

Basin Environmental Service Technologies, LLC

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Lovington, New Mexico 88260

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REMEDIATION SUMMARY AND SITE CLOSURE REQUEST

RECEIVED

By OCD; Dr. Oberding at 1:37 pm, Mar 31, 2015

BOPCO, LP

HAT MESA 32 STATE #1 FLOW LINE

API 30-025-34704

Lea County, New Mexico

Unit Letter "B" (NW/NE), Section 31, Township 20 South, Range 33 East

Latitude 32.535028° North, Longitude 103.700994° West

NMOCD Reference #1RP- 3038

Prepared For:

APPROVED

By OCD; Dr. Oberding at 1:37 pm, Mar 31, 2015

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

Joel W. Lowry
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 and Site Closure Request* for the release site known as Hat Mesa 32 State #1 Flow Line. The legal description of the release site is Unit Letter "B" (NW/NE), Section 31, Township 20 South, Range 33 East, in Lea County, New Mexico. The geographic coordinates of the release site are 32.535028° North latitude and 103.700994° 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 18, 2014, BOPCO discovered a release had occurred on the Hat Mesa 32 State #1 Flow Line near the Hate Mesa 31-32 Tank Battery. The initial form C-141 indicated failure of a section of 3" poly-pipe flow line resulted in the release of approximately twenty-five barrels (25 bbls) of crude oil. The release pooled in two (2) areas measuring a total of approximately 1,200 ft², just west of the tank battery in the adjacent pasture. The spill also sprayed an area measuring approximately 6,750 ft², where the soil had about one-half inch (½") of saturation and the vegetation was coated. The release also affected an area measuring approximately 4,500 ft², where the soil and vegetation were moderately misted and an area measuring approximately 5,400 ft², where the vegetation was only lightly misted. During initial response activities, a vacuum truck was used to recover approximately fifteen barrels (15 bbls) of free-standing fluid from the pooling areas and a pressure washer was used to wash down the affected vegetation. 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 31, Township 20 South, Range 33 East. A depth to groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately one hundred and seventy feet (70') below ground surface (bgs). Based on the NMOCD ranking system, ten (10) 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 (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 one thousand (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 Hat Mesa 32 State #1 Flow Line release site has an initial ranking score of ten (10) points. The soil remediation levels for a site with a ranking score of ten (10) points are as follows:

- Benzene – 10 ppm
- Benzene, Toluene, Ethylbenzene and Xylene (BTEX) – 50 ppm
- Total Petroleum Hydrocarbons (TPH) – 1,000 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 and have been set at 500 ppm for this release site.

3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES

On May 21, 2014, Basin began remediation activities at the release site. Affected vegetation and soil outside the primary pooling areas were treated with a Micro-Blaze[®] solution in an effort to enhance bioremediation and natural attenuation of hydrocarbon-impacted soils and vegetation. An excavation was advanced in the areas characterized by the primary pooling areas. 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 May 23, 2014, eight (8) confirmation soil samples (West Wall #1, West Wall #2, South Wall #1, North Wall #1, Floor #1 @ 4', Floor #2 @ 4', East Wall #1 and East Wall #2) were collected from the floor and sidewalls of the excavation and submitted to the laboratory for analysis of BTEX, TPH and chloride concentrations. Laboratory analytical results indicated BTEX and TPH concentrations were less than the appropriate laboratory method detection limit (MDL) in each of the submitted soil samples. Chloride concentrations ranged from less than the laboratory MDL in soil sample East Wall #2 to 288 ppm for soil sample East Wall #1. A summary of "Concentrations of Benzene, BTEX, TPH and 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. Excavation activities continued toward the south.

On May 27, 2014, two (2) confirmation soil samples (South Wall #2 and South Wall #3) were collected from the floor and sidewalls of the excavation and submitted to the laboratory for analysis of BTEX, TPH and chloride concentrations. Laboratory analytical results indicated BTEX and TPH concentrations were less than the appropriate laboratory MDL in each of the submitted soil samples. Chloride concentrations ranged from 48.0 ppm in soil sample South Wall #3 to 64.0 ppm for soil sample South Wall #2.

On May 29, 2014, four (4) confirmation soil samples (MA-50' @ Surface, MA-50' @ 6", MA-100' @ Surface and MA-150' @ Surface) were collected from the misted area to determine if the Micro-Blaze[®] treatment had been effective in treating the surface contamination. Soil samples were submitted to the laboratory for analysis of BTEX, TPH and chloride concentrations. Laboratory analytical results indicated BTEX concentrations were less than the laboratory MDL in each of the submitted soil samples. TPH concentrations ranged from 10.1 ppm in soil sample MA-50' @ 6" to 1,559 ppm in soil sample MA-50' @ Surface. Chloride concentrations ranged from less than the laboratory MDL in soil sample MA-150' @ Surface to 208 ppm for soil sample MA-50' Surface. Laboratory analytical results and field observations suggest the Micro-Blaze[®] treatment was effective in enhancing bioremediation and natural attenuation of hydrocarbon-impacted soils and vegetation.

