX, TPH and chloride were less than NMOCD regulatory standards in each of the submitted soil samples. Based on these laboratory analytical results, Basin recommends BOPCO provide the NMOCD-Artesia District Office and the BLM a copy of this *Remediation Summary and Site Closure Request* and request the NMOCD grant site closure to the JRU #16 release site.

6.0 LIMITATIONS

Basin Environmental Service Technologies, LLC, has prepared this *Remediation Summary and 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, NM 88210

Copy 2: Andrew Kraemer

New Mexico State Land Office

602 N. Canal, Suite B.

Carlsbad, New Mexico 88220

Copy 3: Tony Savoie

BOPCO, LP

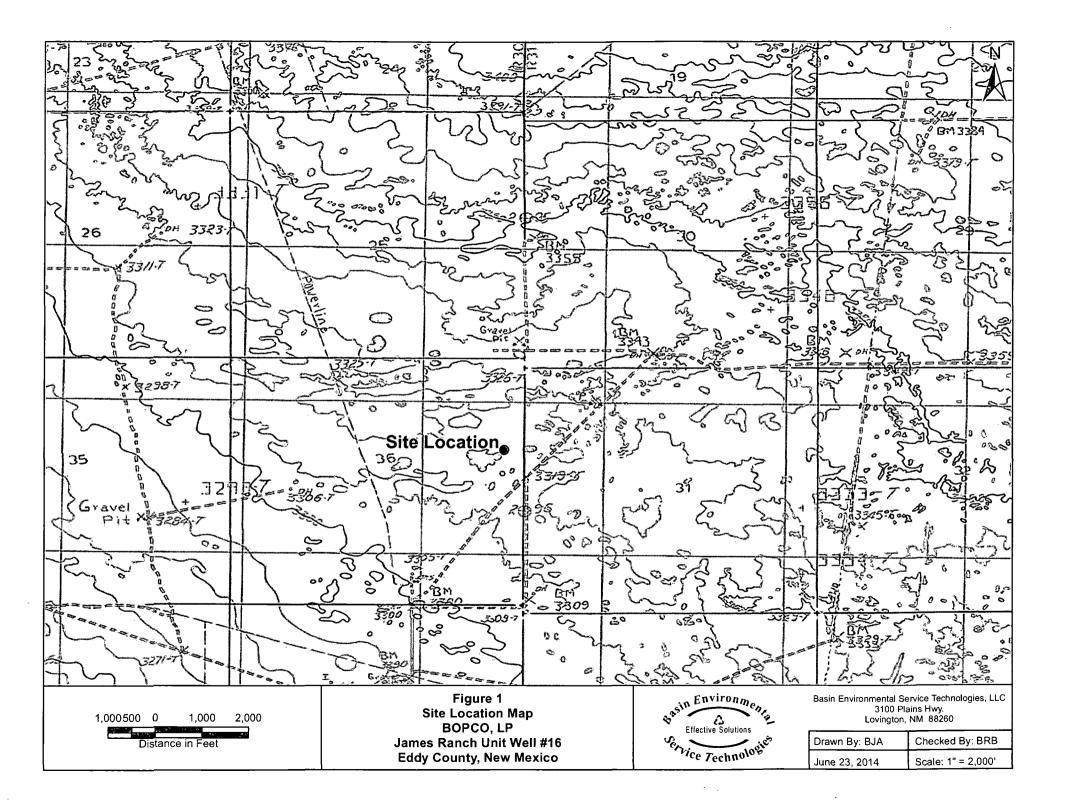
522 W. Mermod, Suite 704 Carlsbad, NM 88220

