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# REMEDIATION SUMMARY AND RISK-BASED SITE CLOSURE REQUEST

### MEWBOURNE OIL COMPANY OPOASU #10 FLOW LINE

Lea County, New Mexico
Unit Letter "O" (SW/SE), Section 21, Township 18 South, Range 32 East
Latitude 32.726192° North, Longitude -103.761283° West
NMOCD Reference #1RP-\_\_\_\_\_

Prepared For:

Mewbourne Oil Company 701 South Cecil Street Hobbs, NM 88240

Prepared By:

Basin Environmental Service Technologies, LLC 3100 Plains Highway Lovington, NM 88260

January 2015

Joel W. Lowry

Project Manager

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#### INTRODUCTION & BACKGROUND INFORMATION

Basin Environmental Service Technologies, LLC (Basin), on behalf of Mewbourne Oil Company (Mewbourne) has prepared this *Remediation Summary & Risk-Based Site Closure Request* for the release site known as QPQASU #10 Flow Line. The legal description of the release site is Unit Letter "O" (SW/SE), Section 21, Township 18 South, Range 32 East in Lea County, New Mexico. The geographic coordinates of the release site are 32.726192° North latitude and -103.761283° West longitude. The property affected by the release is owned by the United States Department of the Interior and administered by the Bureau of Land Management (BLM). Please reference Figure 1 for a "Site Location Map".

On May 15, 2014, Mewbourne discovered a release had occurred on the QPQASU #10 flow line. Failure of a section of 2 7/8" poly flow line resulted in the release of an unknown volume of crude oil and produced water. The "Release Notification and Corrective Action" (Form C-141) indicated the release affected approximately five thousand, five hundred square feet (5,500 ft²) of pasture land. During initial response activities, a vacuum truck was used to recover approximately five hundred barrels (500 bbls) of free standing fluid. The release occurred adjacent to two (2) historical releases. Final remediation of each of the release sites will be conducted in accordance with the New Mexico Oil Conservation Division's (NMOCD) Guidelines for Remediation of Spills, Leaks and Releases. The Form C-141 is provided as Appendix A. General photographs of the release site are provided as Appendix B.

On June 13, 2014, a *Remediation Summary & Risk-Based Soil Closure Proposal* was submitted to the NMOCD proposing a risk-based closure strategy. The *Remediation Summary & Risk-Based Soil Closure Proposal* was subsequently approved.

### 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 18 South, Range 32 East. A depth to groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately three hundred and seventy-five feet (375') 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 domestic 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 QPQASU #10 Flow Line release site has an initial ranking score of zero (0) points. The soil remediation levels for a site with a ranking score of zero (0) points are as follows:

- Benzene 10 mg/Kg (ppm)
- BTEX -50 mg/Kg (ppm)
- TPH 5,000 mg/Kg (ppm)

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

### 3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES

Beginning May 27, 2014, Basin conducted an initial investigation at the release site. A series of test trenches (TT-1, TT-2 and TT-3) were advanced in an effort to characterize the release and determine the vertical extent of soil impact. TT-1 was advanced in the center of the primary release. TT-1 was advanced to approximately fourteen feet (14') bgs. During the advancement of the test trench, soil samples were collected from two (2), six (6), ten (10) and fourteen feet (14') bgs and submitted to the laboratory for analysis TPH and chloride concentrations in accordance with EPA Methods SW-846 8015M and 4500 Cl<sup>-</sup> B, respectively. Laboratory analytical results indicated TPH concentrations ranged from 71,360 ppm for the soil sample collected at six feet (6') bgs to 36,080 ppm for the soil sample collected at fourteen feet (14') bgs. Chloride concentrations ranged from 12,400 ppm for the soil sample collected at six feet (6') bgs to 992 ppm for the soil sample collected at two feet (2') bgs. Soil samples collected at ten (10) and fourteen feet (14') bgs were also analyzed for concentrations of BTEX in accordance with EPA Method SW-846 8021B. Laboratory analytical results indicated the concentration of BTEX in soil sample TT-1 @ 10' was 175 ppm; the benzene concentration was 8.18 ppm. The concentration of BTEX in soil sample TT-1 @ 14' was 166 ppm; the benzene concentration was 6.15 ppm. A site and sample location. Table 1a summarizes the "Concentrations of Benzene, BTEX, TPH & Chlorides in Soil - Primary Release". Sample locations are depicted in Figure 2a, "Site & Sample Location Map – Primary Release". Laboratory analytical reports are provided as Appendix D.

Test trench TT-2 was advanced in the center of the stained area west of the primary release site. TT-2 was advanced to approximately fourteen feet (14') bgs. During the advancement of the test trench, soil samples were collected from two (2), six (6), ten (10) and fourteen feet (14') bgs and submitted to the laboratory for analysis TPH and chloride concentrations. Laboratory analytical results indicated TPH concentrations ranged from 30,111 ppm for the soil sample collected at two feet (2') bgs to 6,907 ppm for the soil sample collected at ten feet (10') bgs. Chloride concentrations ranged from 9,860 ppm for the soil sample collected at fourteen feet (14') bgs to 48.0 ppm for the soil sample collected at two feet (2') bgs. Soil samples collected at ten (10) and fourteen feet (14') bgs were also analyzed for concentrations of BTEX. Laboratory analytical results indicated the concentration of BTEX in soil sample TT-2 @ 10' was 7.25 ppm; the benzene concentration was less than the laboratory method detection limit (MDL). The concentration of BTEX in soil sample TT-2 @ 14' was 7.97 ppm; the benzene concentration was less than the laboratory MDL. Table 1b summarizes the "Concentrations of Benzene, BTEX, TPH & Chlorides in Soil – Western Release". Sample locations are depicted in Figure 2b, "Site & Sample Location Map – Western Release".

Test trench TT-3 was advanced in the stained area east of the primary release site. TT-3 was advanced to approximately fourteen feet (14') bgs. During the advancement of the test trench, soil samples were collected from two (2), six (6), ten (10) and fourteen feet (14') bgs and submitted to the laboratory for analysis of TPH and chloride concentrations. Laboratory analytical results indicated TPH concentrations ranged from 32,220 ppm for the soil sample collected at fourteen feet (14') bgs to 2,976 ppm for the soil sample collected at ten feet (10') bgs. Chloride concentrations ranged from 5,120 ppm for the soil sample collected at ten feet (10') bgs to 112 ppm for the soil sample collected at six feet (6') bgs. Soil samples collected at ten (10) and fourteen feet (14') bgs were also analyzed for concentrations of BTEX. Laboratory analytical results indicated the concentration of BTEX in soil sample TT-3 @ 10' was 3.11 ppm; the benzene concentration was less than the laboratory MDL. The concentration of BTEX in soil sample TT-3 @ 14' was 141 ppm; the benzene concentration was 4.49 ppm. Table 1c summarizes the "Concentrations of Benzene, BTEX, TPH & Chlorides in Soil – Eastern Release". Sample locations are depicted in Figure 2c, "Site & Sample Location Map – Eastern Release".

On June 27, 2014, Basin began excavation activities at the QPQASU #10 Flow Line release site. The floor of the excavation characterized by the western release was advanced to approximately ten feet (10') bgs as per the NMOCD. The floor of the primary excavation was advanced to approximately twelve (12) to fourteen feet (14') as per the NMOCD. The sidewalls of the excavations were advanced until field tests suggested concentration of BTEX, TPH and chloride were less than NMOCD regulatory standards.

On July 8, 2014, a delineation trench (TT-2b) was advanced in the floor of the western excavation in an area exhibiting hydrocarbon staining at ten feet (10') bgs. The delineation trench was advanced to approximately twenty feet (20') bgs. During the advancement of the delineation trench, two (2) soil samples (TT-2b @ 15' and TT-2b @ 20') were collected and submitted to the laboratory for analysis of BTEX, TPH and chloride concentrations. Laboratory analytical results indicated BTEX concentrations ranged from 104 ppm for soil sample TT-2b @ 15' to less than the appropriate laboratory MDL for soil sample TT-2b @ 20'. Analytical results indicated TPH concentrations ranged from 9,029 ppm for soil sample TT-2b @ 15' to 137 ppm for soil sample TT-2b @ 20'. Chloride concentrations ranged from 6,160 ppm for soil sample TT-2b @ 15' to 2,440 ppm for soil sample TT-2b @ 20'.

In addition, five (5) soil samples [NSW #1 (Primary), WSW #1 (Primary), SSW #1 (Primary), Floor #1 (Primary), Test Floor A (Primary)] were collected from the floor and sidewalls of the primary release excavation and submitted to the laboratory for analysis of BTEX, TPH and chloride concentrations. Laboratory analytical results indicated BTEX concentrations were less than the appropriate laboratory MDL for each of the submitted soil samples with the exception of soil sample Test Floor A (Primary), which exhibited a BTEX concentration of 7.09 ppm. Analytical results indicated TPH concentrations were less than the laboratory MDL for each of the submitted soil samples with the exception of soil samples Floor #1 (Primary) and Test Floor A (Primary), which exhibited TPH concentrations of 24.1 and 4,213 ppm, respectively. Chloride concentrations ranged from less than the laboratory MDL for soil sample NSW #1 (Primary) and WSW #1 (Primary) to 192 ppm for soil sample Test Floor A (Primary). Each of the submitted soil samples exhibited BTEX, TPH and chloride concentrations that were below NMOCD regulatory standards.

On July 17, 2014, two (2) soil samples [WSW #1 (Western) and SSW #1 (Western)] were collected from the sidewalls of the western release 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. Analytical results indicated chloride concentrations ranged from 64.0 ppm for soil sample WSW #1 (Western) to 1,220 ppm for soil sample SSW #1 (Western). The excavation was advanced in the area characterized by soil sample SSW #1 (Western).

On July 21, 2014, three (3) soil samples [NSW #1 (Western), NSW #2 (Western) and SSW #2 (Western)] were collected from the sidewalls of the western release 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. Analytical results indicated chloride concentrations ranged from 32.0 ppm for soil sample SSW #2 (Western) to 96.0 ppm for soil sample NSW #2 (Western). Each of the submitted soil samples exhibited BTEX, TPH and chloride concentrations that were below NMOCD regulatory standards.

On July 23, 2014, two (2) soil samples [SSW #3 (Western) and NSW #3 (Western)] were collected from the sidewalls of the western release 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. Analytical results indicated chloride concentrations ranged from less than the laboratory MDL for soil sample NSW #3 (Western) to 320 ppm for soil sample SSW #3 (Western). Each of the submitted soil samples exhibited BTEX, TPH and chloride concentrations that were below NMOCD regulatory standards.

On July 30, 2014, two (2) soil samples [SSW #1b (Western) and ESW #1 (Western)] were collected from the sidewalls of the western release excavation and submitted to the laboratory for analysis of BTEX, TPH and chloride concentrations. Laboratory analytical results indicated BTEX, TPH and chloride concentrations were less than the appropriate laboratory MDL in each of the submitted soil samples.

On August 5, 2014, Basin began excavating impacted soil associated with the release in the eastern portion of the remediation site. The floor of the excavation characterized by the eastern release was advanced to approximately ten feet (10') bgs. The excavation sidewalls were advanced until field tests suggested concentration of BTEX, TPH and chloride were less than NMOCD regulatory standards.

In addition, six (6) soil samples [NSW #2 (Primary), NSW #3 (Primary), ESW #1 (Primary), ESW #2 (Primary), WSW #2 (Primary) and SSW #2 (Primary)], were collected from the sidewalls of the primary release 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. Analytical results indicated the chloride concentration ranged from less than the laboratory MDL for soil sample NSW #3 (Primary) to 288 ppm for soil sample SSW #2 (Primary). Each of the submitted

soil samples exhibited BTEX, TPH and chloride concentrations that were below NMOCD regulatory standards.

On August 6, 2014, a delineation trench (TT-1a) was advanced in the floor of the primary excavation in an area exhibiting hydrocarbon staining at twelve feet (12') bgs. The delineation trench was advanced to approximately thirty feet (30') bgs. During the advancement of the delineation trench, two (2) soil samples (TT-1a @ 20' and TT-1a @ 30') were collected and submitted to the laboratory for analysis of BTEX, TPH and chloride. Laboratory analytical results indicated BTEX concentrations ranged from less than the appropriate laboratory MDL for soil sample TT-1a @ 20' to 14.3 ppm for soil sample TT-1a @ 30'. Analytical results indicated TPH concentrations ranged from 5,187 ppm for soil sample TT-1a @ 30' to 219 ppm for soil sample TT-1a @ 20' to 4,960 ppm for soil sample TT-1a @ 30'.

On August 12, 2014, on receiving NMOCD approval, a 20-millimeter polyurethane liner was installed in the floor of the primary excavation at approximately twelve feet (12') bgs. A 20-millimeter polyurethane liner was also installed in the floor of the western excavation at approximately ten feet (10') bgs. A one-foot (1') layer of pad sand was installed above and below the liners to maintain their integrity during backfilling activities. These engineering controls were designed to inhibit the vertical migration of contaminants left in-situ. The 20-millimeter polyurethane liners were fitted with eight-inch (8") PVC conduits in an areas inferred to exhibit the highest concentration of TPH. This engineering control was designed to allow for the safe and accurate advancement of soil bores, while maintaining the integrity of the liner. Upon installing the liners, the excavations were backfilled with locally purchased, non-impacted soil.

On September 5, 2014, areas disturbed by remediation activities associated with the western and primary release sites were reseeded with a BLM-approved seed mixture.

On September 10, 2014, seven (7) soil samples [NSW #1 (Eastern), NSW #2 (Eastern) and NSW #3 (Eastern), WSW #1 (Eastern), ESW #1 (Eastern), SSW #1 (Eastern) and SSW #2 (Eastern)] were collected from the sidewalls of the western release 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. Analytical results indicated chloride concentration ranged from less than the laboratory MDL for soil samples NSW #1 (Eastern), NSW #3 (Eastern) and WSW #1 (Eastern) to 528 ppm for soil sample SSW #2 (Eastern). Each of the submitted soil samples exhibited BTEX, TPH and chloride concentrations that were below NMOCD regulatory standards.

On September 15, 2014, a delineation trench (TT-3b) was advanced in the floor of the eastern excavation in an area exhibiting hydrocarbon staining at approximately twelve feet (12') bgs. The delineation trench was advanced to approximately twenty-four feet (24') bgs. During the advancement of the delineation trench, two (2) soil samples (TT-3b @ 18' and TT-3b @ 24') were collected and submitted to the laboratory for analysis of BTEX, TPH and chloride. Laboratory analytical results indicated BTEX concentrations ranged from 20.6 ppm for soil sample TT-3b @ 18' to 5.12 ppm for soil sample TT-3b @ 24'. Analytical results indicated TPH concentrations ranged from 6,759 ppm for soil sample TT-3b @ 18' to 2,886 ppm for soil sample TT-3b @ 24'.

Chloride concentrations ranged from 896 ppm for soil sample TT-3b @ 24' to 144 ppm for soil sample TT-3b @ 18'.

On September 17, 2014, a 20-millimeter polyurethane liner was installed in the floor of the eastern excavation at approximately twelve feet (12') bgs. This engineering control was designed to inhibit the vertical migration of contaminants left in-situ. The 20-millimeter polyurethane liner was fitted with an eight-inch (8") PVC conduit in an area inferred to exhibit the highest concentration of TPH. This engineering control was designed to allow for the safe and accurate advancement of soil bores, while maintaining the integrity of the liner. Upon installing the liner, the excavation was backfilled with locally purchased, non-impacted soil.

Between July 1, and September 17, 2014, approximately ten thousand, three hundred and sixty cubic yards (10,360 yd³) of impacted material was transported to Controlled Recovery, Inc. (NMOCD Permit #NM1-6-0), for disposal. The final dimensions of the primary excavation were approximately ninety-five feet (95') in width, one hundred and ten feet (110') in length and eight (8) to twelve feet (12') in depth. The final dimensions of western excavation were approximately seventy feet (70') in width, one hundred and seventy feet (170') in length and ten feet (10') in depth. The final dimensions of eastern excavation were approximately forty-five feet (45') in width, one hundred and twenty feet (120') in length and twelve feet (12') in depth.