Between May 27 and 28, 2014, approximately two hundred and forty cubic yards (240 yd³) of impacted material was transported to Lea Land, Inc. (NMOCD Permit #WM-01-035), for disposal.

The final dimensions of the primary excavation were approximately twelve (12) to sixty (60') in width, eighty feet (80') 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 material. Following backfilling, areas affected by the remediation activities were contoured to match the surrounding topography. Areas within the affected pasture will be reseeded in accordance with the NMSLO at a time more conducive to germination.

4.0 QA/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 Hat Mesa 32 State #1 Flow Line excavation were analyzed by an NMOCD-approved laboratory, which determined concentrations of BTEX, TPH and chloride were below NMOCD Regulatory Standards in each of the submitted soil samples. Soil samples collected from the affected pasture suggests the Micro-Blaze® treatment was effective in enhancing bioremediation and natural attenuation of hydrocarbon impacted soils and vegetation. Based on laboratory analytical results and the treatment of the affected misted area with Micro-Blaze®, Basin recommends BOPCO provide the NMOCD Hobbs District Office and the NMSLO a copy of this *Remediation Summary and Site Closure Request* and request the NMOCD grant site closure to the Hat Mesa 32 State #1 Flow Line 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: Tomas Oberding
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division (District 4)
1220 South St. Francis Drive
Santa Fe, NM 87505
- 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



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

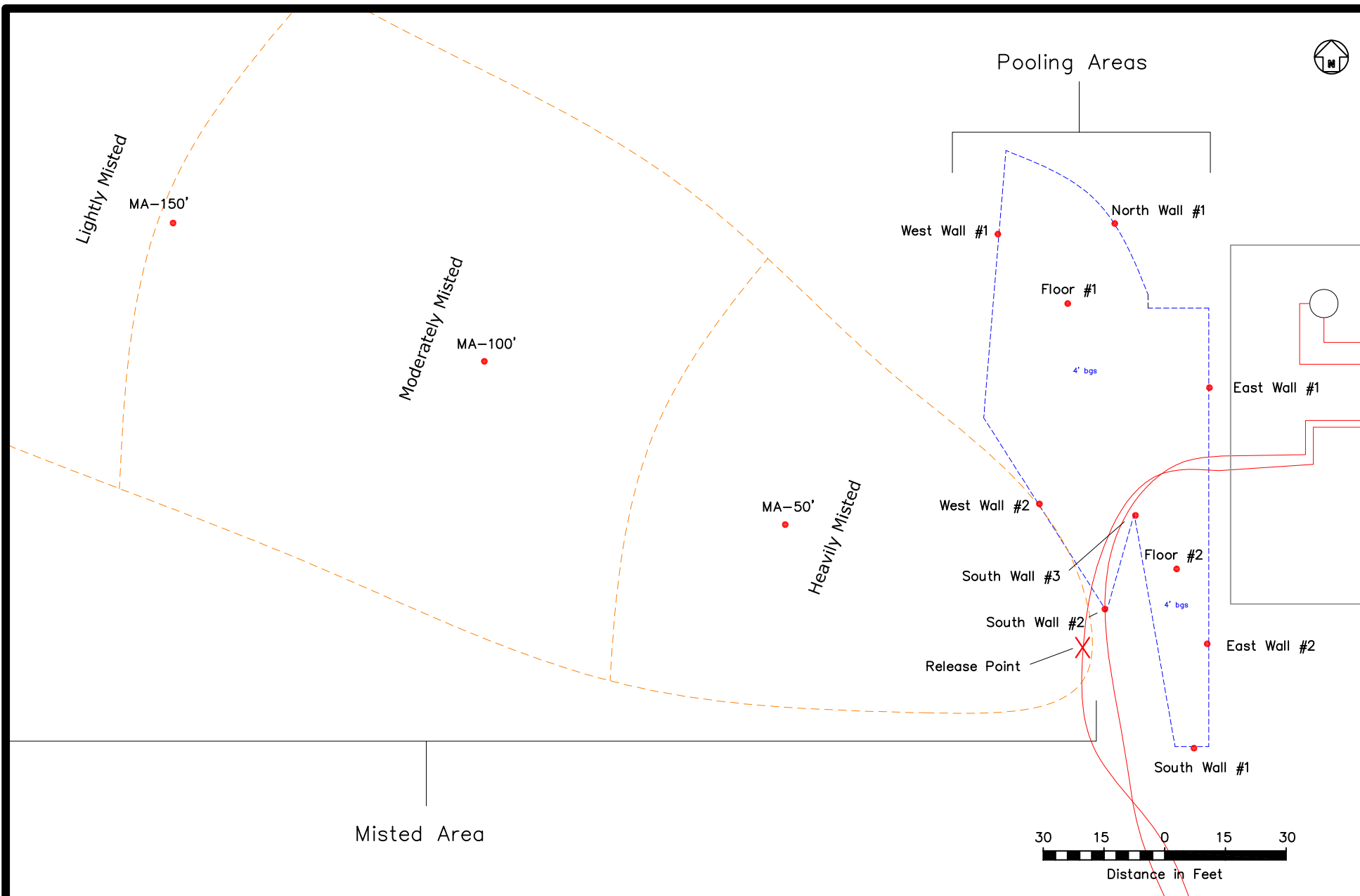
Figure 1
Site Location Map
BOPCO, LP
Hat Mesa 32 State #1 Flow Line
Lea County, New Mexico