Copy 4: Basin Environmental Service Technologies, LLC

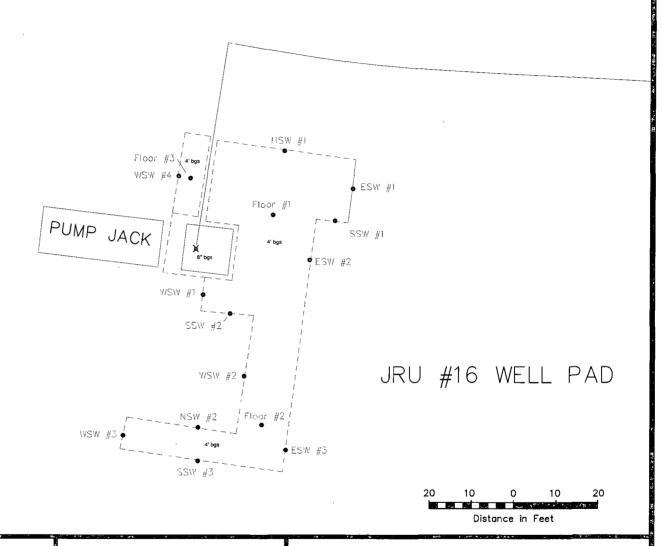
P.O. Box 301

Lovington, NM 88260

FIGURES









Excavation Extent — Well Pad
 Sample Location X Release Point
 2 bgs Grade

Figure 2
Site & Sample Location Map
BOPCO, L.P.
James Ranch Unit Well #16
Eddy County, New Mexico
NMOCD Ref# 2RP-_____

Basin Environmental Services

Prep By: JWL		Checked By: BJA	
June 5, 2014	Scale 1"≃	20'	