On September 5, 2014, areas disturbed by remediation activities associated with the western and primary release sites were seeded with a BLM-approved seed mixture.

On November 13, 2014, Mewbourne and NMOCD representatives met to discuss the advancement of environmental soil bores at the location. Mewbourne requested permission to preclude the western release site from soil boring activities citing access concerns for the drilling rig. It was determined environmental soil bores within the primary and eastern release sites would adequately characterize the site.

On January 12, 2015, two (2) environmental soil bores (SB-1 and SB-3) were advanced at the release site. Soil boring SB-1 was advanced through the established PVC conduit in the primary release site. The soil boring was advanced to approximately eighty feet (80') bgs. During the advancement of the soil boring, soil samples were collected at five-foot (5') drilling intervals and field-screened for concentrations of chloride and TPH. Six (6) representative soil samples (SB-1 @ 40', SB-1 @ 50', SB-1 @ 60', SB-1 @ 70', SB-1 @ 75' and SB-1 @ 80') were submitted to the laboratory for analysis of TPH and chloride concentrations. Laboratory analytical results indicated TPH concentrations were less than the appropriate laboratory MDL for each of the submitted soil samples. Chloride concentrations ranged from 8,800 ppm for soil sample SB-1 @ 40' to 160 ppm for soil sample SB-1 @ 80'. Soil sample SB-1 @ 40' was also analyzed for concentrations of BTEX, which were determined to be less than the appropriate laboratory MDL. Based on laboratory analytical results it was determined vertical delineation had been achieved. Soil boring logs are provided as Appendix C.

Soil boring SB-3 was advanced through the established PVC conduit in the eastern release site. The soil boring was advanced to approximately fifty-five feet (55') bgs. During the advancement of the soil boring, soil samples were collected at five-foot (5') drilling intervals and field-screened

for concentrations of chloride and TPH. Five (5) representative soil samples (SB-3 @ 25', SB-3 @ 35', SB-3 @ 45', SB-3 @ 50' and SB-3 @ 55') were submitted to the laboratory for analysis of TPH and chloride concentrations. Laboratory analytical results indicated TPH concentrations ranged from 11,680 ppm for soil sample SB-3 @ 25' to less than the appropriate laboratory MDL for soil sample SB-3 @ 55'. Chloride concentrations ranged were less than the appropriate laboratory MDL for each of the submitted soil samples. Soil samples SB-3 @ 25' and SB-3 @ 35' were also analyzed for concentrations of BTEX. Analytical results indicated BTEX concentrations ranged from 31.0 pm for soil sample SB-3 @ 25' to less than the appropriate laboratory MDL for soil sample SB-3 @ 35'. Based on laboratory analytical results it was determined vertical delineation had been achieved.

The remaining portion of the remediation site will be seeded with a BLM-approved seed mixture 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

Remediation activities at the QPQASU #10 Flow Line Release Site met the objectives set forth by the NMOCD. Affected soil was excavated to the maximum practicable depth; excavation sidewalls were advanced until concentrations of BTEX, TPH and chloride were below NMOCD regulatory standards. As per the NMOCD, a twenty-millimeter (20-mil) polyurethane liner was installed on the floor of each excavation atop soil exhibiting concentrations of TPH and chloride above NMOCD regulatory standards. This engineering control was designed to inhibit the vertical migration of contaminants left in-situ. Environmental soil bores were used determine the vertical extent of soil impact at the primary and eastern release sites. As per the NMOCD, the western release site was precluded from soil boring activities. Based on the results of confirmation soil samples and the installation of approved engineering controls, Basin recommends Mewbourne provide the NMOCD Artesia District Office and the BLM a copy of this *Remediation Summary and Risk-Based Site Closure Request* and request the NMOCD grant site closure to the QPQASU #10 Flow Line release site.

### 6.0 LIMITATIONS

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

This report has been prepared for the benefit of Mewbourne. 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 Mewbourne.

### 7.0 DISTRIBUTION:

Copy 1: Tomas Oberding

New Mexico Energy, Minerals and Natural Resources Department

Oil Conservation Division (District 1)

1625 French Drive Hobbs, NM 88240

Copy 2: James Amos

Bureau of Land Management

602 E. Greene Street

Carlsbad, New Mexico 88220

Copy 3: Zack Thomas

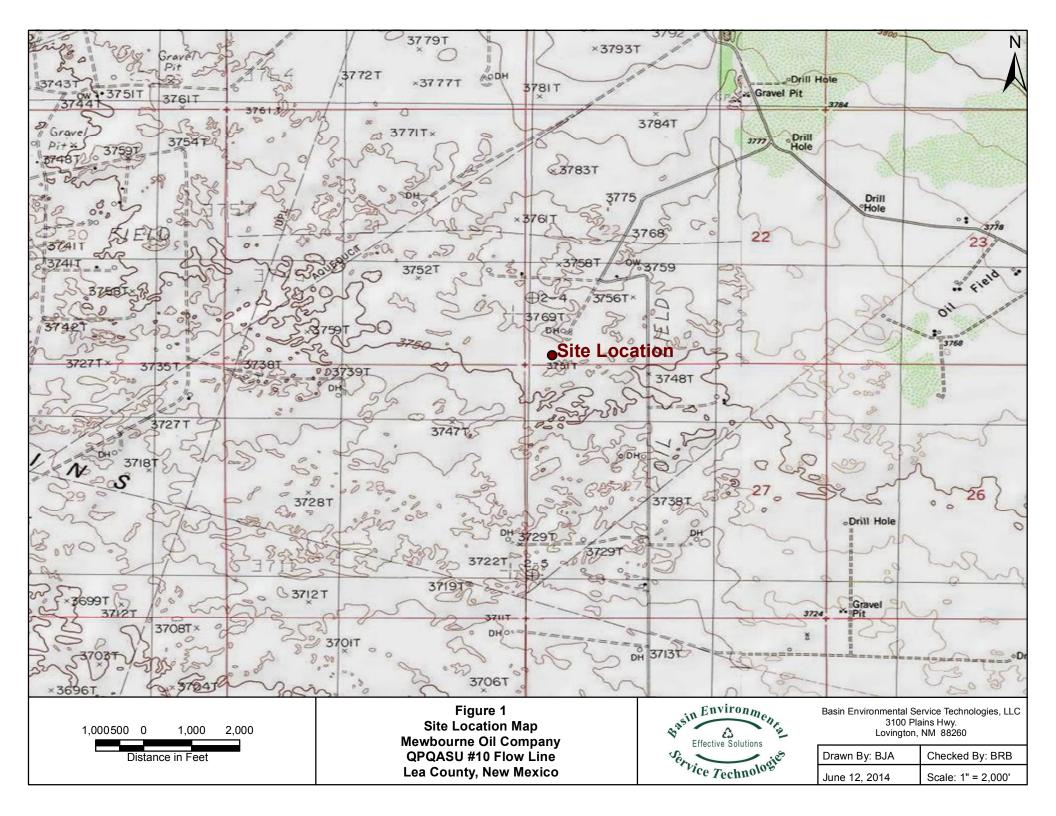
Mewbourne Oil Company

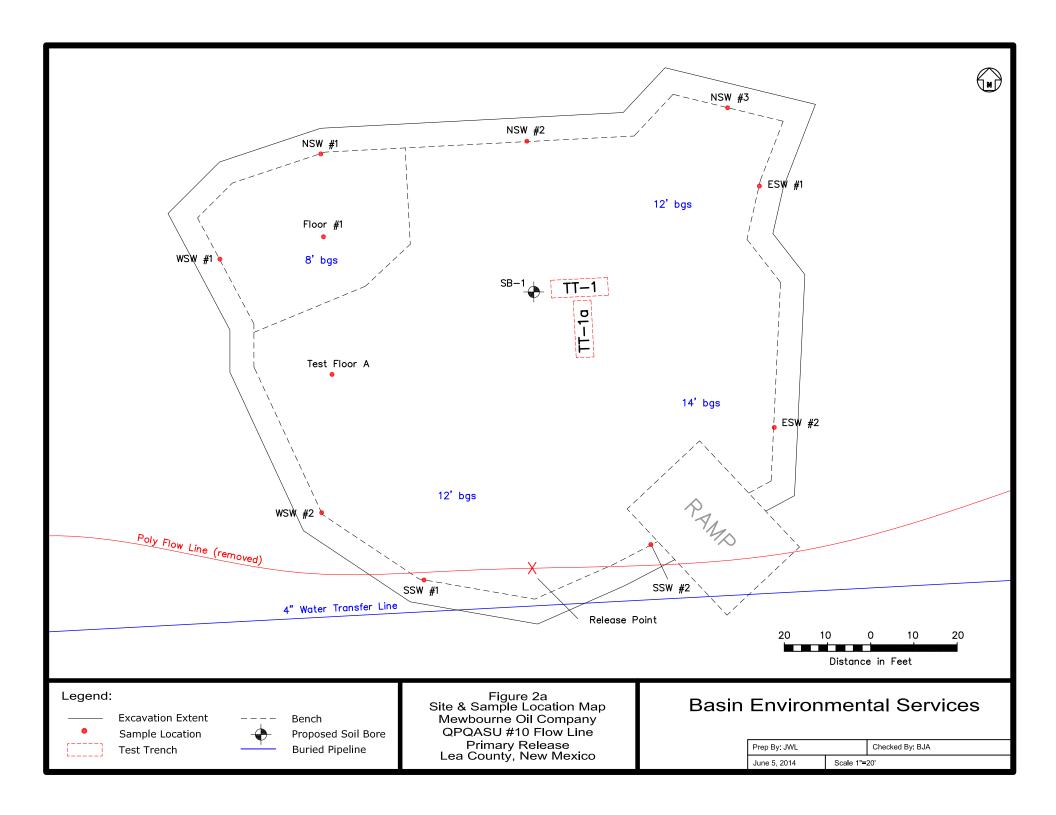
PO Box 5270 Hobbs, NM 88241

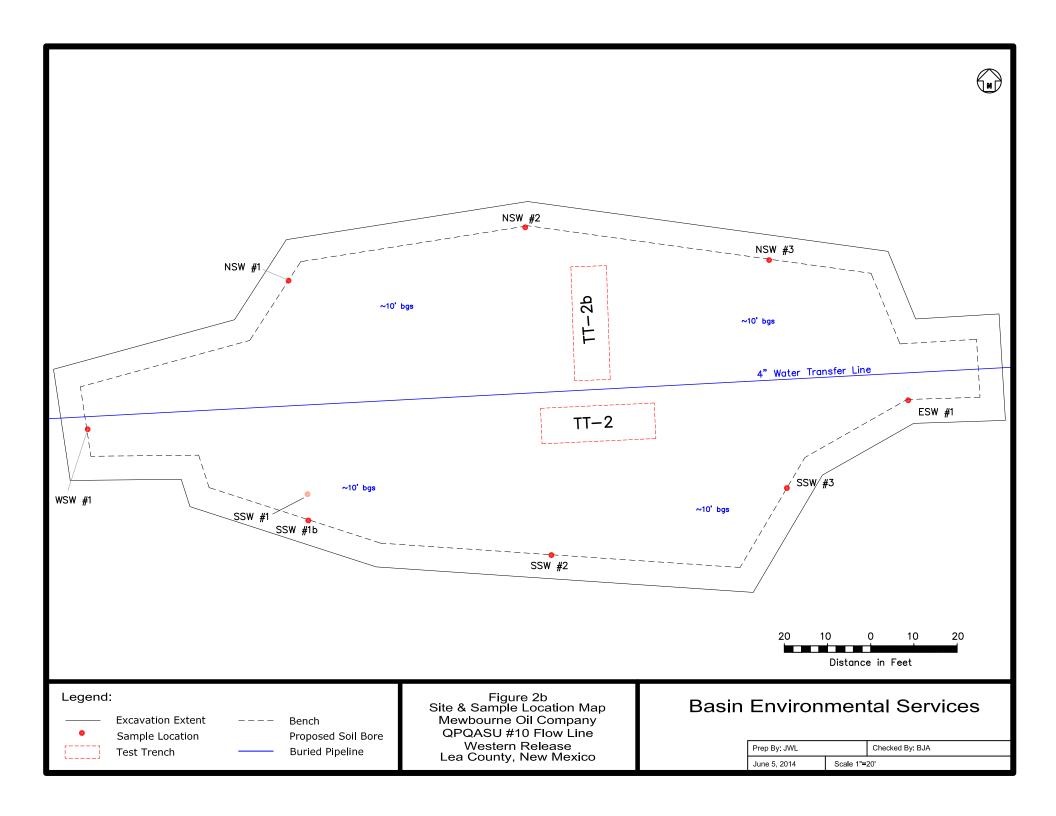
Copy 4: Basin Environmental Service Technologies, LLC

