

Basin Environmental Service Technologies, LLC

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P. O. Box 301
Lovington, New Mexico 88260

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REMEDIATION SUMMARY & SITE CLOSURE REQUEST

**BOPCO, LP
BIG EDDY UNIT DI-9 #35H FRAC TANK
API 30-015-42007
Eddy County, New Mexico
Unit Letter "P" (SE/SE), Section 21, Township 21 South, Range 30
East Latitude 32.45780° North, Longitude 103.88015° West
NMOCD Reference #2RP-2417**

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**

April 2015

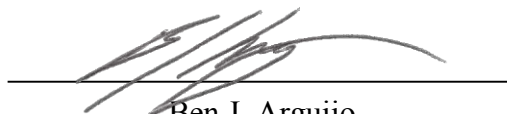

Ben J. Arguijo
Project Manager

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1.0 INTRODUCTION & BACKGROUND INFORMATION

Basin Environmental Service Technologies, LLC (Basin Environmental), on behalf of BOPCO, LP (BOPCO), has prepared this *Remediation Summary & Site Closure Request* for the release site known as Big Eddy Unit DI-9 #35H. The legal description of the release site is Unit Letter "P" (SE/SE), Section 21, Township 21 South, Range 30 East, in Eddy County, New Mexico. The geographic coordinates of the release site are 32.45780° North latitude and 103.88015° West longitude. The property affected by the release is owned by the United States Department of the Interior - Bureau of Land Management (BLM). A "Site Location Map" is provided as Figure 1.

On July 18, 2014, BOPCO discovered a release had occurred at the Big Eddy Unit Drilling Island (DI) 9 #35H well pad. A leak in a hammer union and a subsequent gas kick caused a frac tank to overflow, resulting in the release of approximately two barrels (2 bbls) of crude oil and seven barrels (7 bbls) of produced water. During initial response activities, the hammer union was retightened.

The release was immediately reported to the New Mexico Oil Conservation Division's (NMOCD) Artesia District Office. The "Release Notification and Corrective Action" (Form C-141) indicated the release affected approximately three hundred five square feet (305 ft²) of the caliche well pad around the frac tank and approximately one thousand, five hundred eighty-five square feet (1,585 ft²) of the adjacent pastureland.

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 21, Township 21 South, Range 30 East. A depth to groundwater reference map utilized by the NMOCD indicates groundwater should be encountered between one hundred thirty-five feet (135') 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 Big Eddy Unit DI-9 #35H 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 January 27, 2015, Basin Environmental commenced delineation of the release site. A series of delineation trenches were advanced in an effort to determine the vertical and horizontal extent of impacted soil. The trenches were advanced in one (1) to two-foot (2') intervals, and soil samples were field-screened with a photo-ionization detector (PID) and chloride test kit.

On January 28, 2015, excavation of impacted soil commenced. A PID and chloride test kit were used to field-screen the horizontal extent of impacted soil and to guide the excavation. Based on field-screen results from the delineation event, the vertical extent of the excavation was limited to a depth of two feet (2') bgs.

Excavated soil was segregated into two stockpiles based on field-test readings and olfactory/visual senses. Lesser impacted soil was blended with locally acquired, non-impacted material for later use as backfill material. Approximately sixty cubic yards (60 yd³) of heavily impacted and/or visibly stained soil was transported to Lea Land, Inc. (NMOCD Permit #WM-01-035), on March 4, 2015, for disposal.

On January 30, 2015, fourteen (14) soil samples (NW #1, NW #2, NW #3, SW #1, SW #2, EW #1, EW #2, EW #3, WW #1, WW #2, WW #3, WW #4, Floor #1, and Floor #2) were collected from the floor and sidewalls of the excavation and submitted to Cardinal Laboratories, Inc., in Hobbs, New Mexico, for analysis of chloride concentrations using the Environmental Protection Agency (EPA) analytical method listed in Section 4.1, "Soil Sampling", below. Samples Floor #1 and Floor #2 were also analyzed for concentrations of TPH and BTEX. Laboratory analytical results indicated chloride concentrations ranged from less than the laboratory method detection limit (MDL) in samples SW #1, EW #1, and Floor #2 to 1,640 mg/kg in sample WW #4. TPH and BTEX constituent concentrations in samples Floor #1 and Floor #2 were less than the appropriate laboratory MDL. Based on these laboratory analytical results, additional excavation was required in the areas represented by samples NW #3, SW #2, WW#1, and WW #4.