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

Drawn By: BJA Checked By: BRB

May 29, 2014 Scale: 1" = 2,000'



Legend:

- | | |
|-----------------------|-----------------|
| --- Excavation Extent | --- Misted Area |
| • Sample Location | X Release Point |
| — Earthen Containment | 2' bgs Grade |

Figure 2
Site & Sample Location Map
BOPCO, L.P.
Hat Mesa 32 State #1 Flow Line
Lea County, New Mexico

Basin Environmental Services

Prep By: JWL

Checked By: BJA

June 11, 2014

Scale 1"=30'

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

BOPCO, LP
HAT MESA 32 STATE #1 FLOWLINE
EDDY COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M			TOTAL TPH C ₆ -C ₃₅ (mg/Kg)	4500 Cl-B CHLORIDE (mg/Kg)
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C ₆ -C ₁₂ (mg/Kg)	DRO C ₁₂ -C ₂₈ (mg/Kg)	ORO C ₂₈ -C ₃₅ (mg/Kg)		
West Wall #1	2'	5/23/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.0
South Wall #1	2'	5/23/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	144
West Wall #2	2'	5/23/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	176
North Wall #1	2'	5/23/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	64.0
Floor #1 @ 4'	4'	5/23/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	48.0
Floor #2 @ 4'	4'	5/23/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	176
East Wall #1	2'	5/23/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	288
East Wall #2	2'	5/23/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<16.0
South Wall #2	2'	5/27/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	64.0
South Wall #3	2'	5/27/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	48.0
MA-50' @ Surface	Surface	5/29/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	1,060	499	1,559	208
MA-50' @ 6"	6"	5/29/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	10.1	<10.0	10.1	32.0
MA-100' @ Surface	Surface	5/29/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	127	76.7	203	16.0
MA-150' @ Surface	Surface	5/29/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	30.8	22.0	52.8	<16.0
NMOCD Criteria				10				50				1,000	500

- = Not analyzed.

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

HOBBS OGD State of New Mexico
Energy Minerals and Natural Resources

MAY 19 2014 Oil Conservation Division
1220 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.

RECEIVED

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P.	Contact: Tony Savoie
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: Hat Mesa 32 State #1. The flow line spill is 2700 ft. west of the well at the Hat Mesa 31-32 Tank Btry.	Facility Type: Exploration and Production

Surface Owner: State of N.M.	Mineral Owner: State of N.M.	API No. 30-025-34704
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LOCATION OF RELEASE

Unit Letter B	Section 31	Township 20S	Range 33E	Feet from the	North/South Line	Feet from the	East/West Line	County: Lea
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Latitude N 32.535028 Longitude W 103.700994

NATURE OF RELEASE

Type of Release: Crude oil	Volume of Release: 25 Bbls.	Volume Recovered: 15 Bbls.
Source of Release: 3" poly flow flow-line	Date and Hour of Occurrence: 5/18/14 time unknown	Date and Hour of Discovery: 5/18/14 at 11:00 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Maxey Brown "NMOCD"	
By Whom? Tony Savoie	Date and Hour: 5/18/14 at 12:03 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

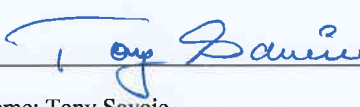
The 3" poly-pipe flow line ruptured do a valve being closed at the well test header, the high pressure switch at the wellhead failed to shut down the well. The well was shut in until permanent repairs could be made.