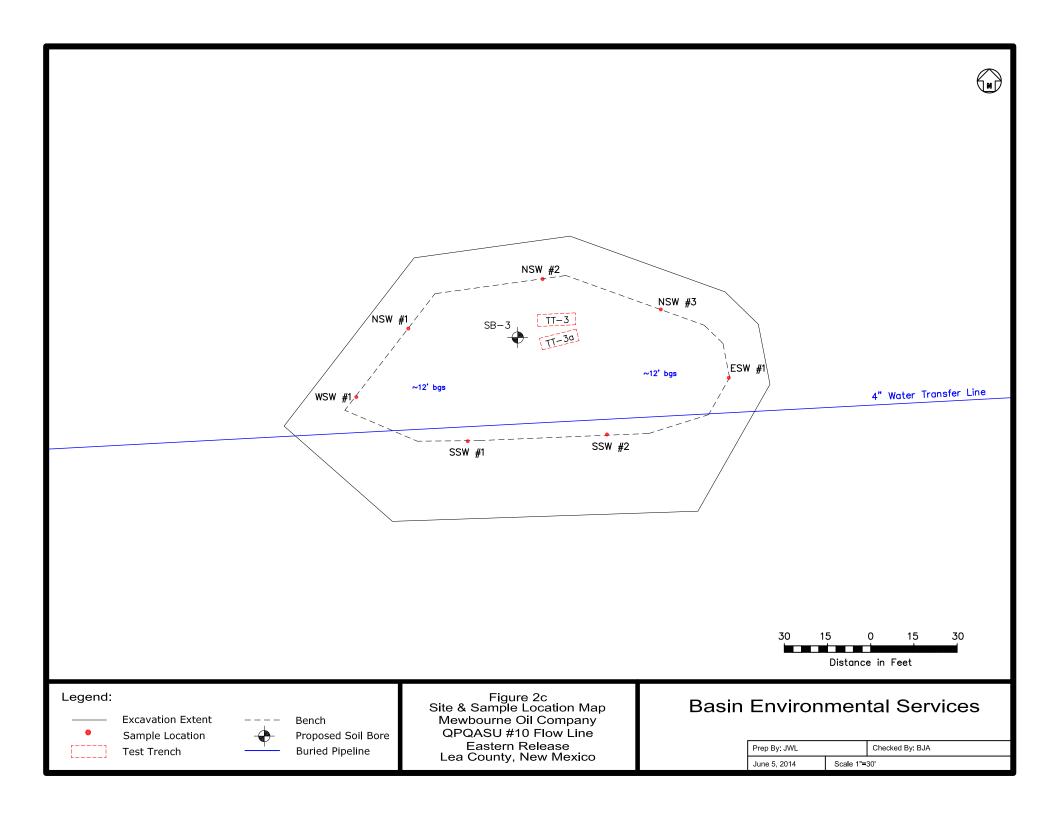
P.O. Box 301

Lovington, NM 88260









## TABLE 1a CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL - PRIMARY RELEASE

## MEWBOURNE OIL COMPANY QPQASU #10 FLOW LINE LEA COUNTY, NEW MEXICO NMOCD REFERENCE #: 1RP-\_\_\_\_\_

	O A MDI E				METHOD: E	PA SW 846	-8021B, 503	0	MET	THOD: 8015M		TOTAL	4500 CI-B
CAMPLE LOCATION	SAMPLE DEPTH	SAMPLE	SOIL	DENIZENIE	TO! !!!!!	ETHYL-	TOTAL	TOTAL	GRO	DRO	ORO	TPH	
SAMPLE LOCATION		DATE	STATUS		TOLUENE	BENZENE	XYLENES	BTEX	C <sub>6</sub> -C <sub>12</sub>	C <sub>12</sub> -C <sub>28</sub>	C <sub>28</sub> -C <sub>35</sub>	C <sub>6</sub> -C <sub>35</sub>	CHLORIDE
	(BGS)			(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)		(mg/Kg)	(mg/Kg)	(mg/Kg)
TT-1 @ 2'	2'	5/28/2014	Excavated	-	-	-	-	-	3,610	32,100	6,400	42,110	992
TT-1 @ 6'	6'	5/28/2014	Excavated	-	-	-	-	-	8,450	53,000	9,920	71,370	12,400
TT-1 @ 10'	10'	5/28/2014	Excavated	8.18	38.9	32.4	95.9	175	9,170	34,000	6,760	49,930	10,500
TT-1 @14'	14'	5/28/2014	In-Situ	6.15	31.7	32.7	95.8	166	8,300	23,100	4,690	36,090	5,600
NSW #1 (Primary)	5'	7/8/2014	In-Situ	< 0.050	< 0.050	< 0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<16.0
WSW #1 (Primary)	5'	7/8/2014	In-Situ	< 0.050	< 0.050	< 0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<16.0
SSW #1 (Primary)	8'	7/8/2014	In-Situ	<0.050	< 0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	48.0
Floor #1 (Primary)	8'	7/8/2014	In-Situ	< 0.050	< 0.050	< 0.050	<0.150	<0.300	<10.0	24.1	<10.0	24.1	96.0
Test Floor A (Primary)	12'	7/8/2014	In-Situ	<0.500	<0.500	1.99	5.10	7.09	434	3,320	459	4,213	192
NSW #2 (Primary)	8'	8/5/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	48.0
NSW #3 (Primary)	8'	8/5/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<16.0
ESW #1 (Primary)	8'	8/5/2014	In-Situ	< 0.050	<0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0	<10.0	64.0
ESW #2 (Primary)	8'	8/5/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	16.0
WSW #2 (Primary)	8'	8/5/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.0
SSW #2 (Primary)	8'	8/5/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	288
TT-1a @ 20'	20'	8/6/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	19.9	166	33.2	219	7,400
TT-1a @ 30'	30'	8/6/2014	In-Situ	<0.500	2.29	3.45	8.58	14.3	593	3,880	714	5,187	4,960
SB-1 @ 40'	40'	1/12/2015	In-Situ	<0.050	< 0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	8,800
SB-1 @ 50'	50'	1/12/2015	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	8,400
SB-1 @ 60'	60'	1/12/2015	In-Situ	•	-	-	-	-	<10.0	<10.0	<10.0	<10.0	4,560
SB-1 @ 70'	70'	1/12/2015	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	496
SB-1 @ 75'	75'	1/12/2015	In-Situ	•	-	-	-	-	<10.0	<10.0	<10.0	<10.0	240
SB-1 @ 80'	80'	1/12/2015	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	160
NMOCD Criteria				10				50				5,000	1,000

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

## TABLE 1b CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL - WESTERN RELEASE

## MEWBOURNE OIL COMPANY QPQASU #10 FLOW LINE LEA COUNTY, NEW MEXICO NMOCD REFERENCE #: 1RP-\_\_\_\_\_

	0.4.4471.5				METHOD: E	PA SW 846	5-8021B, 503	0	MET	HOD: 80	15M	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 <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORIDE (mg/Kg)
TT-2 @ 2'	2'	5/27/2014	Excavated	ı	-	-	-	-	751	23,400	5,960	30,111	48
TT-2 @ 6'	6'	5/27/2014	Excavated	ı	-	-	-	ı	605	8,050	2,050	10,705	224
TT-2 @ 10'	10'	5/27/2014	In-Situ	<0.200	<0.200	2.32	4.93	7.25	297	5,370	1,240	6,907	912
TT-2 @14'	14'	5/27/2014	In-Situ	<1.00	<1.00	2.10	5.87	7.97	618	9,060	2,110	11,788	9,860
TT-2b @ 15'	15'	7/8/2014	In-Situ	3.59	21.4	20.90	57.9	104	2,290	5,860	879	9,029	6,160
TT-2b @ 20'	20'	7/8/2014	In-Situ	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	12.2	108	17.0	137	2,440
WSW #1 (Western)	7'	7/17/2014	In-Situ	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0	<10.0	64.0
SSW #1 (Western)	7'	7/17/2014	Excavated	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0	<10.0	1,220
NSW #1 (Western)	7'	7/21/2014	In-Situ	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0	<10.0	48.0
NSW #2(Western)	7'	7/21/2014	In-Situ	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0	<10.0	96.0
SSW #2 (Western)	7'	7/21/2014	In-Situ	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0	<10.0	32.0
·													
SSW #3 (Western)	7'	7/23/2014	In-Situ	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0	<10.0	320
NWS #3 (Western)	7'	7/23/2014	In-Situ	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	<10.0	<10.0	<10.0	<10.0	<16.0
· ,													
SSW #1B (Western)	7'	7/30/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<16.0
ESW #1 (Western)	7'	7/30/2014	In-Situ	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0	<10.0	<16.0
NMOCD Criteria				10				50				5,000	1,000

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

## TABLE 1c CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL - EASTERN RELEASE

## MEWBOURNE OIL COMPANY QPQASU #10 FLOW LINE LEA COUNTY, NEW MEXICO NMOCD REFERENCE #: 1RP-\_\_\_\_\_

	CAMPLE				METHOD: E	PA SW 846	-8021B, 503	0	MET	HOD: 80	15M	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 <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORIDE (mg/Kg)
TT-3 @ 2'	2'	5/27/2014	Excavated	-	-	-	-	-	297	9,290	2,800	12,387	272
TT-3 @ 6'	6'	5/27/2014	Excavated	-	-	-	-	-	1,260	22,000	4,880	28,140	112
TT-3 @ 10'	10'	5/27/2014	Excavated	<0.100	0.193	0.632	2.29	3.11	227	2,230	519	2,976	5,120
TT-3 @14'	14'	5/27/2014	In-Situ	4.49	28.8	27.1	80.9	141	6,310	21,500	4,410	32,220	144
NSW #1 (Eastern)	8'	9/10/2014	In-Situ	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0	<10.0	<16.0
NSW #2 (Eastern)	8'	9/10/2014	In-Situ	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0	<10.0	112
NSW #3 (Eastern)	8'	9/10/2014	In-Situ	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0	<10.0	<16.0
WSW #1 (Eastern)	8'	9/10/2014	In-Situ	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0	<10.0	<16.0
ESW #1 (Eastern)	8'	9/10/2014	In-Situ	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0	<10.0	64.0
SSW #1 (Eestern)	8'	9/10/2014	In-Situ	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0	<10.0	416
SSW #2 (Eastern)	8'	9/10/2014	In-Situ	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0	<10.0	528
TT-3b @ 18'	18'	9/15/2014	In-Situ	<1.00	2.49	3.46	14.7	20.6	11,80	5,140	439	6,759	144
TT-3b @ 24'	24'	9/15/2014	In-Situ	<0.200	0.495	0.737	3.89	5.12	272	2,240	374	2,886	896
SB-3 @ 25'	25'	1/12/2015	In-Situ	<1.00	3.79	5.38	21.8	31.0	1,560	10,200	1,420	11,680	<16.0
SB-3 @ 35'	35'	1/12/2015	In-Situ	-	-	-	-	-	27.8	601	99.3	728	<16.0
SB-3 @ 45'	45'	1/12/2015	In-Situ	-	-	-	-	-	15.6	465	69.1	550	<16.0
SB-3 @ 50'	50'	1/12/2015	In-Situ	-	-	-	-	-	<10.0	26.7	<10.0	26.7	<16.0
SB-3 @ 55'	55'	1/12/2015	In-Situ		-	-	-	-	<10.0	<10.0	<10.0	<10.0	<16.0
NMOCD Criteria				10				50				5,000	1,000

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

District | 1625 N. French Dr. Hobbs, NM 88240 District II 811 S, First St., Artesia, NM 88210 District III 1,000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S., St., Francis Dr., Santa Fc. NM 87505

State of New Mexico Energy Minerals and Natural Resources

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

HOBBS OCD

MAY 1 9 2014

Form C-141 Revised August 8, 2011

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

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Photograph of the Initial Primary Release at the QPQASU #10 Flow Line Remediation Site.



Photograph of the Initial Primary Release at the QPQASU #10 Flow Line Remediation Site.



Photograph of excavation activities related to the Primary Release at the QPQASU #10 Flow Line Remediation Site.



Photograph of excavation activities related to the Primary Release at the QPQASU #10 Flow Line Remediation Site.



Photograph of the advancement of delineation trench in the Primary Release excavation at the QPQASU #10 Remediation Site.



Photograph of the installation of an NMOCD-approved liner in the Primary Release excavation at the QPQASU #10 Remediation Site.



Photograph of backfilling activities related to the Primary Release at the QPQASU #10 Flow Line Remediation Site.



Photograph of the Primary Release Site after backfilling and seeding at the QPQASU #10 Flow Line Remediation Site.



Photograph of the Initial Western Release at the QPQASU #10 Flow Line Remediation Site.



Photograph of the Initial Western Release at the QPQASU #10 Flow Line Remediation Site.



Photograph of excavation activities related to the Western Release at the QPQASU #10 Flow Line Remediation Site.



Photograph of excavation activities related to the Western Release at the QPQASU #10 Flow Line Remediation Site.



Photograph of the advancement of delineation trench in the Western Release excavation at the QPQASU #10 Remediation Site.



Photograph of the installation of an NMOCD-approved liner in the Western Release excavation at the QPQASU #10 Remediation Site.



Photograph of backfilling activities related to the Western Release at the QPQASU #10 Flow Line Remediation Site.



Photograph of the Western Release Site after backfilling and seeding at the QPQASU #10 Flow Line Remediation Site.



Photograph of the Initial Eastern Release at the QPQASU #10 Flow Line Remediation Site.



Photograph of the Initial Eastern Release at the QPQASU #10 Flow Line Remediation Site.



Photograph of excavation activities related to the Eastern Release at the QPQASU #10 Flow Line Remediation Site.



Photograph of excavation activities related to the Eastern Release at the QPQASU #10 Flow Line Remediation Site.



Photograph of the advancement of delineation trench in the Eastern Release excavation at the QPQASU #10 Remediation Site.



Photograph of the installation of an NMOCD-approved liner in the Eastern Release excavation at the QPQASU #10 Remediation Site.



Photograph of the installation of 8" PVC casing conduits at the QPQASU #10 Flow Line Remediation Site.



Photograph of backfilling activities related to the Eastern Release at the QPQASU #10 Flow Line Remediation Site.

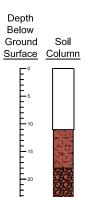


Photograph of soil boring activities at the QPQASU #10 Flow Line Remediation Site.



Photograph of the advancement of environmental soil bores at the QPQASU #10 Flow Line Remediation Site.

## Soil Boring SB-1



### Soil Description

0' - 11' - Open - 8" PVC Conduit

Date Drilled January 12, 2015 Thickness of Bentonite Seal 78 Ft Depth of Exploratory Boring 80 Ft bgs Depth to Groundwater \_\_\_\_N/A Ground Water Elevation N/A

11' - 18' - Red Fine Sand

■ Indicates the PSH level measured on N/A
■ Indicates the groundwater level measured on N/A

18' - 28' - Red Fine Sand - P Gravel

28' - 30' - Tan Fine Sand - Cement Sandstone

30' - 37' - Tan Silty Sand - Sandstone

37' - 46' - P Gravel

46' - 62' - Dark Tan Very Fine Sand - Cement -

62' - 80' - Light Tan Fine Sand - Gravel

### Completion Notes

- The soil boring was advanced on date using air rotary drilling techniques.
- The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

Basin Environmental Service Technologies, LLC 3100 Plains Hwy.

Eovington, r	00200
Prep By: JWL	Checked By: BJA
February 2, 2015	

**Soil Boring SB-1** 

Mewbourne OII Company QPQASU #10 Flow Line Lea County, New Mexico

## Soil Boring SB-3



### Soil Description

0' - 12' - Open - 8" PVC Conduit

 Date Drilled
 January 12, 2015

 Thickness of Bentonite Seal
 58 Ft

 Depth of Exploratory Boring
 60 Ft bgs

 Depth to Groundwater
 N/A

 Ground Water Elevation
 N/A

12' - 21' - Brown Sandy Clay

Indicates the PSH level measured on N/A Indicates the groundwater level measured on \_\_\_\_\_N/A

21' - 29' - Brown Fine Sand - Gravel Cement

29' - 47' - Tan Very Fine Sand - Sandstone

47' - 60' - Red Very Fine Sand - Cement Sandstone

#### Completion Notes

- The soil boring was advanced on date using air rotary drilling techniques.
   The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

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

Prep By: JWL	Checked By: BJA	_
February 2, 2015		_

Mewbourne Oil Company QPQASU #10 Flow Line Lea County, New Mexico



June 05, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: QPQASU #10

Enclosed are the results of analyses for samples received by the laboratory on 05/29/14 11:30.

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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> 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.