One (1) composite soil sample (Stockpile #1) was also collected from the blended material on-site and submitted to the laboratory for analysis of TPH and chloride concentrations. Laboratory analytical results indicated the TPH concentration was 1,063 mg/kg and the chloride concentration was 192 mg/kg. Soil represented by sample Stockpile #1 was deemed suitable for use as backfill material.

A summary of "Concentrations of Benzene, BTEX, TPH & Chloride in Soil" is provided in Table 1. A "Site & Sample Location Map" is provided as Figure 2. Laboratory analytical reports are provided in Appendix C.

On February 12, 2015, the excavation was advanced in the areas represented by samples NW #3, SW #2, WW#1, and WW #4. Samples collected from the excavation sidewalls were field-screened with a chloride test kit, and four (4) confirmation samples (NSW #3b, SSW #2b, WSW #1b, and WSW #4b) were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 64.0 mg/kg in sample NSW #3b to 432 mg/kg in sample WSW #1b.

Based on laboratory analytical results, the excavation was backfilled with the blended material, compacted, and contoured to fit the surrounding topography. Prior to backfilling, the final dimensions of the excavation were approximately eighty-four feet (84') in length, fifty feet (50') in width, and one (1) to two feet (2') in depth.

The site will be seeded with a BLM-approved seed mix at a time conducive to germination.

4.0 QUALITY ASSURANCE/QUALITY CONTROL (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

Soil samples collected from the floor and sidewalls of the Big Eddy Unit DI-9 #35H excavation were analyzed by an NMOCD-approved laboratory, and concentrations of BTEX, TPH, and chloride were below the recommended remediation action levels established for the site by the NMOCD. Basin Environmental recommends BOPCO provide the NMOCD Artesia District Office and the BLM a copy of this *Remediation Summary & Site Closure Request* and request the NMOCD grant site closure to the Big Eddy Unit DI-9 #35H release site.

6.0 LIMITATIONS

Basin Environmental Service Technologies, LLC, has prepared this *Remediation Summary & Site Closure Request* to the best of its ability. No other warranty, expressed or implied, is made or intended. Basin Environmental has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Basin Environmental has not conducted an independent examination of the facts contained in referenced materials and statements. Basin Environmental has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Basin Environmental has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin Environmental notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

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

7.0 DISTRIBUTION:

- Copy 1: Mike Bratcher
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division (District 2)
1301 E. Grand Avenue
Artesia, NM 88210
- Copy 2: James Amos
United States Department of the Interior
Bureau of Land Management
602 E. Greene Street
Carlsbad, NM 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



3000 1500 0 1500 3000
 Distance in Feet

Figure 1
 Site Location Map
 BOPCO, LP
 Big Eddy Unit DI-9 #35H
 Eddy County, New Mexico
 NMOCD Reference #: 2RP-2417