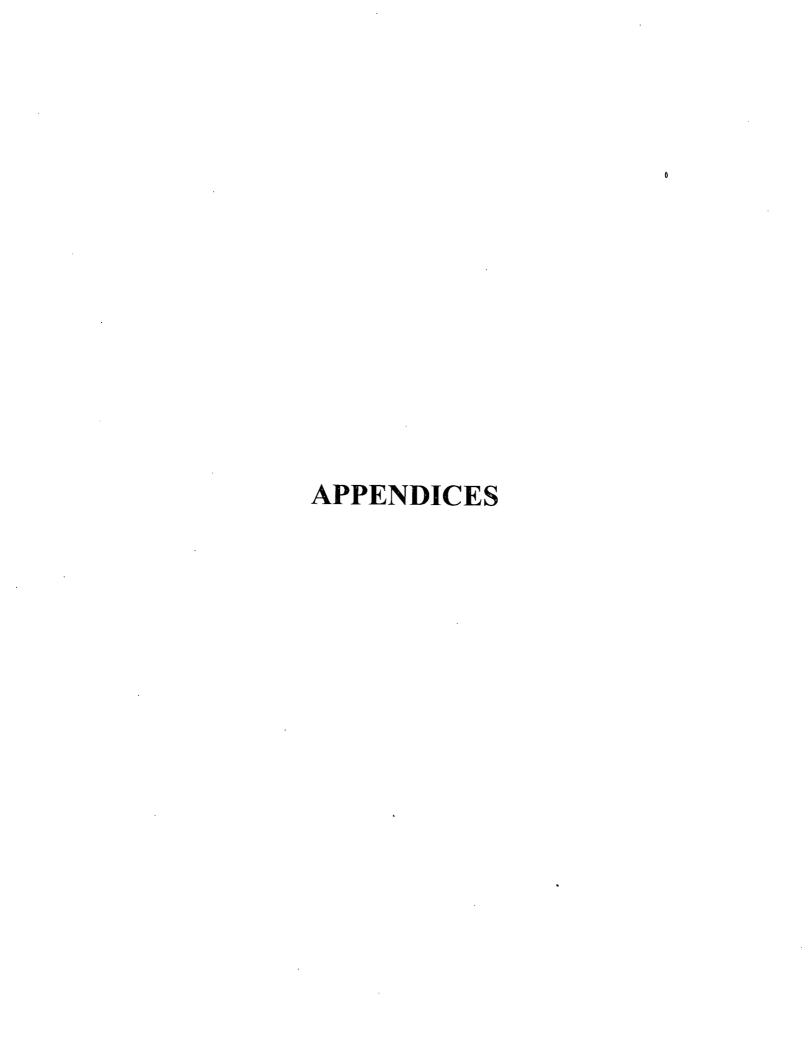
TABLES

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

BOPCO, LP JAMES RANCH UNIT WELL #16 EDDY COUNTY, NEW MEXICO NMOCD REFERENCE #: 2RP-_____

	CAMPLE				METHOD: E	PA SW 846	-8021B, 503	30	MET	HOD: 80	15 M	TOTAL	4500 CI-B
SAMPLE LOCATION	SAMPLE 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 ₆ -C ₁₂ (mg/Kg)	DRO C ₁₂ -C ₂₈ (mg/Kg)	ORO C ₂₈ -C ₃₅ (mg/Kg)	TPH C ₆ -C ₃₅ (mg/Kg)	CHLORIDE (mg/Kg)
NSW #1	2.5'	6/3/2014	In-Situ	-	-	-	<u> </u>	-	-	- "		-	64.0
NSW #2	2.5'	6/3/2014	In-Situ	-	-	-	-	-	-	-	-	-	160
ESW #1	2.5'	6/3/2014	In-Situ		-	-	-	-	-	-	- "	-	192
ESW #2	2.5'	6/3/2014	In-Situ	-	-	-	-	- "-	-	_	-	-	672
E\$W #3	2.5'	6/3/2014	In-Situ		_	-	-	-	-	-	-	-	80.0
SSW #1	2.5'	6/3/2014	In-Situ	-	-	-	-	-	-	-		-	192
SSW #2	2.5'	6/3/2014	In-Situ	-	-	-	-	-	-	-	-	-	384
SSW #3	2.5'	6/3/2014	In-Situ	-	-	-	-	-	-	-	-	-	48.0
WSW #1	2.5'	6/3/2014	In-Situ	-			•	-	-		-	-	288
WSW #2	2.5'	6/3/2014	In-Situ	-	-	-	-	-	-	-	-	-	480
WSW #3	2.5'	6/3/2014	In-Situ	-		-	-	-	-	-	-	-	384
WSW #4	2.5'	6/3/2014	In-Situ	-	-		-		-	-		-	128
Floor #1	4'	6/3/2014	In-Situ	- "	-	-	-	-	-	-		-	432
Floor #2	4'	6/3/2014	In-Situ	<0.050	<0.050	< 0.050	<0.150	< 0.300	<10.0	22.4	<10.0	22.4	624
Floor #3	4'	6/3/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	250	58.3	308	464
NMOCD Criteria				10				50				5,000	1,000

^{- =} Not analyzed.



Appendix A

Release Notification and Corrective Action (Form C-141)

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

State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

			Rele	ase Notific	ation	and Co	rrective A	ction		
						OPERA T		🛛 Initia	d Report	Final Report
Name of Co			04 Carlah	oad, N.M. 88220		Contact: To		Ω	***************************************	
		Ranch Unit					No. 575-887-732 e: Exploration a			
· · · · · · · · · · · · · · · · · · ·		of New Mex							20.016.2	9633
Surface Ow	ner. State	of New Mex	100	······································	·····	tate of Nev		API No	. 30-015-2	8023
						OF REI			1	*************************************
Unit Letter H	Section 36	Township 22S	Range 30E	Feet from the 1980	North/S No	South Line inth	Feet from the 660	East/West Line East	County: Eddy	
						_	e W 103.826691	•		
T CD ala	ana Carda	-11	-1	NAT	URE	OF REL		6 1111 1		N.T
		oil and produc		·		crude oil a	Release: 3 bbls of nd 10 bbls produc	ed	Recovered: 1	None
		head stuffing	box				lour of Occurrence 14 time Unknown		Hour of Dis t 10:40 a.m.	scovery: Date
Was Immedi	ate Notice (Given? □	Yes [No 🛛 Not Re	equired	' If YES, To	Whom?			
By Whom?						Date and I				
Was a Water	course Reac	ched?	Yes 🗵] No		If YES, Vo	olume Impacting t	he Watercourse.		
The stuffing	box packing	em and Reme g failed due to ing box packi	high pres	sure on the flow I	ine. The	wellhead is	equipped with an I	E-pot, the float swi	tch in the E	-pot failed to shut
Describe Ard The release in The spill are The impacte	ea Affected a mpacted app a was left as d area will b	and Cleanup A proximately 1 s is to reveal the oe cleaned up	Action Tal ,000 sq.ft ne stained in accorda	ken.* of caliche well pa area. Basin Envir nce to the NMOC	onmenta CD guide	l will remedi lines.	ate the area. Antic	cipated start date 5.		
regulations a public health should their or the enviro	Il operators or the environerations homent. In a	are required tronment. The nave failed to	o report and acceptant adequately OCD accept	nd/or file certain r ce of a C-141 report investigate and r	elease no ort by the emediate	otifications a NMOCD m contaminati	nd perform correct arked as "Final Ro on that pose a throat the operator of a	responsibility for c	eases which ieve the ope r, surface w compliance	n may endanger erator of liability rater, human health with any other
Signature:	1 00	- Du	unic				OIL CONS	SERVATION	DIVISIO	<u> </u>
Printed Nam	(Approved by	Environmental S	pecialist:		
Title: Waste	Managemer	nt and Remed	iation Spe	cialist		Approval Da	te:	Expiration	Date:	
		e@basspet.co		N 40		Conditions o	f Approval:		Attached	i 🗆
Date: 5/22/1 * Attach Add		ets If Necess		Phone: 432-556-8	730			Newscope Market Control of the Contr		