Describe Area Affected and Cleanup Action Taken.*

The release puddled up in 2 areas just west of the tank battery in the pasture, both of the puddle areas were a total of 1200 sq.ft. The spill also sprayed and area of approximately 6,750 sq.ft. where the soil had about 1/2" of saturation and the vegetation was coated. The release also misted an area of approximately 4,500 sq.ft. where the soil and vegetation was moderately misted. The release also misted and area of approximately 5,400 sq.ft. where the vegetation was lightly misted. Vacuum truck was on-site recovering the free standing fluid and a crew was dispatched to wash down the heavily impacted vegetation with soap and micro-blaze.

The impacted area will be cleaned up in accordance to the NMOCD recommended remediation guidelines.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 		OIL CONSERVATION DIVISION	
Printed Name: Tony Savoie		Approved by Environmental Specialist:	
Title: Waste Management and Remediation Specialist		Approval Date:	Expiration Date:
E-mail Address: tasavoie@basspet.com		Conditions of Approval:	Attached <input type="checkbox"/>
Date: 5/19/14	Phone: 432-556-8730		

* Attach Additional Sheets If Necessary



Photograph of the initial release and pooling area at the Hat Mesa 32 State #1 Flow Line Release Site.



Photograph of the initial release and pooling area at the Hat Mesa 32 State #1 Flow Line Release Site.



Photograph of the initial release and heavily misted area at the Hat Mesa 32 State #1 Flow Line Release Site.



Photograph of the initial release and lightly misted area at the Hat Mesa 32 State #1 Flow Line Release Site.



Photograph of the excavated pooling areas at the Hat Mesa 32 State #1 Flow Line Release Site.



Photograph of the excavated pooling areas at the Hat Mesa 32 State #1 Flow Line Release Site.



Photograph of the excavated pooling areas at the Hat Mesa 32 State #1 Flow Line Release Site.



Photograph of the heavily misted area at the Hat Mesa 32 State #1 Flow Line Release Site after Micro-Blaze® treatment.



Photograph of the Hat Mesa 32 State #1 Flow Line Release Site after remediation activities.



Photograph of the Hat Mesa 32 State #1 Flow Line Release Site after remediation activities.



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

June 10, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: HAT MESA 32 STATE #1 FLOW LINE

Enclosed are the results of analyses for samples received by the laboratory on 05/23/14 16:07.

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 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 that reads "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
JOEL LOWRY
P.O. Box 301
Lovington NM, 88260
Fax To: (575) 396-1429

Received: 05/23/2014
Reported: 06/10/2014
Project Name: HAT MESA 32 STATE #1 FLOW LINE
Project Number: NONE GIVEN
Project Location: EDDY COUNTY, NM

Sampling Date: 05/23/2014
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: WEST WALL #1 (H401598-01)

BTEX 8260B		mg/kg	Analyzed By: ms					I-02	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/09/2014	ND	0.461	115	0.400	5.25	
Toluene*	<0.050	0.050	06/09/2014	ND	0.392	97.9	0.400	3.62	
Ethylbenzene*	<0.050	0.050	06/09/2014	ND	0.418	104	0.400	3.26	
Total Xylenes*	<0.150	0.150	06/09/2014	ND	1.22	101	1.20	2.16	
Total BTEX	<0.300	0.300	06/09/2014	ND					

Surrogate: Dibromofluoromethane 97.5 % 61.3-142

Surrogate: Toluene-d8 104 % 71.3-129

Surrogate: 4-Bromofluorobenzene 98.5 % 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	32.0	16.0	05/29/2014	ND	400	100	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	06/10/2014	ND	204	102	200	5.28	
DRO >C10-C28	<10.0	10.0	06/10/2014	ND	215	107	200	7.85	
EXT DRO >C28-C35	<10.0	10.0	06/10/2014	ND					

Surrogate: 1-Chlorooctane 79.8 % 65.2-140

Surrogate: 1-Chlorooctadecane 91.1 % 63.6-154

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of 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.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/23/2014	Sampling Date:	05/23/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	HAT MESA 32 STATE #1 FLOW LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: SOUTH WALL #1 (H401598-02)

BTX 8260B		mg/kg		Analyzed By: ms				I-02	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/09/2014	ND	0.461	115	0.400	5.25	
Toluene*	<0.050	0.050	06/09/2014	ND	0.392	97.9	0.400	3.62	
Ethylbenzene*	<0.050	0.050	06/09/2014	ND	0.418	104	0.400	3.26	
Total Xylenes*	<0.150	0.150	06/09/2014	ND	1.22	101	1.20	2.16	
Total BTX	<0.300	0.300	06/09/2014	ND					