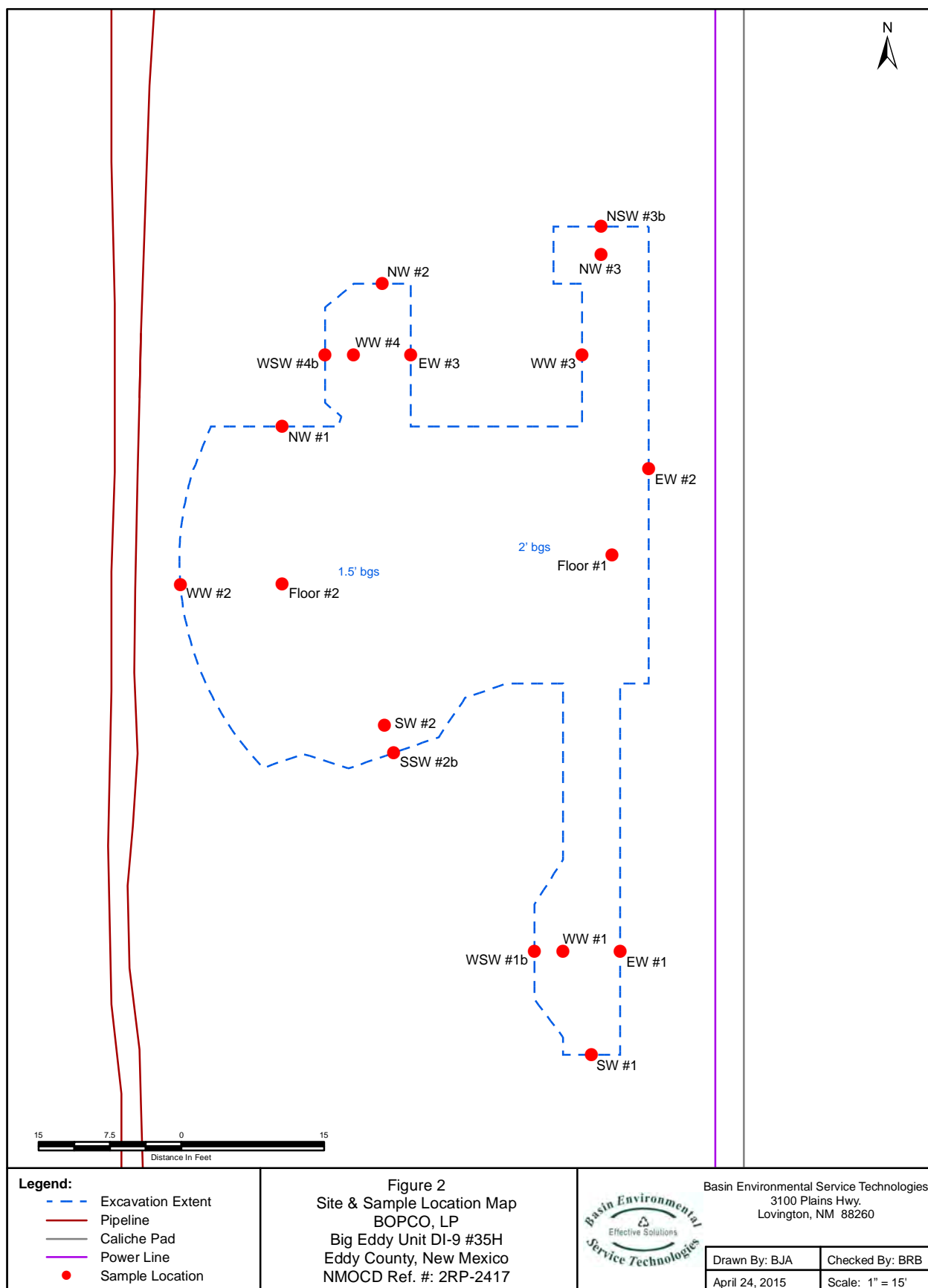
Basin Environmental Service Technologies, LLC

Prep By: JWL

Revised By: BJA

April 24, 2015

Scale 1" = 3,000'