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

State of New Mexico Energy Minerals and Natural Resources

Revised August 8, 2011

Form C-141

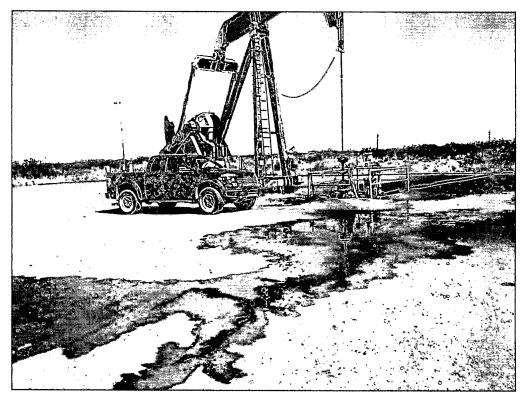
Oil Conservation Division 1220 South St. Francis Dr. Santa Fe NM 87505

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

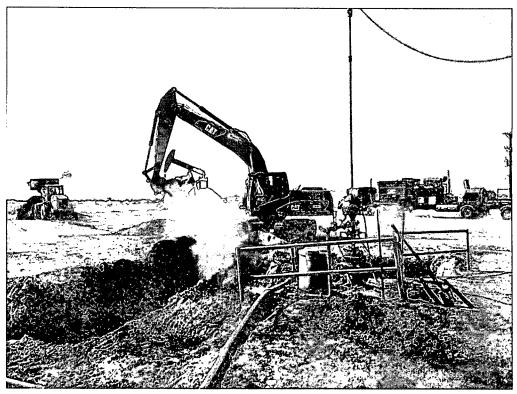
						C, INIVI 87.						
Release Notification and Corrective Action												
			RP.	- 2310		OPERA	TOR] Initi	al Report	\boxtimes	Final Repo
Name of Co						Contact: To						
				oad, N.M. 88220	0		No. 575-887-732					
Facility Nat	ne: James	Ranch Unit	Well #16			Facility Type: Exploration and Production						
Surface Ow	ner: State	of New Mex	ico	Mineral C)wner:	State of Nev	w Mexico		API No	. 30-015-2	8623	
				LOCA	ATIO	N OF RE	LEASE					
Unit Letter	Section	Township	Range	Feet from the		1/South Line	Feet from the	East/Wes	t Line	County:		
Н	36	228	30E	1980		North	660	East		Eddy		
	<u> </u>			Latitude N 32	.35040	8 Longitud	e W 103.826691	<u>l</u>		L		
		·		NAT	URE	OF REL						
Type of Rele	ase: Crude o	oil and produc	ed water			1	Release: 3 bbls o nd 10 bbls produc		olume F	Recovered: N	lone	
Source of Release: Wellhead stuffing box				Date and I	Iour of Occurrence 14 time unknown			Hour of Disc /14 10:40 a.i				
Was Immedia	ate Notice C		Yes [No 🛛 Not Re	equired	If YES, To			ate 3/10	714 10.40 a.i	11.	
By Whom?						Date and H						
Was a Watero	course Reac		Yes 🗵	No		If YES, Vo	olume Impacting the NA	he Waterco // OIL C(DNSE	RVATION	•	
If a Watercou	rse was Imp	pacted, Descri	be Fully.*						0 1 2		•	
down the well	oox packing I. The stuffi Affected a	failed due to ng box was re nd Cleanup A	high press placed. ction Tak	ture on the flow li			quipped with an E	E-pot, RÆ	œive	in the E-p	oot fail	ed to shut
The spill area	was left as	is to reveal the	e stained a		onment	al will remedia	ate the area. Antic	ipated state	date 5/	28/14.		
Impacted soil Closure Requ	was hauled lest for deta	to an NMOC	D-approve ation Act	ed disposal facility ivities.	y. Pleas	se reference t	roximately 12' to he attached Rem	ediation Si	ımmar	y and Risk-l	Based	Site
regulations all public health of should their of	operators a or the environ perations ha ment. In ad	re required to onment. The a ve failed to ad dition, NMO	report and acceptance dependence the second	d/or file certain re c of a C-141 repor investigate and re	lease n rt by th mediat	otifications an e NMOCD ma e contamination	knowledge and und perform correct urked as "Final Re on that pose a threet the operator of re	ive actions port" does at to ground	for rele not relied water,	ases which neve the opera surface wate	nay end tor of l er, hum	danger liability nan health
_							OIL CONS	ERVAT	ION I	DIVISIO	7	
Signature: Printed Name:	Tony Savo	Laui ie	il			Approved by I	Environmental Spe	ecialist:				
Title: Waste M			tion Speci	alist		Approval Date	··	Expi	ration D)ate:		
E-mail Addres						Conditions of				Attached		,
Date:-4/9/14	7/1/14	++	Pł	one: 432-556-873	30							