Celey D. Keens

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: 05/29/2014 Reported: 06/05/2014

Project Name: QPQASU #10
Project Number: NONE GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 05/28/2014

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

### Sample ID: TT-1 @ 2' (H401648-01)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	992	16.0	06/04/2014	ND	400	100	400	3.92	
TPH 8015M	mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	3610	200	06/03/2014	ND	214	107	200	5.51	
DRO >C10-C28	32100	200	06/03/2014	ND	226	113	200	7.38	
EXT DRO >C28-C35	6400	200	06/03/2014	ND					
Surrogate: 1-Chlorooctane	229	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	602	% 63.6-15	4						

#### Sample ID: TT-1 @ 6' (H401648-02)

Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	12400	16.0	06/04/2014	ND	400	100	400	3.92	
TPH 8015M	mg/	'kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	8450	200	06/03/2014	ND	214	107	200	5.51	
DRO >C10-C28	53000	200	06/03/2014	ND	226	113	200	7.38	
EXT DRO >C28-C35	9920	200	06/03/2014	ND					
Surrogate: 1-Chlorooctane	443 9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	984 9	% 63.6-15	4						

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keine



Basin Environmental Service JOEL LOWRY P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 05/29/2014 Sampling Date: 05/28/2014 Reported: Soil

06/05/2014 Sampling Type: Project Name: QPQASU #10 Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Jodi Henson

Project Location: LEA COUNTY, NM

### Sample ID: TT-1 @ 10' (H401648-03)

BTEX 8021B	mg	/L	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	8.18	5.00	06/05/2014	ND	1.98	98.9	2.00	1.28	
Toluene*	38.9	10.0	06/05/2014	ND	2.15	108	2.00	3.58	
Ethylbenzene*	32.4	10.0	06/05/2014	ND	1.94	97.0	2.00	2.80	
Total Xylenes*	95.9	30.0	06/05/2014	ND	6.09	101	6.00	4.91	
Total BTEX	175	55.0	06/05/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	105	% 89.5-12	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	10500	16.0	06/04/2014	ND	400	100	400	3.92	
TPH 8015M	mg	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	9170	200	06/03/2014	ND	214	107	200	5.51	
DRO >C10-C28	34000	200	06/03/2014	ND	226	113	200	7.38	
EXT DRO >C28-C35	6760	200	06/03/2014	ND					
Surrogate: 1-Chlorooctane	328	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	683	% 63.6-15	4						

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Basin Environmental Service JOEL LOWRY P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 05/29/2014 Sampling Date: 05/28/2014

Reported: 06/05/2014 Sampling Type: Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Jodi Henson

Project Location: LEA COUNTY, NM

### Sample ID: TT-1 @ 14' (H401648-04)

BTEX 8021B	mg	/L	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	6.15	5.00	06/05/2014	ND	1.98	98.9	2.00	1.28	
Toluene*	31.7	5.00	06/05/2014	ND	2.15	108	2.00	3.58	
Ethylbenzene*	32.7	5.00	06/05/2014	ND	1.94	97.0	2.00	2.80	
Total Xylenes*	95.8	15.0	06/05/2014	ND	6.09	101	6.00	4.91	
Total BTEX	166	30.0	06/05/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	113	% 89.5-12	6						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5600	16.0	06/04/2014	ND	400	100	400	3.92	
TPH 8015M	mg	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	8300	200	06/03/2014	ND	214	107	200	5.51	
DRO >C10-C28	23100	200	06/03/2014	ND	226	113	200	7.38	
EXT DRO >C28-C35	4690	200	06/03/2014	ND					
Surrogate: 1-Chlorooctane	248	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	419	% 63.6-15	4						

Surrogate: 1-Chlorooctadecane

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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:
 06/05/2014
 Sampling Type:
 Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: LEA COUNTY, NM

### Sample ID: TT-2 @ 2' (H401648-05)

Chloride, SM4500CI-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	06/04/2014	ND	400	100	400	3.92	
TPH 8015M	mg/kg		Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	751	200	06/03/2014	ND	187	93.4	200	0.381	
DRO >C10-C28	23400	200	06/03/2014 ND 205			103	200	1.81	
EXT DRO >C28-C35	5960	200	06/03/2014	ND					
Surrogate: 1-Chlorooctane	161	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	492	% 63.6-15	4						

### Sample ID: TT-2 @ 6' (H401648-06)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	06/04/2014	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	605	200	06/03/2014	ND	187	93.4	200	0.381	
DRO >C10-C28	8050	200	06/03/2014	ND ND	205	103	200	1.81	
EXT DRO >C28-C35	2050	200	06/03/2014	ND					
Surrogate: 1-Chlorooctane	137	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	178	% 63.6-15	4						

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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:
 06/05/2014
 Sampling Type:
 Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: LEA COUNTY, NM

### Sample ID: TT-2 @ 10' (H401648-07)

BTEX 8021B	mg,	/L	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	06/05/2014	ND	1.98	98.9	2.00	1.28	
Toluene*	<0.200	0.200	06/05/2014	ND	2.15	108	2.00	3.58	
Ethylbenzene*	2.32	0.200	06/05/2014	ND	1.94	97.0	2.00	2.80	
Total Xylenes*	4.93	0.600	06/05/2014	ND	6.09	101	6.00	4.91	
Total BTEX	7.25	1.20	06/05/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.6	% 89.5-12	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	912	16.0	06/04/2014	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	297	100	06/03/2014	ND	187	93.4	200	0.381	
DRO >C10-C28	5370	100	06/03/2014	ND	205	103	200	1.81	
EXT DRO >C28-C35	1240	100	06/03/2014	ND					
Surrogate: 1-Chlorooctane	129	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	179	% 63.6-15	4						

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LEA COUNTY, NM

### **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: 06/05/2014 Sampling Type: Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Sample ID: TT-2 @ 14' (H401648-08)

Project Location:

BTEX 8021B	mg	/L	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<1.00	1.00	06/05/2014	ND	1.98	98.9	2.00	1.28	
Toluene*	<1.00	1.00	06/05/2014	ND	2.15	108	2.00	3.58	
Ethylbenzene*	2.10	1.00	06/05/2014	ND	1.94	97.0	2.00	2.80	
Total Xylenes*	5.87	3.00	06/05/2014	ND	6.09	101	6.00	4.91	
Total BTEX	7.97	6.00	06/05/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	118	% 89.5-12	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	9860	16.0	06/04/2014	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	618	100	06/03/2014	ND	187	93.4	200	0.381	
DRO >C10-C28	9060	100	06/03/2014	ND	205	103	200	1.81	
EXT DRO >C28-C35	2110	100	06/03/2014	ND					
Surrogate: 1-Chlorooctane	135	% 65.2-14	0						

Surrogate: 1-Chlorooctadecane 213 % 63.6-154

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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:
 06/05/2014
 Sampling Type:
 Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: LEA COUNTY, NM

### Sample ID: TT-3 @ 2' (H401648-09)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	06/04/2014	ND	416	104	400	3.77	
TPH 8015M	mg/kg		Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	297	200	06/03/2014	ND	187	93.4	200 200	0.381 1.81	
DRO >C10-C28	9290	200	06/03/2014	ND	205	103			
EXT DRO >C28-C35	2800	200	06/03/2014	ND					
Surrogate: 1-Chlorooctane	100	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	228	% 63.6-15	4						

### Sample ID: TT-3 @ 6' (H401648-10)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	06/04/2014	ND	416	104	400	3.77	
TPH 8015M	8015M mg/k		Analyze	d By: MS					S-06
Analyte	Result Reporting Limit		Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	1260	200	06/03/2014	ND	187	93.4	200	0.381	
DRO >C10-C28	22000	200	06/03/2014	ND	205	103	200	1.81	
EXT DRO >C28-C35	4880	200	06/03/2014	ND					
Surrogate: 1-Chlorooctane	rate: 1-Chlorooctane 175 % 65.2-1		0						
Surrogate: 1-Chlorooctadecane	455	% 63.6-15	4						

Cardinal Laboratories \*=Accredited Analyte

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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:
 05/29/2014
 Sampling Date:
 05/27/2014

 Reported:
 06/05/2014
 Sampling Type:
 Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Analyzed By: MC

Project Location: LEA COUNTY, NM

### Sample ID: TT-3 @ 10' (H401648-11)

RTFY 8021R

BIEX 8021B	mg,	<sup>'</sup> L	Analyze	а ву: м5					5-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	06/05/2014	ND	1.98	98.9	2.00	1.28	
Toluene*	0.193	0.100	06/05/2014	ND	2.15	108	2.00	3.58	
Ethylbenzene*	0.632	0.100	06/05/2014	ND	1.94	97.0	2.00	2.80	
Total Xylenes*	es* 2.29		06/05/2014	ND	6.09	101	6.00	4.91	
Total BTEX	3.11	0.600	06/05/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	140	% 89.5-12	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	5120	16.0	06/04/2014	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	227	50.0	06/03/2014	ND	187	93.4	200	0.381	
DRO >C10-C28	2230	50.0	06/03/2014	ND	205	103	200	1.81	
EXT DRO >C28-C35	519	50.0	06/03/2014	ND					
Surrogate: 1-Chlorooctane	211 9	% 65.2-14	0						

Surrogate: 1-Chlorooctadecane 233 % 63.6-154

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager

S-04

05/27/2014



### 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:

Reported:06/05/2014Sampling Type:SoilProject Name:QPQASU #10Sampling Condition:Cool & IntactProject Number:NONE GIVENSample Received By:Jodi Henson

Project Location: LEA COUNTY, NM

### Sample ID: TT-3 @ 14' (H401648-12)

BTEX 8021B	mg,	/L	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	4.49	2.50	06/05/2014	ND	1.98	98.9	2.00	1.28	
Toluene*	28.8	5.00	06/05/2014	ND	2.15	108	2.00	3.58	
Ethylbenzene*	27.1	5.00	06/05/2014	ND	1.94	97.0	2.00	2.80	
Total Xylenes*	80.9	15.0	06/05/2014	ND	6.09	101	6.00	4.91	
Total BTEX	141	27.5	06/05/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	116 9	% 89.5-12	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	144	16.0	06/04/2014	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	6310	100	06/03/2014	ND	187	93.4	200	0.381	
DRO >C10-C28	21500	100	06/03/2014	ND	205	103	200	1.81	
EXT DRO >C28-C35	4410	100	06/03/2014	ND					
Surrogate: 1-Chlorooctane	376	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	433	% 63.6-15	4						

Cardinal Laboratories \*=Accredited Analyte

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### **Notes and Definitions**

S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.

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

Cardinal Laboratories \*=Accredited Analyte

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### ARDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

	(575) 393-2326 FAX (575) 393-2	4/0	200	LLC				1			BIL	L TO					-	ANALYS	SIS R	EQUES	ST		
company Name:	Basin Environmental Service Tech	lologi	es, 1	LLO				P	0. #	-	babbo												
roject Manager:	Joel Lowry							$\vdash$				Mewbourn	e Oil Co	1			-						- 1
Address: P.O. B	ox 301		0.0	226	0				omp	Jan		Zack Thoma											
City: Lovington	State: NM			320	U				ttn:														
Phone #: (575)3	96-2378 <b>Fax #:</b> (575)	96-14	129					I <sup>A</sup>	ddre	ess	:	PO Box 5	270				_						
Project #:	Project Own	er:						-	ity:			Hobbs		1	ı €	<u>@</u>	TPH						
Project Name:	QPQASU #10							S	tate	: 1	MM	Zip: 8	88241	ig	151	051	FOR '						
Project Location:	Lea Co., NM							Р	hon	e #	:	575-393-	5905	Chloride	TPH (8015M)	BTEX (8021B)	7						
	SOEL LOWRY							F	ax#					5	핕	E	НОГР						
FOR LAB USE ONLY		T	Г		N	ATF	RIX		PF	RES	ERV.	SAMPLII	NG	1	-		Ĭ						
Lab I.D.	Sample I.D.	G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	NASTEWATER	SOIL	OIL	SLUDGE	OTHER:		OTHER:	DATE	TIME										
H4D1648	TT-1 @ 2'	g	1	Ť		х			Т		x	5/28/14	1350	х	х		_		_	+	-	$\vdash$	$\vdash$
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3	TT-1 @ 10'	g	١.			х				1	x	5/28/14	1410	х	X	Х	-	$\vdash$	_	+	+-	$\vdash$	$\vdash$
4	TT-1 @ 14'	g	Ι.			х				1	x	5/28/14	1420	х	X	X	-	+-+	-	_	+-	$\vdash$	
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•	illalyses. All claims are an agreement	tal damages including W	ithout limitation, business interruptions, loss of doc, or loss	Albanasian				
	service. In no event shall Cardinal be liable for incidental or consequent	on ions hereunder by Caro	dinal, regardless of whether such claim is based upon any of the above stated	reasons or otherwise.	☐ Yes	□ No	Add'l Phone #:	
1	affiliates or successors arising out of or related to the performance of s	Date:	ithout limitation, business interruptions, loss of ado, in digital dinal, regardless of whether such claim is based upon any of the above stated <b>Received By:</b>	Phone Result:	☐ Yes	□ No	Add'I Fax #:	
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ı	O . n	5/29/14	11/1/1	REMARKS:				
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ı	July Jours	8:00						
ł	Relinquished By:	Date;	Received By:	1				
۱	Reilliquisited by.	11.30	101 Marsh Bu	Please e	mail resu	Its to pm	@basinenv.com,	
۱		Time:	(V)a, novue	& zthoma	as@Mew	bourne.c	om	
١	DK Blackwork	11.30	Well Stores		4069			
ı	15 (Circle One)	1100	Sample Condition CHECKED BY:					
١	Delivered By: (Circle One)		Cool Intact (Initials)					
١		-1	Tives Tives					
1	Sampler - UPS - Bus - Other:		□ No □ No					
1			110 110			F 202 247	76	

FORM-006 Revision 1.0 † 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 Company Name: Basin Environmental Service Technolog Project Manager: Joel Lowry

	(575) 393-2326 FAX (5/5) 393-24/6	24/6	8-44-0-200000000000000000000000000000000					ANAI YSIS REQUEST	
Company Name:	Basin Environmental Service Technologies, LLC	nnologies, LLC	1000	DIET 10	Ť		4		
Project Manager:	Joel Lowry		7.0.#:		_				
Address: P.O. Box 301	ox 301		Company:	Mewbourne Oil Co.	_				_
City: Lovington	State: NM	<b>Zip</b> : 88260	Attn: Z	Zack Thomas					
0	)6-2378 <b>Fax #</b> : (575)396-1429	)396-1429	Address:	PO Box 5270					
	Project Owner:	ner:	City:	Hobbs		1)	_	PH	
me.	OPOASU #10		State: NM Z	<b>Zip:</b> 88241	de	15N	021	RT	
5	Lea Co NM		Phone #:	575-393-5905	lor	(80	_	FC	
- Name of	DEL LOUIS		Fax #:		Cł	PH	_		
Sampler Name: 2	Sec 10mled	MATRIX	PRESERV.	SAMPLING		Т	_	10	
Lab I.D.	Sample I.D.	G)RAB OR (C)OMP. CONTAINERS GROUNDWATER VASTEWATER GOIL	SLUDGE  OTHER: ACID/BASE: CE / COOL  OTHER:	DATE TIME					
Shall aby		# G V S S	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	5/27/14 1110	×	×			
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۸_	TT-2 @ 14'		×	5/27/14 1140	×	×	×		
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Yes I Yes
No No Sample Condition CHECKED BY: Fax Result: REMARKS: Phone Result: Please email results to pm@basinenv.com, & zthomas@Mewbourne.com ☐ Yes ON O Add'I Fax #: Add'l Phone #:

FORM-006 Revision 1.0

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

### ARDINAL LABORATORIES

1	101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476	ANALYSIS REQUI
	Technologies, LLC	BILL TO ANALISIS NEWS
Company Name:	Company Name: Basin Environmental Service Lechnologies, LLC	2
Project Manager: Joel Lowry	Joel Lowry	P.O. #:
Linger manager.		
Address: P.O. Box 301	ox 301	Company: Mewbourne Oil Co.
	State: NIM 7in: 88260	Attn: Zack Thomas

	(575) 393-2326 FAX (575) 393-2476	476		18181818181818181818181818181818181818			١		V010	DEOLIEST	TOT	
Company Name:	Basin Environmental Service Technologies, LLC	nologies, LLC	BILL TO	0		+	+	ANA	ANALISIS	75	15	-
Project Manager:	Joel Lowry		P.O. #:				_					
Address: P.O. Box 301	» 301		Company: Mew	Mewbourne Oil Co.			>.					
9	State: NM	<b>Zip</b> : 88260	Attn: Zack	Zack Thomas		_	_					
e #	)6-2378 Fax #: (575)396-1429	396-1429	Address: PO	PO Box 5270								
	Project Owner:	97.	City: Ho	Hobbs								
ame:	QPQASU #10		State: NM Zip:	88241		)15N	021 DR 1					
Project Location:	Lea Co., NM		Phone #: 575	575-393-5905	nlor							
	1 - 4		Fax #:		_	_	_				_	
۱,	>OEC lower	MATRIX	ESERV.	SAMPLING		_		-				
Lab I.D.	Sample I.D.	G)RAB OR (C)OMP. CONTAINERS GROUNDWATER VASTEWATER GOIL	SLUDGE  OTHER:  ACID/BASE:  CE / COOL  OTHER:	DATE TIME								
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PLEASE NOTE: Liability and D	PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or fort, shall be limited to the amount paid by the client for the pLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or fort, shall be limited to the amount paid by the client for the pLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or fort, shall be limited to the amount paid by the client for the pLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or fort, shall be limited to the amount paid by the client for the pLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or fort, shall be limited to the amount paid by the client for the pLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or fort, shall be limited to the amount paid by the client for the pLEASE NOTE.	any claim arising whether based in contra e deemed waived unless made in writing a	and received by Cardinal within 30 de	unt paid by the client for ays after completion of the	the e applicable ies,							
service. In no event shall Card	service. In no event shall Cardinal be liable for incidental or consequental damages including without immand, vocational control of the above stated reasons or otherwise.  Affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.  Phone Res	y Cardinal, regardless of whether such clair	im is based upon any of the above st	Phone Result:	esult:	□ Yes		No Add	Add'l Phone #:	#		
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† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476 Cool Intact
Ves Ves
No No

Revision 1.0 FORM-006 Sampler - UPS - Bus - Other:

Delivered By:

(Circle One)

Time; 1:30

Sample Condition

CHECKED BY:

Please email results to pm@basinenv.com, & zthomas@Mewbourne.com



July 09, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: QPQASU #10

Enclosed are the results of analyses for samples received by the laboratory on 07/08/14 11:20.