Tables

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

BOPCO, LP
BIG EDDY UNIT DI-9 #35H
EDDY COUNTY, NEW MEXICO
NMOCD REFERENCE #: 2RP-2417

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 CI-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)		
NW #1	1'	1/30/2015	In-Situ	-	-	-	-	-	-	-	-	-	496
NW #2	1'	1/30/2015	In-Situ	-	-	-	-	-	-	-	-	-	80.0
NW #3	1'	1/30/2015	Excavated	-	-	-	-	-	-	-	-	-	1,630
SW #1	1'	1/30/2015	In-Situ	-	-	-	-	-	-	-	-	-	<16.0
SW #2	1'	1/30/2015	Excavated	-	-	-	-	-	-	-	-	-	1,570
EW #1	1'	1/30/2015	In-Situ	-	-	-	-	-	-	-	-	-	<16.0
EW #2	1'	1/30/2015	In-Situ	-	-	-	-	-	-	-	-	-	512
EW #3	1'	1/30/2015	In-Situ	-	-	-	-	-	-	-	-	-	96.0
WW #1	1'	1/30/2015	Excavated	-	-	-	-	-	-	-	-	-	1,010
WW #2	1'	1/30/2015	In-Situ	-	-	-	-	-	-	-	-	-	560
WW #3	1'	1/30/2015	In-Situ	-	-	-	-	-	-	-	-	-	832
WW #4	1'	1/30/2015	Excavated	-	-	-	-	-	-	-	-	-	1,640
Floor #1	2'	1/30/2015	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	128
Floor #2	1.5'	1/30/2015	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<16.0
Stockpile #1	N/A	1/30/2015	Blended	-	-	-	-	-	69.6	884	109	1,063	192
NSW #3b	1'	2/12/2015	In-Situ	-	-	-	-	-	-	-	-	-	64.0
SSW #2b	1'	2/12/2015	In-Situ	-	-	-	-	-	-	-	-	-	336
WSW #1b	1'	2/12/2015	In-Situ	-	-	-	-	-	-	-	-	-	432
WSW #4b	1'	2/12/2015	In-Situ	-	-	-	-	-	-	-	-	-	144
NMOCD Recommended Remediation Action Level				10				50				5,000	1,000

- = Not analyzed.

Appendices

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

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

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

NM OIL CONSERVATION

ARTESIA DISTRICT

AUG 05 2014

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

NAB 1421930575		OPERATOR		<input checked="" type="checkbox"/> Initial Report	<input type="checkbox"/> Final Report
Name of Company: BOPCO, L.P. 260737		Contact: Tony Savoie			
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220		Telephone No. 575-887-7329			
Facility Name: Big Eddy Unit DI-9 #35H		Facility Type: Exploration and Production			
Surface Owner: State		Mineral Owner: State		API No. 30-015-42007	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	21	21S	30E	90	South	809	East	Eddy

Latitude N 32.45780 Longitude W 103.88015

NATURE OF RELEASE

Type of Release: Crude oil and Produced water	Volume of Release: 2 bbls crude oil and 7 bbls produced water	Volume Recovered: None
Source of Release: Frac tank and a pipe fitting.	Date and Hour of Occurrence: 7/18/14 about 5:00 a.m.	Date and Hour of Discovery: 7/18/14 at 6:30 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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.* A hammer union leaked and the well had a gas kick overflowing the frac tank. The union was re-tightened		
Describe Area Affected and Cleanup Action Taken.* The spill impacted approximately 305 sq.ft. of caliche pad area around the frac tanks and approximately 1,585 sq.ft. of pasture area east of the well pad. All of the fluid soaked into the ground. The spill area was left as is. The impacted soil will be cleaned up in accordance to the NMOCD 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: Tony Savoie		OIL CONSERVATION DIVISION	
Printed Name: Tony Savoie		Approved by Environmental Specialist: [Signature]	
Title: Waste Management and Remediation Specialist		Approval Date: 8/7/14	Expiration Date: N/A
E-mail Address: tasavoie@basspet.com		Conditions of Approval: Remediation Per O.C.D. Rule & Guidelines	
Date: 8/4/14		Attached <input type="checkbox"/>	
Phone: 432-556-8730			

* Attach Additional Sheets If Necessary

SUBMIT REMEDIATION PROPOSAL NO
LATER THAN: 9/7/14

2RP-2417

Appendix B

Photographs



Big Eddy Unit DI-9 #35H – Point of Release



Big Eddy Unit DI-9 #35H – Release Site



Big Eddy Unit DI-9 #35H – Backfilled Excavation



Big Eddy Unit DI-9 #35H – Backfilled Excavation



Big Eddy Unit DI-9 #35H – Backfilled Excavation

Appendix C

Laboratory Analytical Reports



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

February 06, 2015

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: BEU DI 9 35 FRAC

Enclosed are the results of analyses for samples received by the laboratory on 02/03/15 12:30.