^{*} Attach Additional Sheets If Necessary

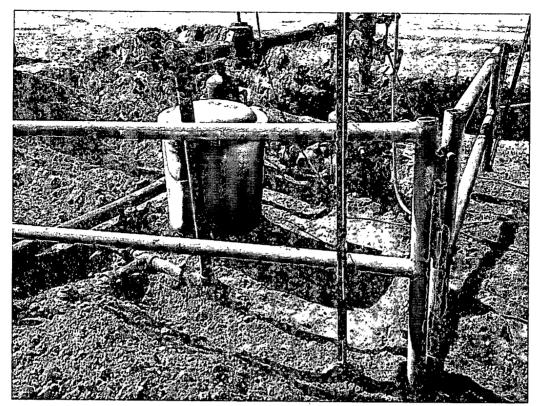
Appendix B
Photographs



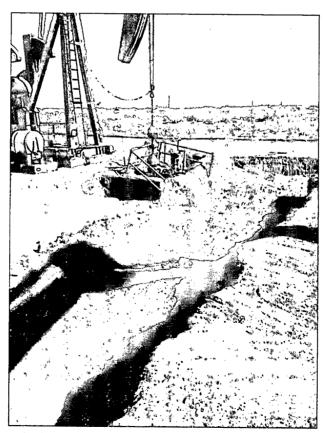
Photograph of the initial release at the JRU #16 Release Site.



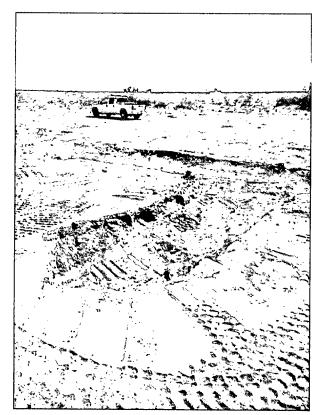
Photograph of excavation activities at the JRU #16 Release Site.



Photograph of excavation activities at the JRU #16 Release Site.



Photograph of a portion of the excavated area at the JRU #16 Release Site.