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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> 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.

Celey D. Keens

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: 07/08/2014

Reported: 07/09/2014
Project Name: QPQASU #10
Project Number: NONE GIVEN

EDDY COUNTY, NM

Sampling Date: 07/07/2014

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: TT-2B @ 15' (H402062-01)

Project Location:

BTEX 8021B	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	3.59	2.00	07/08/2014	ND	1.85	92.6	2.00	7.12	
Toluene*	21.4	2.00	07/08/2014	ND	1.94	97.2	2.00	7.57	
Ethylbenzene*	20.9	2.00	07/08/2014	ND	1.72	86.2	2.00	8.12	
Total Xylenes*	57.9	6.00	07/08/2014	ND	5.35	89.2	6.00	7.60	
Total BTEX	104	12.0	07/08/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	125	% 89.4-12	6						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6160	16.0	07/08/2014	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	2290	200	07/08/2014	ND	181	90.4	200	3.59	
DRO >C10-C28	5860	200	07/08/2014	ND	207	103	200	4.68	
EXT DRO >C28-C35	879	200	07/08/2014	ND					
Surrogate: 1-Chlorooctane	177	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	192	% 63.6-15	4						

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Celey D. Keine

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: 07/08/2014 Sampling Date: 07/07/2014

Reported: 07/09/2014 Sampling Type: Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Jodi Henson

Project Location: EDDY COUNTY, NM

### Sample ID: TT-2B @ 20' (H402062-02)

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	07/08/2014	ND	1.85	92.6	2.00	7.12	
Toluene*	<0.050	0.050	07/08/2014	ND	1.94	97.2	2.00	7.57	
Ethylbenzene*	<0.050	0.050	07/08/2014	ND	1.72	86.2	2.00	8.12	
Total Xylenes*	<0.150	0.150	07/08/2014	ND	5.35	89.2	6.00	7.60	
Total BTEX	<0.300	0.300	07/08/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	108	% 89.4-12	6						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2440	16.0	07/08/2014	ND	416	104	400	0.00	
TPH 8015M	mg,	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	12.2	10.0	07/08/2014	ND	181	90.4	200	3.59	
DRO >C10-C28	108	10.0	07/08/2014	ND	207	103	200	4.68	
EXT DRO >C28-C35	17.0	10.0	07/08/2014	ND					
Surrogate: 1-Chlorooctane	128 :	% 65.2-14	0						
Surrogate: 1-Chlorocetadecane	140	0/ 63 6 15	. 1						

149 % Surrogate: 1-Chlorooctadecane 63.6-154

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



### **Notes and Definitions**

S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or

matrix interference's.

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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### ARDINAL LABORATORIES 101 Fast Marland, Hobbs, NM 88240

-	(575) 393-2326 FAX (575) 393-2476		ANALYSIS REQUEST
Company Name:	Company Name: Basin Environmental Service Technologies, LLC		
Project Manager: Joel Lowry	Joel Lowry	P.O. #:	
Floject manager.			
Address: P.O. Box 301		Company: Mewbourne Oil Co	
	St. L. NIM 7:5: 88260	Ath: Zack Thomas	

1	Rasin Environmental Service Technologies, LLC	nologi	es, LLC			BILL	70					١.	ANALTOIO	1010	120	VE WOLO		1
	loel l owny				P.O. #:	#											_	
DO Boy	301				Com	Company:	Mewbourne Oil Co	Oil Co										
City: Lovington	State: NM	Zip:	<b>Z</b> ip: 88260		Attn:		Zack Thomas											
0	2378 <b>Fax #</b> : (575)396-1429	396-14	129		Address:	ess:												
		er:			City:					1)	B)	PH						
me.	QPQASU #10 Flowline				State:		Zip:		de	15N	)21	RT	н					
Project Name: x				×	B	#:			ori	80	(80	•о	JS			_	_	
Project Location:	Eddy Co., NM				11016 #	7.			hlo	H (8	X	D F	RI				_	
Sampler Name:					Fax #:	*	CAMBI INC		С	TPI	ЗТЕ	OL						
FOR LAB USE ONLY		,		MATRIX	7	PKEUEKY.	OMINI LIMO				E	Н						
Lab I.D.	Sample I.D.	G)RAB OR (C)OMF	CONTAINERS BROUNDWATER	VASTEWATER SOIL DIL SLUDGE	OTHER:	ACID/BASE: CE / COOL OTHER :	DATE	TIME	X-									
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Relinquished By: Relinquished Sampler - UPS - Bus - Other: Delivered By: (Circle One) Time: Received By: Cool Intact
Wes Wes Sample Condition CHECKED BY (Initials) Phone Result: Fax Result: REMARKS: Please email results to pm@basinenv.com, <a href="mailto:zthomas@mewbourne.com">zthomas@mewbourne.com</a> ☐ Yes 0 0 8 8 Add'l Phone #: Add'l Fax #:

Revision 1.0 FORM-006



July 15, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: QPQASU #10

Enclosed are the results of analyses for samples received by the laboratory on 07/09/14 10:41.

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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> 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.

Celey D. Keens

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: 07/09/2014

Reported: 07/15/2014
Project Name: QPQASU #10
Project Number: NONE GIVEN

Project Location: EDDY COUNTY, NM

Sampling Date: 07/08/2014

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Celey D. Keene

### Sample ID: NSW #1 (PRIMARY) (H402082-01)

BTEX 8021B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/11/2014	ND	1.89	94.3	2.00	21.5	
Toluene*	<0.050	0.050	07/11/2014	ND	1.89	94.7	2.00	21.9	
Ethylbenzene*	<0.050	0.050	07/11/2014	ND	1.88	93.8	2.00	22.4	
Total Xylenes*	<0.150	0.150	07/11/2014	ND	5.76	96.0	6.00	20.7	
Total BTEX	<0.300	0.300	07/11/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	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	<16.0	16.0	07/11/2014	ND	400	100	400	7.69	
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	07/11/2014	ND	184	92.0	200	1.00	
DRO >C10-C28	<10.0	10.0	07/11/2014	ND	198	99.0	200	0.155	
EXT DRO >C28-C35	<10.0	10.0	07/11/2014	ND					
Surrogate: 1-Chlorooctane	89.1	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	90.8	% 63.6-15	4						

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 whistoever 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 related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Basin Environmental Service JOEL LOWRY P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 07/09/2014 Sampling Date: 07/08/2014

Reported: 07/15/2014 Sampling Type: Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Celey D. Keene

Project Location: EDDY COUNTY, NM

### Sample ID: WSW #1 (PRIMARY) (H402082-02)

BTEX 8021B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/11/2014	ND	1.89	94.3	2.00	21.5	
Toluene*	<0.050	0.050	07/11/2014	ND	1.89	94.7	2.00	21.9	
Ethylbenzene*	<0.050	0.050	07/11/2014	ND	1.88	93.8	2.00	22.4	
Total Xylenes*	<0.150	0.150	07/11/2014	ND	5.76	96.0	6.00	20.7	
Total BTEX	<0.300	0.300	07/11/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	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	<16.0	16.0	07/11/2014	ND	400	100	400	7.69	
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	07/11/2014	ND	184	92.0	200	1.00	
DRO >C10-C28	<10.0	10.0	07/11/2014	ND	198	99.0	200	0.155	
EXT DRO >C28-C35	<10.0	10.0	07/11/2014	ND					
Surrogate: 1-Chlorooctane	92.4	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	93.8	% 63.6-15	4						

Cardinal Laboratories \*=Accredited Analyte

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Basin Environmental Service JOEL LOWRY

P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 07/09/2014 Sampling Date: 07/08/2014

Reported: 07/15/2014 Sampling Type: Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Celey D. Keene

Project Location: EDDY COUNTY, NM

### Sample ID: SSW #1 (PRIMARY) (H402082-03)

BTEX 8021B	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/11/2014	ND	1.58	79.0	2.00	17.6	
Toluene*	<0.050	0.050	07/11/2014	ND	1.58	79.0	2.00	17.8	
Ethylbenzene*	<0.050	0.050	07/11/2014	ND	1.58	79.1	2.00	18.4	
Total Xylenes*	<0.150	0.150	07/11/2014	ND	4.80	80.0	6.00	18.2	
Total BTEX	<0.300	0.300	07/11/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	101	% 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	48.0	16.0	07/15/2014	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	07/11/2014	ND	184	92.0	200	1.00	
DRO >C10-C28	<10.0	10.0	07/11/2014	ND	198	99.0	200	0.155	
EXT DRO >C28-C35	<10.0	10.0	07/11/2014	ND					
Surrogate: 1-Chlorooctane	91.8	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	94.2	% 63.6-15	4						

Cardinal Laboratories \*=Accredited Analyte

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Basin Environmental Service JOEL LOWRY

P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 07/09/2014 Sampling Date: 07/08/2014

Reported: 07/15/2014 Sampling Type: Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Celey D. Keene

Project Location: EDDY COUNTY, NM

### Sample ID: FLOOR #1 (PRIMARY) (H402082-04)

BTEX 8021B	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/11/2014	ND	1.58	79.0	2.00	17.6	
Toluene*	<0.050	0.050	07/11/2014	ND	1.58	79.0	2.00	17.8	
Ethylbenzene*	<0.050	0.050	07/11/2014	ND	1.58	79.1	2.00	18.4	
Total Xylenes*	<0.150	0.150	07/11/2014	ND	4.80	80.0	6.00	18.2	
Total BTEX	<0.300	0.300	07/11/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	101	% 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	96.0	16.0	07/15/2014	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	07/11/2014	ND	184	92.0	200	1.00	
DRO >C10-C28	24.1	10.0	07/11/2014	ND	198	99.0	200	0.155	
EXT DRO >C28-C35	<10.0	10.0	07/11/2014	ND					
Surrogate: 1-Chlorooctane	96.2	% 65.2-14	0						
Commenter 1 Chlores et al.	104	0/ 62 6 15	.,						

Surrogate: 1-Chlorooctadecane 104 % 63.6-154

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keene

Sample Received By:



### Analytical Results For:

Basin Environmental Service JOEL LOWRY

P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 07/09/2014 Sampling Date: 07/08/2014

Reported: 07/15/2014 Sampling Type: Soil Project Name: QPQASU #10 Sampling Condition: Cool & Intact

Project Location: EDDY COUNTY, NM

NONE GIVEN

Project Number:

### Sample ID: TEST FLOOR A (PRIMARY) (H402082-05)

BTEX 8021B	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.500	0.500	07/11/2014	ND	1.58	79.0	2.00	17.6	
Toluene*	<0.500	0.500	07/11/2014	ND	1.58	79.0	2.00	17.8	
Ethylbenzene*	1.99	0.500	07/11/2014	ND	1.58	79.1	2.00	18.4	
Total Xylenes*	5.10	1.50	07/11/2014	ND	4.80	80.0	6.00	18.2	
Total BTEX	7.09	3.00	07/11/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	126	% 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	192	16.0	07/15/2014	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	434	100	07/11/2014	ND	184	92.0	200	1.00	
DRO >C10-C28	3320	100	07/11/2014	ND	198	99.0	200	0.155	
EXT DRO >C28-C35	459	100	07/11/2014	ND					
Surrogate: 1-Chlorooctane	120	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	146	% 63.6-15	4						

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.



### **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

Cardinal Laboratories \*=Accredited Analyte

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Page 8 of 8

## ARDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240

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

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Project Manager:	Joel Lowry				P.O. #				Ť	٦	٦					75.00.00	19	1	1	
Address: P.O. Box 301	(301				Company:	N.	Mewbourne Oil Co	Oil Co	_											
City: Lovington	State: NM	Zip	88	<b>Zip</b> : 88260	Attn:		Zack Thomas	2				×								
Phone #: (575)396-2378	-2378 <b>Fax #</b> : (575)396-1429	96-1	429		Address:	S	PO Box 5270	770												
Project #:	Project Owner:				City:		Hobbs					ı								
Project Name: QP	QPQASU #10 Flowline				State:		7in. 85	883/11	,	M)	1B)	TPH								
Project Location:	Eddy Co., NM							1470	ide	15	021	R	н							
r roject Location.	Eddy Co., Nivi				Phone #:	#	575-393-5905	905	ori	801	(80	OF	JSF							
Sampler Name: 30	oel lower				Fax #:				Chle	H (8	EX (	D F	RU							
FOR LAB USE ONLY	- 1	1	]	L					C	Pŀ	ΓΕ	LI								
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Lab I.D.	Sample I.D.	S)RAB OR (C)OM	CONTAINERS	ROUNDWATER ASTEWATER OIL IL LUDGE	THER:	E / COOL THER :	1/8/14				2						,			
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20	Test Floor A (Primary)	9	_	×			7/9/14	1140	×	×	×						T			
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LEASE NOTE: Liability and Damage	PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in confract or bot, shall be limited to the amount and but the client for the	claim an	ising wh	hether based in contract or tor	shall be lin	Par I	amount paid by the	oliont for the	L	L	L	L	L	L	L					
envice. In no event shall Cardinal be	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 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including within hyperses information.	emed wa	ived ur	nless made in writing and rece	ived by Card	dinal within	n 30 days after comp	letion of the a	pplicable											

Sampler - UPS - Bus - Other: Rélinquished By: Delivered By: (Circle One) and Xon Time: Time: Received By: Sample Condition
Cool Intact
Tyes Tyes
No No CHECKED BY: (Initials) Fax Result: REMARKS: Please email results to pm@basinenv.com, <a href="mailto:zthomas@mewbourne.com">zthomas@mewbourne.com</a>

Relinquished By:

Pate:

Phone Result:

□ Yes

O O

Add'l Phone #: Add'l Fax #:

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

Revision 1.0 FORM-006



July 24, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: QPQASU #10

Enclosed are the results of analyses for samples received by the laboratory on 07/18/14 9:30.

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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> 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.

Celey D. Keens

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: 07/18/2014 Sampling Date: 07/17/2014

Reported: 07/24/2014 Sampling Type: Soil QPQASU #10 Project Name: Sampling Condition: Cool & Intact

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

### Sample ID: WSW #1 (WESTERN) (H402192-01)

BTEX 8021B	mg/	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/23/2014	ND	2.41	120	2.00	2.72	
Toluene*	<0.050	0.050	07/23/2014	ND	2.20	110	2.00	3.49	
Ethylbenzene*	<0.050	0.050	07/23/2014	ND	2.45	122	2.00	4.14	
Total Xylenes*	<0.150	0.150	07/23/2014	ND	7.86	131	6.00	4.44	
Total BTEX	<0.300	0.300	07/23/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 9	% 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	64.0	16.0	07/22/2014	ND	432	108	400	7.69	
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	07/18/2014	ND	174	86.9	200	5.90	
DRO >C10-C28	<10.0	10.0	07/18/2014	ND	187	93.5	200	6.11	
EXT DRO >C28-C35	<10.0	10.0	07/18/2014	ND					
Surrogate: 1-Chlorooctane	108 9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	116 9	% 63.6-15	4						

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 competent 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.