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: 02/03/2015
Reported: 02/06/2015
Project Name: BEU DI 9 35 FRAC
Project Number: NONE GIVEN
Project Location: EDDY COUNTY, NM

Sampling Date: 01/30/2015
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SW #1 (H500296-01)

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	02/04/2015	ND	416	104	400	0.00		

Sample ID: SW #2 (H500296-02)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1570	16.0	02/04/2015	ND	416	104	400	0.00		

Sample ID: WW #1 (H500296-03)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1010	16.0	02/04/2015	ND	416	104	400	0.00		

Sample ID: WW #2 (H500296-04)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	560	16.0	02/04/2015	ND	416	104	400	0.00		

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: 02/03/2015
Reported: 02/06/2015
Project Name: BEU DI 9 35 FRAC
Project Number: NONE GIVEN
Project Location: EDDY COUNTY, NM

Sampling Date: 01/30/2015
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: WW #3 (H500296-05)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	832	16.0	02/04/2015	ND	416	104	400	0.00	

Sample ID: WW #4 (H500296-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1640	16.0	02/04/2015	ND	416	104	400	0.00	

Sample ID: NW #1 (H500296-07)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	02/04/2015	ND	416	104	400	0.00	

Sample ID: NW #2 (H500296-08)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	02/04/2015	ND	416	104	400	0.00	

Sample ID: NW #3 (H500296-09)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1630	16.0	02/04/2015	ND	416	104	400	0.00	

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: 02/03/2015
Reported: 02/06/2015
Project Name: BEU DI 9 35 FRAC
Project Number: NONE GIVEN
Project Location: EDDY COUNTY, NM

Sampling Date: 01/30/2015
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: EW #1 (H500296-10)

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	02/04/2015	ND	416	104	400	0.00		

Sample ID: EW #2 (H500296-11)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	02/04/2015	ND	416	104	400	0.00	

Sample ID: EW #3 (H500296-12)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	02/04/2015	ND	416	104	400	0.00	

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: 02/03/2015
Reported: 02/06/2015
Project Name: BEU DI 9 35 FRAC
Project Number: NONE GIVEN
Project Location: EDDY COUNTY, NM

Sampling Date: 01/30/2015
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: FLOOR #1 (H500296-13)

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/04/2015	ND	1.72	85.8	2.00	11.5		
Toluene*	<0.050	0.050	02/04/2015	ND	1.62	81.2	2.00	12.8		
Ethylbenzene*	<0.050	0.050	02/04/2015	ND	1.57	78.7	2.00	12.1		
Total Xylenes*	<0.150	0.150	02/04/2015	ND	4.69	78.1	6.00	12.5		
Total BTEX	<0.300	0.300	02/04/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	02/04/2015	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/03/2015	ND	182	91.1	200	1.17	
DRO >C10-C28	<10.0	10.0	02/03/2015	ND	203	101	200	7.91	
EXT DRO >C28-C35	<10.0	10.0	02/03/2015	ND					

Surrogate: 1-Chlorooctane 115 % 47.2-157

Surrogate: 1-Chlorooctadecane 146 % 52.1-176

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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: 02/03/2015
Reported: 02/06/2015
Project Name: BEU DI 9 35 FRAC
Project Number: NONE GIVEN
Project Location: EDDY COUNTY, NM

Sampling Date: 01/30/2015
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: FLOOR #2 (H500296-14)

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/04/2015	ND	1.72	85.8	2.00	11.5		
Toluene*	<0.050	0.050	02/04/2015	ND	1.62	81.2	2.00	12.8		
Ethylbenzene*	<0.050	0.050	02/04/2015	ND	1.57	78.7	2.00	12.1		
Total Xylenes*	<0.150	0.150	02/04/2015	ND	4.69	78.1	6.00	12.5		
Total BTEx	<0.300	0.300	02/04/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 61-154