Surrogate: Dibromofluoromethane 102 % 61.3-142

Surrogate: Toluene-d8 94.3 % 71.3-129

Surrogate: 4-Bromofluorobenzene 94.5 % 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	144	16.0	05/29/2014	ND	400	100	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	06/10/2014	ND	204	102	200	5.28	
DRO >C10-C28	<10.0	10.0	06/10/2014	ND	215	107	200	7.85	
EXT DRO >C28-C35	<10.0	10.0	06/10/2014	ND					

Surrogate: 1-Chlorooctane 83.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 94.5 % 63.6-154

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/23/2014	Sampling Date:	05/23/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	HAT MESA 32 STATE #1 FLOW LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: WEST WALL #2 (H401598-03)

BTX 8260B		mg/kg		Analyzed By: ms				I-02	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/10/2014	ND	0.461	115	0.400	5.25	
Toluene*	<0.050	0.050	06/10/2014	ND	0.392	97.9	0.400	3.62	
Ethylbenzene*	<0.050	0.050	06/10/2014	ND	0.418	104	0.400	3.26	
Total Xylenes*	<0.150	0.150	06/10/2014	ND	1.22	101	1.20	2.16	
Total BTX	<0.300	0.300	06/10/2014	ND					

Surrogate: Dibromofluoromethane 98.2 % 61.3-142
Surrogate: Toluene-d8 103 % 71.3-129
Surrogate: 4-Bromofluorobenzene 96.0 % 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	176	16.0	05/29/2014	ND	400	100	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	06/10/2014	ND	204	102	200	5.28	
DRO >C10-C28	<10.0	10.0	06/10/2014	ND	215	107	200	7.85	
EXT DRO >C28-C35	<10.0	10.0	06/10/2014	ND					

Surrogate: 1-Chlorooctane 82.9 % 65.2-140
Surrogate: 1-Chlorooctadecane 94.7 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/23/2014	Sampling Date:	05/23/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	HAT MESA 32 STATE #1 FLOW LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: NORTH WALL #1 (H401598-04)

BTX 8260B		mg/kg		Analyzed By: ms				I-02	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/10/2014	ND	0.461	115	0.400	5.25	
Toluene*	<0.050	0.050	06/10/2014	ND	0.392	97.9	0.400	3.62	
Ethylbenzene*	<0.050	0.050	06/10/2014	ND	0.418	104	0.400	3.26	
Total Xylenes*	<0.150	0.150	06/10/2014	ND	1.22	101	1.20	2.16	
Total BTX	<0.300	0.300	06/10/2014	ND					

Surrogate: Dibromofluoromethane 92.6 % 61.3-142
Surrogate: Toluene-d8 106 % 71.3-129
Surrogate: 4-Bromofluorobenzene 97.9 % 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	64.0	16.0	05/29/2014	ND	400	100	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	06/10/2014	ND	204	102	200	5.28	
DRO >C10-C28	<10.0	10.0	06/10/2014	ND	215	107	200	7.85	
EXT DRO >C28-C35	<10.0	10.0	06/10/2014	ND					

Surrogate: 1-Chlorooctane 80.1 % 65.2-140
Surrogate: 1-Chlorooctadecane 98.3 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/23/2014	Sampling Date:	05/23/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	HAT MESA 32 STATE #1 FLOW LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: FLOOR #1 @ 4' (H401598-05)

BTX 8260B		mg/kg		Analyzed By: ms				I-02	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/10/2014	ND	0.461	115	0.400	5.25	
Toluene*	<0.050	0.050	06/10/2014	ND	0.392	97.9	0.400	3.62	
Ethylbenzene*	<0.050	0.050	06/10/2014	ND	0.418	104	0.400	3.26	
Total Xylenes*	<0.150	0.150	06/10/2014	ND	1.22	101	1.20	2.16	
Total BTX	<0.300	0.300	06/10/2014	ND					

Surrogate: Dibromofluoromethane 90.4 % 61.3-142
Surrogate: Toluene-d8 104 % 71.3-129
Surrogate: 4-Bromofluorobenzene 86.3 % 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	48.0	16.0	05/29/2014	ND	400	100	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	05/28/2014	ND	192	96.2	200	1.06	
DRO >C10-C28	<10.0	10.0	05/28/2014	ND	206	103	200	4.66	
EXT DRO >C28-C35	<10.0	10.0	05/28/2014	ND					

Surrogate: 1-Chlorooctane 116 % 65.2-140
Surrogate: 1-Chlorooctadecane 113 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/23/2014	Sampling Date:	05/23/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	HAT MESA 32 STATE #1 FLOW LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: FLOOR #2 @ 4' (H401598-06)

BTX 8260B		mg/kg		Analyzed By: ms				I-02	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/10/2014	ND	0.461	115	0.400	5.25	
Toluene*	<0.050	0.050	06/10/2014	ND	0.392	97.9	0.400	3.62	
Ethylbenzene*	<0.050	0.050	06/10/2014	ND	0.418	104	0.400	3.26	
Total Xylenes*	<0.150	0.150	06/10/2014	ND	1.22	101	1.20	2.16	
Total BTX	<0.300	0.300	06/10/2014	ND					