Basin Environmental Service JOEL LOWRY

P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 07/18/2014 Sampling Date: 07/17/2014

Reported: 07/24/2014 Sampling Type: Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Kathy Perez

Project Location: EDDY COUNTY, NM

### Sample ID: SSW #1 (WESTERN) (H402192-02)

BTEX 8021B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/23/2014	ND	2.41	120	2.00	2.72	
Toluene*	<0.050	0.050	07/23/2014	ND	2.20	110	2.00	3.49	
Ethylbenzene*	<0.050	0.050	07/23/2014	ND	2.45	122	2.00	4.14	
Total Xylenes*	<0.150	0.150	07/23/2014	ND	7.86	131	6.00	4.44	
Total BTEX	<0.300	0.300	07/23/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	101	% 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	1220	16.0	07/22/2014	ND	432	108	400	7.69	
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	07/18/2014	ND	174	86.9	200	5.90	
DRO >C10-C28	<10.0	10.0	07/18/2014	ND	187	93.5	200	6.11	
EXT DRO >C28-C35	<10.0	10.0	07/18/2014	ND					
Surrogate: 1-Chlorooctane	112 9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	121	% 63.6-15	4						

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 competent 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.



### **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

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 whistoever 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 related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

### ARDINAL LABORATORIES

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

Company Mante.	Pasiii Eliviiolillerital Service Lechnologies, LLC	hnolog	gies,	LLC	9	BILL TO						ANAL YSIS	Ϋ́S	- 1	REQUEST	门			
Project Manager:	Joel Lowry				P.O. #:			T				7	7			15	1	1	1
Address: P.O. Box 301	» 301				Company:	Mewbourne Oil Co	e Oil Co												
0	State: NM	Zip	8	<b>Zip:</b> 88260	Attn:	Zack Thomas	S												
Phone #: (5/5)396-2378	6-2378 <b>Fax #</b> : (575)396-1429	396-1	429		Address:														
Project #:	Project Owner:	er:			City:						1								
Project Name: Q	QPQASU #10 Flowline					7in:			M)	B)	ГРН								
Project Location:	Eddy Co., NM				=	7		ide	15	02°	R	Н							
Sampler Name:					riiolie #.			loi	80	(8	FC	JS							
Cample Name:			1		Fax #:			Chl	Н (	ΕX	D I	RI				,			
FOR LAB USE ONLY				MATRIX	PRESERV.	SAMPLING	"	(	TP	ЗТЕ	OL								
		C)OMP.								E	Н								
H402192	Sample I.D.	(G)RAB OR	# CONTAINE	GROUNDWA WASTEWAT SOIL OIL SLUDGE	OTHER: ACID/BASE: ICE / COOL OTHER:	DATE	TIME										8		
) —	WSW #1 (Western)	9	1	×	×	7/17/14	220	×	×	×	1			T	T	T	T	I	
Q	SSW #1 (Western)	9	_	×	×	7/17/14	230	×	×	×									
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analyses. All claims including those service. In no event shall Cardinal b	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 30 days after completion of the applicable service. In no event shall Cardinal he lishe for in-visional control of the applicable service.	y claim ar eemed wa	ising waived u	hether based in contract or to inless made in writing and rec	t, shall be limited to the ived by Cardinal within	amount paid by the 30 days after compl	client for the letion of the app	olicable											L
The second control of	THE PARTY OF THE P						della management												

Sampler - UPS - Bus - Other:

Sample Condition
Cool Intact
Pes Yes
No No

CHECKED BY: (Initials

Please email results to pm@basinenv.com, zthomas@mewbourne.com

Revision 1.0 FORM-006 Mosty 1047h\_ Delivered By: (Circle One)

finquished By:

Received By:

Relinquished By:

Date:

Received By:

Phone Result: Fax Result: REMARKS:

□ Yes

ON O

Add'l Phone #: Add'l Fax #:



July 28, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: QPQASU #10

Enclosed are the results of analyses for samples received by the laboratory on 07/22/14 11:10.

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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> 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.

Lope S. Moreno

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,

Hope S. Moreno For 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:
 07/22/2014
 Sampling Date:
 07/21/2014

 Reported:
 07/28/2014
 Sampling Type:
 Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

### Sample ID: NSW #1 (WESTERN) (H402217-01)

BTEX 8021B	mg,	/kg	Analyze	d By: CK/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2014	ND	1.87	93.7	2.00	1.24	
Toluene*	<0.050	0.050	07/25/2014	ND	1.87	93.5	2.00	0.842	
Ethylbenzene*	<0.050	0.050	07/25/2014	ND	1.87	93.5	2.00	1.33	
Total Xylenes*	<0.150	0.150	07/25/2014	ND	5.92	98.6	6.00	2.11	
Total BTEX	<0.300	0.300	07/25/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 5	% 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	48.0	16.0	07/23/2014	ND	400	100	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/23/2014	ND	192	96.1	200	8.16	
DRO >C10-C28	<10.0	10.0	07/23/2014	ND	208	104	200	6.40	
EXT DRO >C28-C35	<10.0	10.0	07/23/2014	ND					
Surrogate: 1-Chlorooctane	123	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	135	% 63.6-15	4						

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 whistoever 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 related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Basin Environmental Service JOEL LOWRY P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 07/22/2014 Sampling Date: 07/21/2014

Reported: 07/28/2014 Sampling Type: Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

### Sample ID: NSW #2 (WESTERN) (H402217-02)

BTEX 8021B	mg/	kg	Analyze	d By: CK/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2014	ND	1.87	93.7	2.00	1.24	
Toluene*	< 0.050	0.050	07/25/2014	ND	1.87	93.5	2.00	0.842	
Ethylbenzene*	< 0.050	0.050	07/25/2014	ND	1.87	93.5	2.00	1.33	
Total Xylenes*	< 0.150	0.150	07/25/2014	ND	5.92	98.6	6.00	2.11	
Total BTEX	<0.300	0.300	07/25/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	103 %	6 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	96.0	16.0	07/23/2014	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/23/2014	ND	192	96.1	200	8.16	
DRO >C10-C28	<10.0	10.0	07/23/2014	ND	208	104	200	6.40	
EXT DRO >C28-C35	<10.0	10.0	07/23/2014	ND					
Surrogate: 1-Chlorooctane	128 %	65.2-14	0						
Surrogate: 1-Chlorooctadecane	140 %	63.6-15	4						

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Basin Environmental Service JOEL LOWRY P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

 Received:
 07/22/2014
 Sampling Date:
 07/21/2014

 Reported:
 07/28/2014
 Sampling Type:
 Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

### Sample ID: SSW #2 (WESTERN) (H402217-03)

EDDY COUNTY, NM

Project Location:

BTEX 8021B	mg,	/kg	Analyze	d By: CK/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2014	ND	1.87	93.7	2.00	1.24	
Toluene*	<0.050	0.050	07/25/2014	ND	1.87	93.5	2.00	0.842	
Ethylbenzene*	<0.050	0.050	07/25/2014	ND	1.87	93.5	2.00	1.33	
Total Xylenes*	<0.150	0.150	07/25/2014	ND	5.92	98.6	6.00	2.11	
Total BTEX	<0.300	0.300	07/25/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	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	32.0	16.0	07/23/2014	ND	400	100	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/23/2014	ND	192	96.1	200	8.16	
DRO >C10-C28	<10.0	10.0	07/23/2014	ND	208	104	200	6.40	
EXT DRO >C28-C35	<10.0	10.0	07/23/2014	ND					
Surrogate: 1-Chlorooctane	115 9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	125	% 63.6-15	4						

### Cardinal Laboratories \*=Accredited Analyte

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### **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

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 whistoever 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 related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

### ARDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476		ANALYSIS DECLECT
Company Name: Basin Environmental Service Technologies, LLC	BILL TO	ANALYSIS REQUEST
Project Manager: Joel Lowry	P.O. #:	
Address: P.O. Box 301	Company: Mewbourne Oil Co	
City: Lovington State: NM Zip: 88260	Attn: Zack Thomas	
Phone #: (575)396-2378	Address:	<i>Y</i>
Project #: Project Owner:	City:	_
Project Name: QPQASU #10 Flowline	State: Zip:	021 R T

Project Name: Q	QPQASU #10 Flowline				St	State:			Zip:		de	15N	021	R T	Н						_		
Project Location:	Eddy Co., NM				P	Phone #:	le #				lori	(80	(80	FO	RUS								_
Sampler Name: TOKY / POWER	El lower				T	Fax #:	.**				Ch	PH	ΓEX	LD	F					-			_
FOR LAB USE ONLY				MATRIX		P	PRESERV.	F	V. SAMPLING	G		T	В	нс							_		_
Lab I.D.	Sample I.D.	)RAB OR (C)OMP.	CONTAINERS	ROUNDWATER VASTEWATER OIL IL LUDGE	THER:	CID/BASE:	CE / COOL	THER:	DATE THE CONTRACT OF THE CONTR	I ME													
1177.044	NOM #1 (Mostorn)		<b>」</b> #	V × 5	_					220	×	×	×									-	
١-	NOW #1 (vvcscm)	U			+	+	-	<	7/21/14	230	×	×	×					_	_	_	_	-	
1	INOW #E (VVCSICILI)	c	-	>	+	+	+	+						1				_				-	
W	SSW #2 (Western)	9	_	×	+	+	-	×	7/21/14	240	×	×	<b> </b> ×	†	†	†	+	+	+	+	+	+	
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			7		-	_								Г	Г	H	H	$\vdash$	$\vdash$	H	H	L	L
	Continued and client's exclusive remedy for any claim arising whether based in contract or fort, shall be limited to the amount paid by the client for the	nv clain	n arisin	ng whether based in contra	ct or t	ort, st	hall be	limit	ed to the amount paid	by the client for the	he												
PLEASE NOTE: Liability and D analyses. All claims including the	PLEASE NOTE: Liability and Damages, Cardinals alculus and users exclusive unity or any service with the publicable analyses. All claims including those for negligence and any open-cross-whatsoever shall be deemed waveful excemed to writing and received by Cardinal within 30 days after completion of the applicable analyses. All claims including those for negligence and any open-cross-whatsoever shall be deemed waveful excemed within the publicable analyses. All claims including those for negligence and any open-cross-whatsoever shall be deemed waveful excemed within the publicable analyses. All claims including those for negligence and any open-cross-whatsoever shall be deemed waveful excemed within 30 days after completion of the applicable analyses. All claims including those for negligence and any open-cross-whatsoever shall be deemed waveful excemed within 30 days after completion of the applicable analyses. All claims including those for negligence and any open-cross-whatsoever shall be deemed waveful excemed within 30 days after completion of the applicable analyses. All claims including those for negligence and any open-cross-whatsoever shall be deemed waveful excemed within 30 days after completion of the applicable analyses. All claims including those for negligence and any open-cross-whatsoever shall be deemed waveful excemed within 30 days after completion of the applicable analyses.	emed	waive	d unless made in writing an	loss loss	eived of us	by Ca	ardina oss o	within 30 days after of profits incurred by clic	completion of the a	applicat s,	ë											
COLUMN TO SECURE STATE S	the podermance of seniose hereinder by Cardinal regardless of whether such claim is based upon any of the above stated reasons of circlewise.	irdinal,	regard	dless of whether such claim	is ba	sed u	pon a	ny of	the above stated reason	ons of otherwise.	١					Addit Dhone #	+	١	١				

Relinquished By: Re/inquished By SampleORMP806Bus - Other: Delivered By: (Circle One) Time: 7/22/14 Received By: Cool /intact

(I) Yes (I) Yes

(I) No (I) No Sample Condition Fax Result: REMARKS: Please email results to pm@basinenv.com, <a href="mailto:zthomas@mewbourne.com">zthomas@mewbourne.com</a> ☐ Yes □ No Add'l Phone # Add'l Fax #:

Phone Result:



July 31, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: QPQASU #10

Enclosed are the results of analyses for samples received by the laboratory on 07/24/14 11:30.

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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> 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.

Lope S. Moreno

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,

Hope S. Moreno For 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: 07/24/2014 Reported:

Project Name:

Project Number:

07/31/2014

QPQASU #10 NONE GIVEN

Project Location: EDDY COUNTY, NM Sampling Date: 07/23/2014

Sampling Type: Soil

Sampling Condition: Cool & Intact Sample Received By: Jodi Henson

### Sample ID: SSW #3 (WESTERN) (H402267-01)

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	07/27/2014	ND	1.67	83.5	2.00	2.10	
Toluene*	<0.050	0.050	07/27/2014	ND	1.63	81.4	2.00	2.39	
Ethylbenzene*	<0.050	0.050	07/27/2014	ND	1.64	81.9	2.00	2.42	
Total Xylenes*	<0.150	0.150	07/27/2014	ND	5.31	88.4	6.00	2.84	
Total BTEX	<0.300	0.300	07/27/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	104	% 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	320	16.0	07/29/2014	ND	384	96.0	400	4.08	
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	07/25/2014	ND	176	88.2	200	2.52	
DRO >C10-C28	<10.0	10.0	07/25/2014	ND	194	97.0	200	3.54	
EXT DRO >C28-C35	<10.0	10.0	07/25/2014	ND					
Surrogate: 1-Chlorooctane	119	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	133	% 63.6-15	4						

### 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.



Basin Environmental Service JOEL LOWRY P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 07/24/2014 Sampling Date: 07/23/2014

Reported: 07/31/2014 Sampling Type: Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

### Sample ID: NSW #3 (WESTERN) (H402267-02)

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	07/27/2014	ND	1.67	83.5	2.00	2.10	
Toluene*	<0.050	0.050	07/27/2014	ND	1.63	81.4	2.00	2.39	
Ethylbenzene*	<0.050	0.050	07/27/2014	ND	1.64	81.9	2.00	2.42	
Total Xylenes*	<0.150	0.150	07/27/2014	ND	5.31	88.4	6.00	2.84	
Total BTEX	<0.300	0.300	07/27/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	104 9	% 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	<16.0	16.0	07/29/2014	ND	384	96.0	400	4.08	
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	07/25/2014	ND	176	88.2	200	2.52	
DRO >C10-C28	<10.0	10.0	07/25/2014	ND	194	97.0	200	3.54	
EXT DRO >C28-C35	<10.0	10.0	07/25/2014	ND					
Surrogate: 1-Chlorooctane	118 9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	135 9	% 63.6-15	4						

Cardinal Laboratories \*=Accredited Analyte

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### **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

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 whistoever 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 related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

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

Company Name:	Basin Environmental Service Technologies, LLC	chnologies IIC											
Project Manager:			B)177.10					A	ANAL YSIS	- 1	HECT		
Address: P.O.	Вох		P.O. #:		$\perp$	$\dashv$	$\dashv$	1		- 1	אבעטבטן	-	1
City: Lovington	State: NM		Company: Mewb	Mewbourne Oil Co		7	_					_	
	(575)396-2378 Fax #: (575)396-1429	5)396-1429	Attn: Zack Thomas	omas		_							
Project #:	Project Owner:	ner:	o daless.										
Project Name:	QPQASU #10 Flowline		city:				Н						
Project Location:	Eddy Co., NM		State: Zip:				TP						
Sampler Name: Sel Louis	Spot I passes		Phone #:		orid		OR	SH					
FOR LAB USE ONLY	and compet		Fax #:				F	เบร			_		
		MATRIX	PRESERV. SAMPLING		C TPH	BTE	OLD	F					
Lab I.D. 1402267	Sample I.D.	(G)RAB OR (C)OMF # CONTAINERS GROUNDWATER WASTEWATER SOIL DIL	OTHER: CID/BASE: CE / COOL THER:		-		Н						
1-	SSW #3 (Western)	1 # V × S	× IC	TIME	+	+	$\vdash$						
1	NSW #3 (Western)	Q 1		000	×	×				_			
			^ //23/14	230	×	×							
					+++								
PLEASE NOTE:   inhibit and Da										+			
service. In no event shall Cardinal traffiliates or successors arising out o	service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business made in writing and received by Cardinal writin 30 days after completion of the applicable affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the client, its subsidiaries, Refinquished By:	rause whatsoever shall be deemed walved unless made in writing and received by Cardinal within 30 days after quential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by classifier of services hereunder by Cardinal, regardless of whether such claim is based unon any of the control of the contro	ort, shall be limited to the amount paid by served by Cardinal within 30 days after or of use, or loss of profits incurred by clients about the property of the observed by clients are of the observed by clients.	y the client for the ompletion of the applicant, its subsidiaries,	able			-	-	+	-		
Relinquished By:	Time:	Received By:	densen	Phone Result: Fax Result: REMARKS:	□ Yes		No No	Add'  Phone #: Add'  Fax #:	#: #:				
Delivered By: (Circle One)		Sample Condition		Please email results to pm@basinenv.com, zthomas@mewbourne.com	mail res @mewt	ourne	pm@b	asinen	v.com,				
Sampler - UPS - Bu	Bus - Other:	Cool mact	(Initials)										
FORM-006		ON ON ON											

Revision 1.0 FORM-006

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



July 31, 2014

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: QPQASU #10

Enclosed are the results of analyses for samples received by the laboratory on 07/30/14 15:55.