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	02/04/2015	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/03/2015	ND	182	91.1	200	1.17	
DRO >C10-C28	<10.0	10.0	02/03/2015	ND	203	101	200	7.91	
EXT DRO >C28-C35	<10.0	10.0	02/03/2015	ND					

Surrogate: 1-Chlorooctane 110 % 47.2-157

Surrogate: 1-Chlorooctadecane 137 % 52.1-176

Cardinal Laboratories

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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

Cardinal Laboratories

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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

Company Name:				BILL TO				ANALYSIS REQUEST																								
Project Manager: Joel Lowry				P.O. #:				<div style="display: flex; flex-direction: column; align-items: center;"> <div>Chloride</div> <div>TPH (8015M)</div> <div>BTEX (8021B)</div> <div>HOLD FOR TPH</div> </div>																								
Address: P.O. Box 301				Company: BOPCO, LP																												
City: Lovington State: NM Zip: 88260				Attn: Tony Savoie																												
Phone #: (575)396-2378 Fax #: (575)396-1429				Address:																												
Project #: Project Owner:				City:																												
Project Name: BEU-DI-9-35 Frac Spill				State: NM Zip:																												
Project Location: Eddy Co., NM				Phone #:																												
Sampler Name: Matt Taylor				Fax #:																												
FOR LAB USE ONLY						MATRIX		PRESERV.		SAMPLING																						
Lab I.D.	Sample I.D.	GRAB OR (COMP.)	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME																		
H500296																																
1	SW #1	1		x						x			1/30/15	1000	x																	
2	SW #2	1		x						x			1/30/15	1005	x																	
3	WW #1	1		x						x			1/30/15	1010	x																	
4	WW #2	1		x						x			1/30/15	1015	x																	
5	WW #3	1		x						x			1/30/15	1020	x																	
6	WW #4	1		x						x			1/30/15	1025	x																	
7	NW #1	1		x						x			1/30/15	1030	x																	
8	NW #2	1		x						x			1/30/15	1035	x																	
9	NW #3	1		x						x			1/30/15	1040	x																	
10	EW #1	1		x						x			1/30/15	1045	x																	

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Relinquished By:	Date: 2-3-15	Received By:	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Date: 2-3-15	Received By:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One)	Time: 10:10	Time: 12:30	REMARKS:	
Sampler - UPS - Bus - Other:			Please email results to pm@basinenv.com, TASavoie@BassPet.com, acruith@basspet.com	
		Sample Condition	CHECKED BY:	
		Cool Intact	(Initials)	
		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> No <input type="checkbox"/> No		

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

#54



ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:				BILL TO				ANALYSIS REQUEST																																							
Project Manager: Joel Lowry				P.O. #:				<div style="display: flex; flex-direction: column; align-items: center;"> <div>Chloride</div> <div>TPH (8015M)</div> <div>BTEX (8021B)</div> <div>HOLD FOR TPH</div> </div>																																							
Address: P.O. Box 301				Company: BOPCO, LP																																											
City: Lovington State: NM Zip: 88260				Attn: Tony Saviole																																											
Phone #: (575)396-2378 Fax #: (575)396-1429				Address:																																											
Project #: Project Owner:				City:																																											
Project Name: BEU-DI-9-35 Frac Spill				State: NM Zip:																																											
Project Location: Eddy Co., NM				Phone #:																																											
Sampler Name: Matt Taylor				Fax #:																																											
FOR LAB USE ONLY						MATRIX		PRESERV.		SAMPLING																																					
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER:		ACID/BASE:		ICE / COOL		OTHER:		DATE		TIME																			
H500296																																															
11		EW #2		1				x												x						1/30/15		1050		x																	
12		EW #3		1				x												x						1/30/15		1055		x																	
13		Floor #1		1				x												x				x		1/30/15		1100		x		x		x													
14		Floor #2		1				x												x				x		1/30/15		1105		x		x		x													