Surrogate: Dibromofluoromethane 97.9 % 61.3-142

Surrogate: Toluene-d8 93.4 % 71.3-129

Surrogate: 4-Bromofluorobenzene 103 % 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	176	16.0	05/29/2014	ND	400	100	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	05/28/2014	ND	192	96.2	200	1.06	
DRO >C10-C28	<10.0	10.0	05/28/2014	ND	206	103	200	4.66	
EXT DRO >C28-C35	<10.0	10.0	05/28/2014	ND					

Surrogate: 1-Chlorooctane 119 % 65.2-140

Surrogate: 1-Chlorooctadecane 115 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 05/23/2014
Reported: 06/10/2014
Project Name: HAT MESA 32 STATE #1 FLOW LINE
Project Number: NONE GIVEN
Project Location: EDDY COUNTY, NM

Sampling Date: 05/23/2014
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: EAST WALL #1 (H401598-07)

BTX 8260B		mg/kg		Analyzed By: ms				I-02	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/10/2014	ND	0.461	115	0.400	5.25	
Toluene*	<0.050	0.050	06/10/2014	ND	0.392	97.9	0.400	3.62	
Ethylbenzene*	<0.050	0.050	06/10/2014	ND	0.418	104	0.400	3.26	
Total Xylenes*	<0.150	0.150	06/10/2014	ND	1.22	101	1.20	2.16	
Total BTX	<0.300	0.300	06/10/2014	ND					

Surrogate: Dibromofluoromethane 100 % 61.3-142
Surrogate: Toluene-d8 90.4 % 71.3-129
Surrogate: 4-Bromofluorobenzene 89.3 % 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	288	16.0	05/29/2014	ND	400	100	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	06/10/2014	ND	204	102	200	5.28	
DRO >C10-C28	<10.0	10.0	06/10/2014	ND	215	107	200	7.85	
EXT DRO >C28-C35	<10.0	10.0	06/10/2014	ND					

Surrogate: 1-Chlorooctane 77.6 % 65.2-140
Surrogate: 1-Chlorooctadecane 92.7 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/23/2014	Sampling Date:	05/23/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	HAT MESA 32 STATE #1 FLOW LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: EAST WALL #2 (H401598-08)

BTX 8260B		mg/kg		Analyzed By: ms				I-02	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/10/2014	ND	0.461	115	0.400	5.25	
Toluene*	<0.050	0.050	06/10/2014	ND	0.392	97.9	0.400	3.62	
Ethylbenzene*	<0.050	0.050	06/10/2014	ND	0.418	104	0.400	3.26	
Total Xylenes*	<0.150	0.150	06/10/2014	ND	1.22	101	1.20	2.16	
Total BTX	<0.300	0.300	06/10/2014	ND					

Surrogate: Dibromofluoromethane 97.3 % 61.3-142
Surrogate: Toluene-d8 107 % 71.3-129
Surrogate: 4-Bromofluorobenzene 98.5 % 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	<16.0	16.0	05/29/2014	ND	400	100	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	06/10/2014	ND	204	102	200	5.28	
DRO >C10-C28	<10.0	10.0	06/10/2014	ND	215	107	200	7.85	
EXT DRO >C28-C35	<10.0	10.0	06/10/2014	ND					

Surrogate: 1-Chlorooctane 79.3 % 65.2-140
Surrogate: 1-Chlorooctadecane 98.7 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

I-02	This result was analyzed outside of the EPA recommended holding time.
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

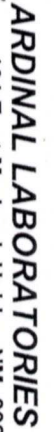
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Celey D. Keene, Lab Director/Quality Manager



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

Page 11 of 11

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



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

June 10, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: HAT MESA 32 STATE #1 FLOW LINE

Enclosed are the results of analyses for samples received by the laboratory on 05/29/14 11:25.