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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> 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.

Lope S. Moreno

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,

Hope S. Moreno For Celey D. Keene

Lab Director/Quality Manager



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

Fax To: (575) 396-1429

Received: 07/30/2014 Reported:

07/31/2014 QPQASU #10 Project Name: Project Number: NONE GIVEN

Project Location: EDDY COUNTY, NM Sampling Date: 07/30/2014

Sampling Type: Soil

Sampling Condition: Cool & Intact Sample Received By: Kathy Perez

### Sample ID: SSW #1B (WESTERN) (H402350-01)

BTEX 8021B	mg	/kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/31/2014	ND	1.75	87.3	2.00	2.83	
Toluene*	<0.050	0.050	07/31/2014	ND	1.78	89.1	2.00	5.77	
Ethylbenzene*	<0.050	0.050	07/31/2014	ND	1.77	88.6	2.00	4.92	
Total Xylenes*	<0.150	0.150	07/31/2014	ND	5.38	89.6	6.00	5.16	
Total BTEX	<0.300	0.300	07/31/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	85.9	% 89.4-12	6						
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/31/2014	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2014	ND	155	77.3	200	7.73	
DRO >C10-C28	<10.0	10.0	07/31/2014	ND	167	83.6	200	6.45	
EXT DRO >C28-C35	<10.0	10.0	07/31/2014	ND					
Surrogate: 1-Chlorooctane	88.9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	93.1	% 63.6-15	4						

Cardinal Laboratories \*=Accredited Analyte

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07/30/2014

S-04



### Analytical Results For:

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

Fax To: (575) 396-1429

Received: 07/30/2014 Sampling Date:

Reported:07/31/2014Sampling Type:SoilProject Name:QPQASU #10Sampling Condition:Cool & IntactProject Number:NONE GIVENSample Received By:Kathy Perez

Analyzed By: MC

Project Location: EDDY COUNTY, NM

### Sample ID: ESW #1 (WESTERN) (H402350-02)

RTFY 8021R

BIEX 8021B	mg,	кg	Anaiyze	а ву: мѕ					5-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/31/2014	ND	1.75	87.3	2.00	2.83	
Toluene*	<0.050	0.050	07/31/2014	ND	1.78	89.1	2.00	5.77	
Ethylbenzene*	<0.050	0.050	07/31/2014	ND	1.77	88.6	2.00	4.92	
Total Xylenes*	<0.150	0.150	07/31/2014	ND	5.38	89.6	6.00	5.16	
Total BTEX	<0.300	0.300	07/31/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	87.9	% 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	<16.0	16.0	07/31/2014	ND	416	104	400	0.00	
TPH 8015M	mg,	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2014	ND	155	77.3	200	7.73	
DRO >C10-C28	<10.0	10.0	07/31/2014	ND	167	83.6	200	6.45	
EXT DRO >C28-C35	<10.0	10.0	07/31/2014	ND					
Surrogate: 1-Chlorooctane	82.5	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	85.6	% 63.6-15	4						

Cardinal Laboratories \*=Accredited Analyte

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### **Notes and Definitions**

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

A-01 Surrogate recovery marginally low. Target analytes within acceptance limits.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

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

Cardinal Laboratories \*=Accredited Analyte

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# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

(F	(575) 393-2326 FAX (5/5) 393-24/6			
Company Name:	Basin Environmente	<u>c</u>	BILL TO	ANALTOIS AEGOES
Project Manager:	1.2		P.O. #:	
Address: 3100	1		Company: Membourne	
city: Lain ton	,	State: NW Zip: 88260	Attn: Zack Thomas	
Phone #:	_		Address:	
Project #:	Project Owner:	ח	City:	
Project Name: QPQASU #10	PORSU HIU		State: Zip:	
Project Location:			Phone #:	
Sampler Name:	Spel lower		Fax #:	
A INC 3SI BY I BO3		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	CITOH
	SSW #/b (Western)		1 4/20/11/1200	
بر	ESW#1 (Western)	X	2 7/30/14/13:10	
	in to hits, and allowing available removing the	or any claim arising whether based in contra	a semesty for any claim arising whether bassed in contract or tort, shall be limited to the amount paid by the client for the	for the
	Carlie la librario and change avellende fameny il	MIN CIGILI di Milioni di Dance in come	district on a serial account.	

Sample Condition
Coof Intact
Yes Yes
No No

CHECKED BY:

Sampler - UPS - Bus - Other:

Delivered By: (Circle One)

Time:

Received By:

Phone Result: Fax Result: REMARKS:

☐ Yes

ON O

2 Homes @ members

Relinquished By

Relinquished By:



August 12, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: QPQASU #10

Enclosed are the results of analyses for samples received by the laboratory on 08/06/14 8:30.

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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> 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)

Celey D. Keine

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



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

Fax To: (575) 396-1429

Received: 08/06/2014 Sampling Date: 08/05/2014 Reported: 08/12/2014 Sampling Type: Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact Project Number: NONE GIVEN Sample Received By: Jodi Henson

A .. . l. ... . d D. .. MC

Project Location: EDDY COUNTY, NM

### Sample ID: NSW #2 (PRIMARY) (H402407-01)

DTEV 0021D

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	08/08/2014	ND	1.90	95.2	2.00	8.19	
Toluene*	<0.050	0.050	08/08/2014	ND	1.94	97.0	2.00	8.24	
Ethylbenzene*	< 0.050	0.050	08/08/2014	ND	1.96	98.0	2.00	8.21	
Total Xylenes*	<0.150	0.150	08/08/2014	ND	6.10	102	6.00	7.31	
Total BTEX	<0.300	0.300	08/08/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	102	% 89.4-12	6						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/08/2014	ND	400	100	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/07/2014	10.9	178	88.8	200	4.58	
DRO >C10-C28	<10.0	10.0	08/07/2014	ND	182	90.8	200	7.33	
EXT DRO >C28-C35	<10.0	10.0	08/07/2014	ND					
Surrogate: 1-Chlorooctane	89.8	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	101	% 63.6-15	4						

Cardinal Laboratories \*=Accredited Analyte

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Basin Environmental Service JOEL LOWRY P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 08/06/2014 Sampling Date: 08/05/2014

Reported: 08/12/2014 Sampling Type: Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Jodi Henson

Project Location: EDDY COUNTY, NM

### Sample ID: NSW #3 (PRIMARY) (H402407-02)

BTEX 8021B	mg,	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/08/2014	ND	1.90	95.2	2.00	8.19	
Toluene*	<0.050	0.050	08/08/2014	ND	1.94	97.0	2.00	8.24	
Ethylbenzene*	<0.050	0.050	08/08/2014	ND	1.96	98.0	2.00	8.21	
Total Xylenes*	<0.150	0.150	08/08/2014	ND	6.10	102	6.00	7.31	
Total BTEX	<0.300	0.300	08/08/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	102	% 89.4-12	6						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	ed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/08/2014	ND	400	100	400	0.00	
TPH 8015M	mg,	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/07/2014	10.9	178	88.8	200	4.58	
DRO >C10-C28	<10.0	10.0	08/07/2014	ND	182	90.8	200	7.33	
EXT DRO >C28-C35	<10.0	10.0	08/07/2014	ND					
Surrogate: 1-Chlorooctane	93.6	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	101	% 63.6-15	4						

Cardinal Laboratories \*=Accredited Analyte

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Jodi Henson

Sample Received By:



### Analytical Results For:

Basin Environmental Service JOEL LOWRY P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 08/06/2014 Sampling Date: 08/05/2014

Reported: 08/12/2014 Sampling Type: Soil Project Name: QPQASU #10 Sampling Condition: Cool & Intact

Project Location: EDDY COUNTY, NM

NONE GIVEN

### Sample ID: ESW #1 (PRIMARY) (H402407-03)

Project Number:

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	08/08/2014	ND	1.90	95.2	2.00	8.19	
Toluene*	<0.050	0.050	08/08/2014	ND	1.94	97.0	2.00	8.24	
Ethylbenzene*	<0.050	0.050	08/08/2014	ND	1.96	98.0	2.00	8.21	
Total Xylenes*	<0.150	0.150	08/08/2014	ND	6.10	102	6.00	7.31	
Total BTEX	<0.300	0.300	08/08/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	101	% 89.4-12	6						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	08/08/2014	ND	400	100	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/07/2014	10.9	178	88.8	200	4.58	
DRO >C10-C28	<10.0	10.0	08/07/2014	ND	182	90.8	200	7.33	
EXT DRO >C28-C35	<10.0	10.0	08/07/2014	ND					
Surrogate: 1-Chlorooctane	93.5	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	102	% 63.6-15	4						

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Basin Environmental Service JOEL LOWRY P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 08/06/2014 Sampling Date: 08/05/2014

Reported: 08/12/2014 Sampling Type: Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact Project Number: Sample Received By: NONE GIVEN Jodi Henson

Project Location: EDDY COUNTY, NM

### Sample ID: ESW #2 (PRIMARY) (H402407-04)

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	08/08/2014	ND	1.90	95.2	2.00	8.19	
Toluene*	<0.050	0.050	08/08/2014	ND	1.94	97.0	2.00	8.24	
Ethylbenzene*	<0.050	0.050	08/08/2014	ND	1.96	98.0	2.00	8.21	
Total Xylenes*	<0.150	0.150	08/08/2014	ND	6.10	102	6.00	7.31	
Total BTEX	<0.300	0.300	08/08/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	101	% 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	16.0	16.0	08/07/2014	ND	400	100	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/07/2014	10.9	178	88.8	200	4.58	
DRO >C10-C28	<10.0	10.0	08/07/2014	ND	182	90.8	200	7.33	
EXT DRO >C28-C35	<10.0	10.0	08/07/2014	ND					
Surrogate: 1-Chlorooctane	103	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	106	% 63.6-15	4						

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Basin Environmental Service JOEL LOWRY P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 08/06/2014 Sampling Date: 08/05/2014

Reported: 08/12/2014 Sampling Type: Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

### Sample ID: WSW #2 (PRIMARY) (H402407-05)

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	08/08/2014	ND	1.90	95.2	2.00	8.19	
Toluene*	<0.050	0.050	08/08/2014	ND	1.94	97.0	2.00	8.24	
Ethylbenzene*	<0.050	0.050	08/08/2014	ND	1.96	98.0	2.00	8.21	
Total Xylenes*	<0.150	0.150	08/08/2014	ND	6.10	102	6.00	7.31	
Total BTEX	<0.300	0.300	08/08/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 5	% 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	32.0	16.0	08/07/2014	ND	400	100	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/07/2014	10.9	178	88.8	200	4.58	
DRO >C10-C28	<10.0	10.0	08/07/2014	ND	182	90.8	200	7.33	
EXT DRO >C28-C35	<10.0	10.0	08/07/2014	ND					
Surrogate: 1-Chlorooctane	92.5	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	97.0	% 63.6-15	4						

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Basin Environmental Service JOEL LOWRY P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 08/06/2014 Sampling Date: 08/05/2014

Reported: 08/12/2014 Sampling Type: Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

### Sample ID: SSW #2 (PRIMARY) (H402407-06)

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	08/08/2014	ND	1.90	95.2	2.00	8.19	
Toluene*	<0.050	0.050	08/08/2014	ND	1.94	97.0	2.00	8.24	
Ethylbenzene*	<0.050	0.050	08/08/2014	ND	1.96	98.0	2.00	8.21	
Total Xylenes*	<0.150	0.150	08/08/2014	ND	6.10	102	6.00	7.31	
Total BTEX	<0.300	0.300	08/08/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 9	% 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	288	16.0	08/07/2014	ND	400	100	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/07/2014	10.9	178	88.8	200	4.58	
DRO >C10-C28	<10.0	10.0	08/07/2014	ND	182	90.8	200	7.33	
EXT DRO >C28-C35	<10.0	10.0	08/07/2014	ND					
Surrogate: 1-Chlorooctane	86.9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	93.2	% 63.6-15	4						

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### **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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Celeg D. Freene

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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