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Relinquished By:		Date: 2-3-15		Received By:		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
Time: 10:10				Time: 12:30		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:	
Refiniquished By:		Date: 2-3-15		Received By:		REMARKS: Please email results to pm@basinenv.com, TASavoie@BassPet.com, acruith@basspet.com			
Time: 12:30									
Delivered By: (Circle One)				Sample Condition		CHECKED BY:			
Sampler - UPS - Bus - Other:				Cool Intact		(Initials)			
				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			

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#54



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

February 02, 2015

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: BEU DI 9 35 FRAC

Enclosed are the results of analyses for samples received by the laboratory on 01/30/15 16:15.

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 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, appearing to read "Mike Snyder".

Mike Snyder For 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: 01/30/2015
 Reported: 02/02/2015
 Project Name: BEU DI 9 35 FRAC
 Project Number: NOT GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 01/30/2015
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Celey D. Keene

Sample ID: STOCKPILE #1 (H500283-01)

Chloride, SM4500Cl-B			mg/kg							
			Analyzed By: AP							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	02/02/2015	ND	416	104	400	0.00		
TPH 8015M			mg/kg							
			Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	69.6	10.0	02/02/2015	ND	207	104	200	1.08		
DRO >C10-C28	884	10.0	02/02/2015	ND	215	107	200	2.00		
EXT DRO >C28-C35	109	10.0	02/02/2015	ND						
Surrogate: 1-Chlorooctane	111 %	47.2-157								
Surrogate: 1-Chlorooctadecane	124 %	52.1-176								

Cardinal Laboratories

*=Accredited Analyte

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Mike Snyder For 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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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <u>Basin Environmental</u>		BILL TO		ANALYSIS REQUEST																				
Project Manager: <u>Joel Lowry</u>		P.O. #:																						
Address: <u>2100 Plains Hwy</u>		Company:																						
City: <u>Logington</u> State: <u>NM</u> Zip: <u>88260</u>		Attn:																						
Phone #: Fax #:		Address:																						
Project #: Project Owner: <u>Bopco</u>		City:																						
Project Name: <u>BEW DI9 35 Frac</u>		State: Zip:																						
Project Location:		Phone #:																						
Sampler Name:		Fax #:																						
FOR LAB USE ONLY				MATRIX		PRESERV.		SAMPLING																
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER	DATE	TIME										
<u>H500293-01</u>	<u>Stockpile #1</u>		<u>1</u>			<input checked="" type="checkbox"/>							<u>1/30/15</u>	<u>2:30</u>	<u>PH</u>	<u>SI</u>								

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Relinquished By: <u>Matt B. L.</u>	Date: <u>1/30/15</u>	Received By: <u>Cal Greene</u>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Time: <u>4:15</u>	Received By:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One)	Date:	Sample Condition	REMARKS:	
Sampler - UPS - Bus - Other:	Time:	Cool Intact	Email Basin + BOPCO	
		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
		CHECKED BY: (Initials)		
		<u>cmk</u>		

February 19, 2015

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: BEU DI 9 35 FRAC

Enclosed are the results of analyses for samples received by the laboratory on 02/13/15 12:01.

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

Received: 02/13/2015
Reported: 02/19/2015
Project Name: BEU DI 9 35 FRAC
Project Number: NONE GIVEN
Project Location: EDDY COUNTY, NM

Sampling Date: 02/12/2015
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Celey D. Keene

Sample ID: SSW #2B (H500435-01)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	02/17/2015	ND	416	104	400	3.92	

Sample ID: WSW #1B (H500435-02)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	02/17/2015	ND	416	104	400	3.92	

Sample ID: WSW #4B (H500435-03)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	02/17/2015	ND	416	104	400	3.92	

Sample ID: NSW #3B (H500435-04)

Chloride, SM4500CI-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	02/17/2015	ND	416	104	400	3.92	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

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

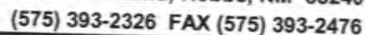
Cardinal Laboratories

*=Accredited Analyte

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