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 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 that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/29/2014	Sampling Date:	05/27/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	HAT MESA 32 STATE #1 FLOW LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: SOUTH WALL #2 (H401647-01)

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	06/10/2014	ND	0.461	115	0.400	5.25	
Toluene*	<0.050	0.050	06/10/2014	ND	0.392	97.9	0.400	3.62	
Ethylbenzene*	<0.050	0.050	06/10/2014	ND	0.418	104	0.400	3.26	
Total Xylenes*	<0.150	0.150	06/10/2014	ND	1.22	101	1.20	2.16	
Total BTX	<0.300	0.300	06/10/2014	ND					

Surrogate: Dibromofluoromethane 87.2 % 61.3-142

Surrogate: Toluene-d8 117 % 71.3-129

Surrogate: 4-Bromofluorobenzene 96.0 % 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	64.0	16.0	06/04/2014	ND	400	100	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	06/10/2014	ND	204	102	200	5.28	
DRO >C10-C28	<10.0	10.0	06/10/2014	ND	215	107	200	7.85	
EXT DRO >C28-C35	<10.0	10.0	06/10/2014	ND					

Surrogate: 1-Chlorooctane 84.8 % 65.2-140

Surrogate: 1-Chlorooctadecane 98.7 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/29/2014	Sampling Date:	05/27/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	HAT MESA 32 STATE #1 FLOW LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: SOUTH WALL #3 (H401647-02)

BTEx 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	06/10/2014	ND	0.461	115	0.400	5.25	
Toluene*	<0.050	0.050	06/10/2014	ND	0.392	97.9	0.400	3.62	
Ethylbenzene*	<0.050	0.050	06/10/2014	ND	0.418	104	0.400	3.26	
Total Xylenes*	<0.150	0.150	06/10/2014	ND	1.22	101	1.20	2.16	
Total BTEx	<0.300	0.300	06/10/2014	ND					

Surrogate: Dibromofluoromethane 98.9 % 61.3-142

Surrogate: Toluene-d8 102 % 71.3-129

Surrogate: 4-Bromofluorobenzene 106 % 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	48.0	16.0	06/04/2014	ND	400	100	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	06/10/2014	ND	204	102	200	5.28	
DRO >C10-C28	<10.0	10.0	06/10/2014	ND	215	107	200	7.85	
EXT DRO >C28-C35	<10.0	10.0	06/10/2014	ND					

Surrogate: 1-Chlorooctane 84.9 % 65.2-140

Surrogate: 1-Chlorooctadecane 94.1 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

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

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Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: Basin Environmental Service Technologies, LLC

Project Manager: Joel Lowry

Address: P.O. Box 301

City: Lovington

Phone #: (575)396-2378

Project #:

Project Name: Hat Mesa 31-32 - Hat Mesa 32 State #11/Flac/m

Project Location: Eddy Co., NM - Lea Co / NM

Sampler Name: JOEL LOWRY

P.O. #:

Company: BOPCO, LP

Attn: Tony Saviole

Address: 522 W. Marland

City: Carlsbad

State: NM Zip: 88220

Phone #: (432)556-8730

Fax #:

Chloride

TPH (8015M)

BTEX (8021B)

HOLD FOR TPH

MATRIX

PRESERV

SAMPLING

Lab I.D. 647

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE TIME

1 South Wall #2

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Relinquished By:

Received By:

Phone Result:

Yes No

Add'l Phone #:

Add'l Fax #:

REMARKS:

Relinquished By:

Date: 5/29/14

Time: 8:00

Received By:

Date: 5-25-14

Time: 11:25

Received By:

Date: 5-25-14

Time: 11:25

Received By:

Date: 5-25-14

Time: 11:25

Relinquished By:

Date: 5/29/14

Time: 8:00

Received By:

Date: 5-25-14

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Date: 5/29/14

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Received By:

Date: 5-25-14

Time: 11:25

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FORM-006

Revision 1.0

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

#54

June 10, 2014

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: HAT MESA 32 STATE #1 FLOW LINE

Enclosed are the results of analyses for samples received by the laboratory on 05/30/14 12:10.

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 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:	05/30/2014	Sampling Date:	05/29/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	HAT MESA 32 STATE #1 FLOW LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: MA-50' @ SURFACE (H401665-01)

BTEX 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	06/10/2014	ND	0.461	115	0.400	5.25	
Toluene*	<0.050	0.050	06/10/2014	ND	0.392	97.9	0.400	3.62	
Ethylbenzene*	<0.050	0.050	06/10/2014	ND	0.418	104	0.400	3.26	
Total Xylenes*	<0.150	0.150	06/10/2014	ND	1.22	101	1.20	2.16	
Total BTEX	<0.300	0.300	06/10/2014	ND					

Surrogate: Dibromofluoromethane 100 % 61.3-142

Surrogate: Toluene-d8 105 % 71.3-129

Surrogate: 4-Bromofluorobenzene 103 % 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	208	16.0	06/05/2014	ND	464	116	400	10.9	

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	06/04/2014	ND	174	87.2	200	3.21	
DRO >C10-C28	1060	10.0	06/04/2014	ND	178	89.0	200	7.42	
EXT DRO >C28-C35	499	10.0	06/04/2014	ND					