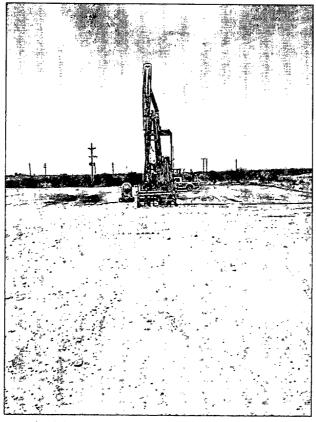
Photograph of backfilling activities at the JRU #16 Release Site.



Photograph of backfilling activities at the JRU #16 Release Site.



Photograph of the JRU #16 Release Site after remediation activities.



Photograph of the JRU #16 Release Site after remediation activities.

Appendix C Laboratory Analytical Reports



June 12, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: JRU #16

Enclosed are the results of analyses for samples received by the laboratory on 06/04/14 15:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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.

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 (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celego Keine

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 JOEL LOWRY P.O. Box 301 Lovington NM, 88260

Fax To:

(575) 396-1429

Received:

06/04/2014

Sampling Date:

06/03/2014

Reported:

06/12/2014

Sampling Type:

Soil

Project Name:

JRU #16

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Project Location:

EDDY COUNTY, NM

Jodi Henson

Sample ID: NSW #1 (H401709-01)

Chloride,	SM4500Cl-B	

mg/l	ķ
------	---

Analyzed By: AP

Al-do	Desuit	Danaskin a Limit
Analyte	Result	Reporting Limit

Analyzed 06/05/2014 Method Blank ND

400

BS

True Value QC

400

RPD

Qualifier

Chloride

Sample ID: NSW #2 (H401709-02)

64.0

160

Result

192

16.0

Reporting Limit

16.0

Analyzed By: AP

BS

% Recovery

RPD

0.00

0.00

Chloride

mg/kg Result

Reporting Limit Analyzed 16.0 06/05/2014 Method Blank ND

ND

400

BS

400

100

% Recovery

100

True Value QC 400

Qualifier

Chloride

Sample ID: ESW #1 (H401709-03)

Chloride,	SM4500CI-B

Chloride, SM4500Cl-B

Analyte

Analyte

mg/kg

Analyzed By: AP

Analyzed

06/05/2014

Method Blank

% Recovery

100

True Value QC

400

RPD

0.00

Qualifier

Qualifier

Sample ID: ESW #2 (H401709-04)

Chloride, SM4500Cl-B

mg/kg

Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD
Chloride	672	16.0	06/05/2014	ND	400	100	400	0.00

Cardinal Laboratories

*=Accredited Analyte

including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such

Celeg D. Keene

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260

Fax To:

(575) 396-1429

Received:

06/04/2014

Reported:

06/12/2014

Project Name: Project Number: JRU #16 NONE GIVEN

Project Location:

EDDY COUNTY, NM

Sampling Date:

06/03/2014

Sampling Type:

Soil Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: ESW #3 (H401709-05)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP				··	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	06/10/2014	ND	416	104	400	3.92	
Sample ID: SSW #1 (H40	1709-06)								
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP		,			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	06/10/2014	ND	416	104	400	3.92	
Sample ID: SSW #2 (H40 Chloride, SM4500CI-B	1709-07) mg	(ka	Anabose	d By: AP					
			Allalyze	u by. Ar					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	06/10/2014	ND	416	104	400	3,92	
Sample ID: SSW #3 (H40	1709-08)								
Chloride, SM4500Cl-B	mg_	/kg	Analyze	d By: AP					····
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/10/2014	ND	416	104	400	3.92	
Sample ID: WSW #1 (H40	01709-09)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	06/10/2014	ND	416	104	400	3.92	

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

Celeg Di Keens



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260

Fax To:

(575) 396-1429

Received:

06/04/2014

Sampling Date:

06/03/2014

Reported:

06/12/2014

Sampling Type:

Soil

Project Name:

JRU #16

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Jodi Henson

Project Location:

EDDY COUNTY, NM

Sample ID: WSW #2 (H401709-10)

mg/kg

Analyzed By: AP

Analyte

Result

480

Reporting Limit Analyzed

16.0

Method Blank 06/10/2014

BS 416 % Recovery 104

True Value QC 400

RPD

3.92

RPD

3.92

Qualifier

Chloride

Sample ID: WSW #3 (H401709-11)