Surrogate: 1-Chlorooctane 100 % 65.2-140

Surrogate: 1-Chlorooctadecane 115 % 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:	05/30/2014	Sampling Date:	05/29/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	HAT MESA 32 STATE #1 FLOW LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: MA-50' @ 6" (H401665-02)

BTEx 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	06/10/2014	ND	0.461	115	0.400	5.25		
Toluene*	<0.050	0.050	06/10/2014	ND	0.392	97.9	0.400	3.62		
Ethylbenzene*	<0.050	0.050	06/10/2014	ND	0.418	104	0.400	3.26		
Total Xylenes*	<0.150	0.150	06/10/2014	ND	1.22	101	1.20	2.16		
Total BTEx	<0.300	0.300	06/10/2014	ND						

Surrogate: Dibromofluoromethane 104 % 61.3-142
Surrogate: Toluene-d8 104 % 71.3-129
Surrogate: 4-Bromofluorobenzene 101 % 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	32.0	16.0	06/05/2014	ND	464	116	400	10.9		

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	06/04/2014	ND	174	87.2	200	3.21	
DRO >C10-C28	10.1	10.0	06/04/2014	ND	178	89.0	200	7.42	
EXT DRO >C28-C35	<10.0	10.0	06/04/2014	ND					

Surrogate: 1-Chlorooctane 101 % 65.2-140
Surrogate: 1-Chlorooctadecane 97.2 % 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:	05/30/2014	Sampling Date:	05/29/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	HAT MESA 32 STATE #1 FLOW LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: MA-100' @ SURFACE (H401665-03)

BTEx 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	06/10/2014	ND	0.461	115	0.400	5.25	
Toluene*	<0.050	0.050	06/10/2014	ND	0.392	97.9	0.400	3.62	
Ethylbenzene*	<0.050	0.050	06/10/2014	ND	0.418	104	0.400	3.26	
Total Xylenes*	<0.150	0.150	06/10/2014	ND	1.22	101	1.20	2.16	
Total BTEx	<0.300	0.300	06/10/2014	ND					

Surrogate: Dibromofluoromethane 97.9 % 61.3-142
Surrogate: Toluene-d8 105 % 71.3-129
Surrogate: 4-Bromofluorobenzene 99.1 % 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	16.0	16.0	06/05/2014	ND	464	116	400	10.9		

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	06/04/2014	ND	174	87.2	200	3.21	
DRO >C10-C28	127	10.0	06/04/2014	ND	178	89.0	200	7.42	
EXT DRO >C28-C35	76.7	10.0	06/04/2014	ND					

Surrogate: 1-Chlorooctane 102 % 65.2-140
Surrogate: 1-Chlorooctadecane 98.1 % 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:	05/30/2014	Sampling Date:	05/29/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	HAT MESA 32 STATE #1 FLOW LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: MA-150' @ SURFACE (H401665-04)

BTEx 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	06/10/2014	ND	0.461	115	0.400	5.25	
Toluene*	<0.050	0.050	06/10/2014	ND	0.392	97.9	0.400	3.62	
Ethylbenzene*	<0.050	0.050	06/10/2014	ND	0.418	104	0.400	3.26	
Total Xylenes*	<0.150	0.150	06/10/2014	ND	1.22	101	1.20	2.16	
Total BTEx	<0.300	0.300	06/10/2014	ND					

Surrogate: Dibromofluoromethane 101 % 61.3-142
Surrogate: Toluene-d8 95.0 % 71.3-129
Surrogate: 4-Bromofluorobenzene 93.8 % 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	<16.0	16.0	06/05/2014	ND	464	116	400	10.9		

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	06/04/2014	ND	174	87.2	200	3.21	
DRO >C10-C28	30.8	10.0	06/04/2014	ND	178	89.0	200	7.42	
EXT DRO >C28-C35	22.0	10.0	06/04/2014	ND					

Surrogate: 1-Chlorooctane 97.7 % 65.2-140
Surrogate: 1-Chlorooctadecane 91.8 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

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

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Celey D. Keene, Lab Director/Quality Manager



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

Page 7 of 7

Company Name: Basin Environmental Service Technologies, LLC										BILL TO										ANALYSIS REQUEST																			
Project Manager: Joel Lowry										P.O. #:																													
Address: P.O. Box 301										Company: BOPCO, LP																													
City: Lovington										Attn: Tony Savoie																													
Phone #: (575)396-2378										Address: 522 W. Marland																													
Fax #: (575)396-1429										City: Carlsbad																													
Project #:										State: NM Zip: 88220																													
Project Location: Eddy Co., NM										Phone #: (432)556-8730																													
Sample Name:										Fax #:																													
FOR LAB USE ONLY										MATRIX										PRESERV										SAMPLING									
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Sample I.D.										# CONTAINERS																				TPH (8015M)									
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