Analyzed By: AP

Analyte Chloride

Chloride, SM4500Cl-B

Result

384

Result

128

Result

432

mg/kg

Reporting Limit Analyzed 16.0 06/10/2014 Method Blank ND

ND

BS 416

BS

% Recovery 104

True Value QC

Qualifier

Sample ID: WSW #4 (H401709-12)

Chloride, SM4500Cl-B

Chloride

mg/kg

Analyzed By: AP

Analyte

Reporting Limit 16.0

Analyzed 06/10/2014 Method Blank ND

% Recovery 416

True Value QC 400

400

RPD 3.92

Qualifier

Sample ID: FLOOR #1 (H401709-13)

Chloride, SM4500Cl-B

mg/kg

Analyzed By: AP

Analyte Chloride

16.0

Reporting Limit Analyzed 06/10/2014

Method Blank ND

BS 416 % Recovery 104

104

True Value QC 400

RPD 3.92 Qualifier

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

Page 4 of 9



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260

Fax To:

o: (575) 396-1429

Received:

06/04/2014

Sampling Date:

06/03/2014

Reported:

RTEV QO21B

06/12/2014

Sampling Type:

Soil

Project Name:

JRU #16

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Jodi Henson

Project Location:

EDDY COUNTY, NM

Sample ID: FLOOR #2 (H401709-14)

BTEX 8021B	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	06/06/2014	ND	2.09	105	2.00	1.02	
Toluene*	<0.050	0.050	06/06/2014	ND	2.24	112	2.00	0.546	
Ethylbenzene*	<0.050	0.050	06/06/2014	ND	2.03	101	2.00	1.45	
Total Xylenes*	<0.150	0.150	06/06/2014	ND	6.41	107	6.00	2.72	
Total BTEX	<0.300	0.300	06/06/2014	ND					
Surrogate: 4-Bromofluorohenzene (PIL	102	% 89.4-12	?6						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	624	16.0	06/10/2014	ND	416	104	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS		, 			S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/11/2014	ND	173	86.4	200	6.38	
DRO >C10-C28	22.4	10.0	06/11/2014	ND	173	86.3	200	6.55	
EXT DRO >C28-C35	<10.0	10.0	06/11/2014	ND					
Surrogate: 1-Chlorooctane	64.8	% 65.2-14	10	·					
Surrogate: 1-Chlorooctadecane	73.2	% 63.6-15	54						

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Celey & Keine



Basin Environmental Service JOEL LOWRY P.O. Box 301 Lovington NM, 88260

Fax To:

(575) 396-1429

Received:

06/04/2014

Sampling Date:

06/03/2014

Reported:

06/12/2014

Sampling Type:

Soil

Project Name:

JRU #16

Sampling Condition:

Cool & Intact

Project Number: Project Location: NONE GIVEN EDDY COUNTY, NM Sample Received By:

Jodi Henson

Sample ID: FLOOR #3 (H401709-15)

BTEX 8021B	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	06/11/2014	ND	2.00	99.9	2.00	2.96	
Toluene*	<0.050	0.050	06/11/2014	ND	2.15	107	2.00	3.33	
Ethylbenzene*	<0.050	0.050	06/11/2014	ND	1.92	96.2	2.00	3.37	
Total Xylenes*	<0.150	0.150	06/11/2014	ND	5.97	99.5	6.00	3.41	
Total BTEX	<0.300	0.300	06/11/2014	ND					
Surrogate: 4-Bromofluorohenzene (PIL	105 9	% 89.4-12	26						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	464	16.0	06/10/2014	ND	416	104	400	3.92	
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	06/10/2014	ND	173	86.4	200	6.38	
DRO >C10-C28	250	10.0	06/10/2014	ND	173	86.3	200	6.55	
EXT DRO >C28-C35	58.3	10.0	06/10/2014	ND					
Surrogate: 1-Chlorooctane	71.8	% 65.2-14	10						
Surrogate: 1-Chlorooctadecane	80.5	% 63.6-15	54						

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Celeg D. Keine

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. Kune

ARDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

(575) 393-2326 FAX (575) 393-2476 Company Name: Basin Environmental Service Technologies, LLC BILL TO **ANALYSIS REQUEST** P.O. #: Project Manager: Joel Lowry 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 Proiect #: **Project Owner:** City: Carlsbad HOLD FOR TPH BTEX (8021B) TPH (8015M) Project Name: JRU #16 State: NM Zip: 88220 Chloride Project Location: Eddy Co., NM Phone #: (432)556-8730 Sampler Name: Fax #: MATRIX PRESERV SAMPLING FOR LAB USE ONLY G)RAB OR (C)OMP # CONTAINERS GROUNDWATER VASTEWATER ACID/BASE: ICE / COOL Lab I.D. Sample I.D. SLUDGE OTHER: ğ H401709 DATE TIME NSW #1 -6/3/14 1100 9 NSW #2 > 1110 6/3/14 x g ESW #1 6/3/14 1120 g x **ESW #2** 6/3/14 1130 x **ESW #3** 6/3/14 1140 X SSW #1 6/3/14 1150 x x SSW #2 6/3/14 1230 x SSW #3 1245 6/3/14 g x \overline{G} WSW #1 6/3/14 1250 x WSW #2 g 6/3/14 1300

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Relinquished By:	Date:/ / //Received By:	HOLD FOR TPH
101111	6419 1100	
All le hend	Time: 7:15	Please email results to pm@basinenv.com,
BRBlaker	3.13 year good	TASavoie@BassPet.com & SJWalters@BassPet.com
Delivered By: (Circle One)	Sample Condition CHI	ÇKED BY:
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FORM-006 Revision 1.0

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES 101 East Marland, Hobbs, NM 882

PDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240

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

Company Name:	ame: Basin Environmental Service Technologies, LLC					BILL TO					ANALYSIS REQUEST												
Project Manager:	er: Joel Lowry					P.	P.O. #:																
Address: P.O. I	D. Box 301						Company: BOPCO, LP				}												
City: Lovington	Lovington State: NM Zip: 88260					At	Attn: Tony Savoie						ŀ										
Phone #: (575)396-2378					Ac	Address: 522 W. Marland							l										
Project #: Project Owner:					Ci	City: Carlsbad				j		I]										
Project Name: JRU #16					St	State: NM Zip: 88220			و	e SM)	18	T.											
Project Location:	Eddy Co., NM						-1	Phone #: (432)556-8730				Chloride	8	80%	FOR TPH								
Sampler Name:						Fa	Fax #:				5	TPH (8015M)	BTEX (8021B)										
FOR LABUSE ONLY	MATRIX				PRESERV SAMPLING					⊨	B1	ногр											
Lab I.D. H401709	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	GROUNDWATER	SOIL	OIL	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME											
11.1	WSW #3 。	9	1	\perp	×	1 1	_					1310	x										
12	WSW #4 -	9	1		x						6/3/14	1320	х										
13	Floor #1 *	9	1		x		<u> </u>				6/3/14	930	х										
14	Floor #2:	9	1		x		1_				6/3/14	935	x	×	*								
15	Floor #3 >	<u>g</u>	1		×	_ _	<u> </u>				6/3/14	945	х	1	X	-						 	
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affiliates or successors arising out of or related to the performs	ance of services hereunder by Cardinal, recardless	of whether stuch claim is based upon any of the abov	love sisted ressors or otherwise.
Relinquished By:	Date: Receive	d By:	Phone Result:
	6-3-14	10111	Fax Result: Yes No! Add'l Fax #:
Mutt Tollar	Time: 5:00	K Slakenril	REMARKS:
Relinquished By:	Date: - 4-16 Receive	d By:	HOLD FOR TPH
SR Sluker	The IV	Idi Stenso	Please email results to pm@basinenv.com, TASavoie@BassPet.com & SJWalters@BassPet.com
Delivered By: (Circle One)	1	Sample Condition CHECKED	ED BY:
Sampler - UPS - Bus - Other:	4.60	Cool Intact Initials Ves Yes	14)
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