gies, LLC  gies, LLC  MATRI  MATRI  Received By:  Received By:  Recool if		(575) 393-2326 FAX (575) 393-2476	76				0											1				
Doel Lowny   Does   D	Company Name:	Basin Environmental Service Techni	ologie	es, L	СС		BIL	L 70		1				NA	SISA		JOE:	]=				
State: NM Zip: 88260   Attn: Zack Thomas   Address:   Sab-2378   Fax #: (575)396-1429   Address:   Sab-2378   Fax #: (575)396-1429   Address:   State: Zip:   Sphone #:   Fax #:   Size: Zip:   Sphone #:   Fax #:   Size: Zip:   Sphone #:   Fax #:	Project Manager:	Joel Lowry				P.O.	#															
Lovington   State: NM   Zip: 88260   Attn: Zack Thomas   Eddy Co., NM   Project Owner:   City:   State: Zip:   Phone #:	Address: P.O. B	ox 301				Com	pany:	Mewbourne	Oil Co							×						
City:   State:   Zip:   Stat		State: NM	Zip:			Attn		Zack Thomas														
City:   State: Zip:   State: Zip: Zip:   State: Zip: Zip:   State: Zip:   State: Zip: Zip: Zip: Zip: Zip: Zip: Zip: Zip	ne #:		6-14	29		Add	ress:															
DPOASU #10 Flowline  State: Zip:  Phone #:  Phone #:  Pax #:	Project #:	Project Owner				City				S.	<b>/</b> 1)	B)	ГРН									
Sample I.D.  Sample Condition  CHECKED BY:  Cool Intact  Intact  CHECKED BY:  Sample Condition  CHECKED BY:  Sample Condition  CHECKED BY:  Sample Condition  CHECKED BY:  Sample Condition  CHECKED BY:  Sample I.D.	γPQASU #10 Flowline				Stat		Zip:		ide	151	021	R 1	Н							1		
Sample I.D.  Sample I.D.  OR AND STEEL BY SAMPLING  OR AND STEEL BY SA	Project Location:	Eddy Co., NM				Pho	ne #:			nlor	(80	X (8	FC	RUS								
Sample I.D.  Sample Condition  Sample Condition  Sample Condition  Sample Condition  Sample Condition  CHECKED BY:  Initials  Cool Initials  Sample Condition  CHECKED BY:  Sample Condition  Sample Condition  Sample Condition  Sample Condition  Sample Condition  CHECKED BY:  Sample Condition  Sample Conditi	Sampler Name:					Fax	#			Cł	PH	TE	LD	١								
Lab I.D.  Sample I.D.  OSM #2 (Primary)  1 NSW #2 (Primary)  2 NSW #3 (Primary)  4 ESW #4 (Primary)  5 WSW #2 (Primary)  9 1	Campio	×			MATRIX	-	RESERV.	SAMPLING			Т	B	НС									
NSW #2 (Primary)   g   1	FOR LAB USE ONLY		OMP.	-	R																	
NSW #2 (Primary) 9 11	Lab I.D.	Sample I.D.	G)RAB OR (		VASTEWATI SOIL DIL		CE / COOL	DATE	TIME				,									
Result #1 (Primary)   g 1   x	7 101 10	NSW #2 (Primary)	۵	7	×		×	8/5/14	1200	×	×	×				T		$\dagger$	$\dagger$	$\dagger$		
ESW #2 (Primary)  9 1	2.	NSW #3 (Primary)	9	_	×		×	8/5/14	1210	×	×	×				T	T	$\dagger$	$\dagger$	+	1	
WSW #2 (Primary)  9 1	N	ESW #1 (Primary)	9	7	×		×	8/5/14	1220	×	×	×	,	T			T	$\dagger$	+	+	1	
WSW #2 (Primary)  9 1	<b>E</b> (	ESW #2 (Primary)	9	_	×		×	8/5/14	1230	×	×	×				T	T	+	+	+	+	-
Belinquished By:  Relinquished By:  Date:  Received By:  Sample Condition  Delivered By: (Circle One)  SSW #2 (Primary)  g 1	<b>G</b> -	WSW #2 (Primary)	9	_	×		×	8/5/14	1240	×	×	×			T	T	T	$\dagger$	+	+	$\dagger$	-
PLEASE NOTE. Liability and Client's socilusive remoty for any claim arising whether based in contract or tot, shall be limited to the amount paid by the client for the applicable analyses. All claims including those for registeriors and any other causes whittenovers shall be deemed waived unless make in writing, and received it within 30 days after competition of the applicable affiliation or successors arising out of or related to the performance of severes hereundare for Cardinal majors, including which out inhaltion, business interruptions, loss of priority incread by client is austobilished.    Received By:	6	SSW #2 (Primary)	9	_	×		×	8/5/14	1250	×	×	×				$\Box$	$\Box$	$\dagger \dagger$	++	++	$\dagger \dagger$	-
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive namedy for any claim arising whether based in contract or fort, shall be limited to the amount paid by the client for the applicable sandyses. All claims including those for negligence and any other cause whatcoever shall be deemed awarded in contract or fort, shall be liable for includental or contracted to make a make in writing and received by Cardinal within 30 days after completions of the applicable administration, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries.  Reclinquished By:  Time:  Received By:  Time:  Received By:  Received By:  Received By:  Phone Result:  Yes   No   Add'I Phone #:  Fax Result:   Yes   No   Add'I Phone #:  Fax Result:   Yes   No   Add'I Phone #:  Fax Results to pm@basinenv.com,  Zthomas@mewbourne.com  Please email results to pm@basinenv.com,  Zthomas@mewbourne.com																		+	++			
Relinquished By:  Received By:  Received By:  Date: Received By:  Date: Received By:  Received By:  Date: Received By:  Date: Received By:  Date: Received By:  Cool Intract  CHECKED BY:  Times:  Delivered By:  Cool Intract  Times:  Date: Received By:  Delivered By:  Date: Received By:  Cool Intract  CHECKED BY:  Cool Intract  CHECKED BY:  Cool Intract  Date: Received By:  Delivered By:  Delivered By:  Date: Received By:  Date: Received By:  Phone #:  Phone Result: Phone #:  Fax Result: Phone Add'I Phone #:  Fax Result: Phone Add'I Phone #:  Fax Result: Phone Add'I Fax #:  Fax Result: Fax Result: Phone Add'I Fax #:  Fax Result: Fax Result: Phone Add'I Fax #:  Fax Result:	PLEASE NOTE: Liability and analyses. All claims including	Damages, Cardinal's liability and client's exclusive remedy for a those for negligence and any other cause whatsoever shall be those for high the cause whatsoever shall be the cause when	ny claim deemed	arising waived	whether based in contract unless made in writing and unless made in writing and on business interruptions, k	or tort, s receive	hall be limited to d by Cardinal wit	the amount paid by hin 30 days after cor its incurred by client	the client for the mpletion of the a	pplica	•											
Date: Received By:  Circle One)  Time: Sample Condition CHECKED BY: Cool Intact (Initials)	affiliates or successors arising  Relinguished By:	out of or related to the performance of services hereunder by	ardinal,	regard	less of whether such claim i	s based	upon any of the	above stated reason	Phone Res	f Sult:	□ Yes	- 1	N O	Add'l	Phone Fax #:	*						_
Date: Received By:  Time: Sample Condition CHECKED BY:  Cool Initiats (Initials)	Jud Mar	5	0	0	a_	2	Mor	(	REMARKS													
Sample Condition CHECKED BY: Cool Initiat (Initials)	Relinquished By		<b>S</b>	ecei	ved By:						200	i   to 1	) mad	mhasi	nenv	COM						
Sample Condition Cool Intact	C	Time:							Zthor	nas(	mail res	ourn	e.com	Lopor		,						
	Delivered By:	(Circle One)	4	2	Sample Cond Cool Intact	ition	CHEC	(ials)														

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

Sampler - UPS - Bus - Other:

FORM-006 Revision 1.0



August 12, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: QPQASU #10

Enclosed are the results of analyses for samples received by the laboratory on 08/07/14 11:15.

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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> 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.

Celey D. 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: 08/07/2014 Reported: 08/12/2014

Project Name: QPQASU #10
Project Number: NONE GIVEN
Project Location: EDDY COUNTY, NM

Sampling Date: 08/06/2014

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

### Sample ID: TT-1A @ 20' (H402429-01)

BTEX 8021B	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/11/2014	ND	1.95	97.4	2.00	6.89	
Toluene*	<0.050	0.050	08/11/2014	ND	1.98	99.1	2.00	6.53	
Ethylbenzene*	<0.050	0.050	08/11/2014	ND	1.99	99.5	2.00	6.93	
Total Xylenes*	<0.150	0.150	08/11/2014	ND	6.14	102	6.00	6.72	
Total BTEX	<0.300	0.300	08/11/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	106 9	% 89.4-12	6						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7400	16.0	08/11/2014	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	19.9	10.0	08/08/2014	ND	171	85.5	200	8.57	
DRO >C10-C28	166	10.0	08/08/2014	ND	180	89.9	200	9.44	
EXT DRO >C28-C35	33.2	10.0	08/08/2014	ND					
Surrogate: 1-Chlorooctane	87.7	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	99.9	% 63.6-15	4						

Cardinal Laboratories \*=Accredited Analyte

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Basin Environmental Service JOEL LOWRY

P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 08/07/2014 Sampling Date: 08/06/2014

Reported: 08/12/2014 Sampling Type: Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Jodi Henson

Project Location: EDDY COUNTY, NM

### Sample ID: TT - 1A @ 30' (H402429-02)

BTEX 8021B	mg,	'kg	Analyze	d By: CK					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.500	0.500	08/11/2014	ND	1.95	97.4	2.00	6.89	
Toluene*	2.29	0.500	08/11/2014	ND	1.98	99.1	2.00	6.53	
Ethylbenzene*	3.45	0.500	08/11/2014	ND	1.99	99.5	2.00	6.93	
Total Xylenes*	8.58	1.50	08/11/2014	ND	6.14	102	6.00	6.72	
Total BTEX	14.3	3.00	08/11/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	143	% 89.4-12	6						
Chloride, SM4500Cl-B	mg,	'kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4960	16.0	08/11/2014	ND	400	100	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	593	50.0	08/08/2014	ND	171	85.5	200	8.57	
DRO >C10-C28	3880	50.0	08/08/2014	ND	180	89.9	200	9.44	
EXT DRO >C28-C35	714	50.0	08/08/2014	ND					
Surrogate: 1-Chlorooctane	121	% 65.2-14	0						

Surrogate: 1-Chlorooctadecane 152 % 63.6-154

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keine



### **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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## ARDINAL LABORATORIES

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

Company Name: Basin Environme	Basin Environmental Service Technologies, LLC	ogies	, LLC			8/	BILL TO						ANALYSIS	YSIS		REQUEST	TS				
Project Manager: Joel Lowry				7	P.O.	#															
Address: P.O. Box 301				0	óm	Company:	Mewbourne Oil Co	e Oil Co													
City: Lovington	State: NM Z	Zip: 8	88260	Þ	Attn:		Zack Thomas	S													
Phone #: (575)396-2378	Fax #: (575)396-1429	1429	v	Þ	ddr	Address:									-			_			
Project #:	Project Owner:			0	City:					)	)	Н									
Project Name: QPQASU #10 Flowline	ne			S	State:		Zip:		le	5M)	21B	TF	ı								
Project Location: Eddy Co., NM				70	hon	Phone #:			oric	801	(80	FOF	JSH							_	
Sampler Name: 7050 County	4			77	Fax #:				Chl	PH (	EX	LD I	R								
FOR LAB USE ONLY		$\dashv$	M/	MATRIX	P	PRESERV.	SAMPLING	G	7	TF	вт	Ю									
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													
TT-1a @ 20'		9 1				×	8/6/14	1330	×	×	×						H	$\vdash$		$\vdash$	
TT-1a @ 30'		9 1	×			×	8/6/14	1350	×	×	×							-	-		
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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 the client for the analysis of the client for the client for the analysis of the client for the	client's exclusive remedy for any cla	im arisir	ng whether based	in contract or to	t, shall	be limited to	the amount paid by	the client for the	policable							ı					
analyses, All claims including mose for negligence and any other cause whatsoever shall be deemed wared unless made in writing and received by claumal writing out on the applications and any other cause whatsoever shall be deemed wared unless made in writing and received by claumal writing out on the polynomials.	er cause whatsoever shall be deem	ed warw	ed unless made ii	writing and reck	o pavie	y Cardinal with	nn 30 days after col	mpietion of the a	policable												

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476 Sample Condition
Cool Intact
Pes Pes
No No

CHECKED BY: (Initials)

<u>zthomas@mewbourne.com</u>

Relinquished By:

Time:

Received By:

Time:

Sampler - UPS - Bus - Other: Delivered By: (Circle One)

Revision 1.0 FORM-006 affliates or successors arising out of or related to the performa Relinquished By:

Phone Result:

□ Yes

O O

Add'l Phone #: Add'l Fax #:

Fax Result: REMARKS:

Page 5 of 5



September 12, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: QPQASU #10

Enclosed are the results of analyses for samples received by the laboratory on 09/11/14 12:00.

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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> 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)

Celey D. Keine

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



Basin Environmental Service JOEL LOWRY P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 09/11/2014 Reported: 09/12/2014

Project Name: QPQASU #10
Project Number: NONE GIVEN
Project Location: EDDY COUNTY, NM

Sampling Date: 09/10/2014

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

### Sample ID: NSW #1 (EASTERN) (H402824-01)

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	09/11/2014	ND	1.82	91.1	2.00	6.49	
Toluene*	< 0.050	0.050	09/11/2014	ND	1.68	83.8	2.00	5.95	
Ethylbenzene*	< 0.050	0.050	09/11/2014	ND	1.75	87.5	2.00	6.27	
Total Xylenes*	<0.150	0.150	09/11/2014	ND	5.34	89.0	6.00	6.76	
Total BTEX	<0.300	0.300	09/11/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	103 %	6 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	<16.0	16.0	09/12/2014	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/11/2014	ND	198	99.1	200	4.65	
DRO >C10-C28	<10.0	10.0	09/11/2014	ND	198	98.9	200	8.84	
EXT DRO >C28-C35	<10.0	10.0	09/11/2014	ND					
Surrogate: 1-Chlorooctane	112 %	65.2-14	0						
Surrogate: 1-Chlorooctadecane	123 %	63.6-15	4						

Cardinal Laboratories \*=Accredited Analyte

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Lovington NM, 88260

Fax To: (575) 396-1429

Received: 09/11/2014 Sampling Date: 09/10/2014

Reported: 09/12/2014 Sampling Type: Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Jodi Henson

Project Location: EDDY COUNTY, NM

### Sample ID: NSW #2 (EASTERN) (H402824-02)

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	09/11/2014	ND	1.82	91.1	2.00	6.49	
Toluene*	<0.050	0.050	09/11/2014	ND	1.68	83.8	2.00	5.95	
Ethylbenzene*	<0.050	0.050	09/11/2014	ND	1.75	87.5	2.00	6.27	
Total Xylenes*	<0.150	0.150	09/11/2014	ND	5.34	89.0	6.00	6.76	
Total BTEX	<0.300	0.300	09/11/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	104 9	% 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	112	16.0	09/12/2014	ND	400	100	400	0.00	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/11/2014	ND	198	99.1	200	4.65	
DRO >C10-C28	<10.0	10.0	09/11/2014	ND	198	98.9	200	8.84	
EXT DRO >C28-C35	<10.0	10.0	09/11/2014	ND					
Surrogate: 1-Chlorooctane	111 9	65.2-14	0						
Surrogate: 1-Chlorooctadecane	122	% 63 6-15	4						

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Basin Environmental Service JOEL LOWRY P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 09/11/2014 Sampling Date: 09/10/2014

Reported: 09/12/2014 Sampling Type: Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

### Sample ID: NSW #3 (EASTERN) (H402824-03)

EDDY COUNTY, NM

Project Location:

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	09/11/2014	ND	1.82	91.1	2.00	6.49	
Toluene*	<0.050	0.050	09/11/2014	ND	1.68	83.8	2.00	5.95	
Ethylbenzene*	<0.050	0.050	09/11/2014	ND	1.75	87.5	2.00	6.27	
Total Xylenes*	<0.150	0.150	09/11/2014	ND	5.34	89.0	6.00	6.76	
Total BTEX	<0.300	0.300	09/11/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	103	% 89.4-12	6						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/12/2014	ND	400	100	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/11/2014	ND	198	99.1	200	4.65	
DRO >C10-C28	<10.0	10.0	09/11/2014	ND	198	98.9	200	8.84	
EXT DRO >C28-C35	<10.0	10.0	09/11/2014	ND					
Surrogate: 1-Chlorooctane	115	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	124	% 63.6-15	4						

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Lovington NM, 88260

Fax To: (575) 396-1429

Received: 09/11/2014 Sampling Date: 09/10/2014

Reported: 09/12/2014 Sampling Type: Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

### Sample ID: WSW #1 (EASTERN) (H402824-04)

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	09/11/2014	ND	1.82	91.1	2.00	6.49	
Toluene*	<0.050	0.050	09/11/2014	ND	1.68	83.8	2.00	5.95	
Ethylbenzene*	<0.050	0.050	09/11/2014	ND	1.75	87.5	2.00	6.27	
Total Xylenes*	<0.150	0.150	09/11/2014	ND	5.34	89.0	6.00	6.76	
Total BTEX	<0.300	0.300	09/11/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	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	<16.0	16.0	09/12/2014	ND	400	100	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/11/2014	ND	198	99.1	200	4.65	
DRO >C10-C28	<10.0	10.0	09/11/2014	ND	198	98.9	200	8.84	
EXT DRO >C28-C35	<10.0	10.0	09/11/2014	ND					
Surrogate: 1-Chlorooctane	114 9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	125	% 63.6-15	4						

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Basin Environmental Service
JOEL LOWRY

P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

 Received:
 09/11/2014
 Sampling Date:
 09/10/2014

 Reported:
 09/12/2014
 Sampling Type:
 Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

### Sample ID: ESW #1 (EASTERN) (H402824-05)

EDDY COUNTY, NM

Project Location:

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	09/11/2014	ND	1.82	91.1	2.00	6.49	
Toluene*	<0.050	0.050	09/11/2014	ND	1.68	83.8	2.00	5.95	
Ethylbenzene*	<0.050	0.050	09/11/2014	ND	1.75	87.5	2.00	6.27	
Total Xylenes*	<0.150	0.150	09/11/2014	ND	5.34	89.0	6.00	6.76	
Total BTEX	<0.300	0.300	09/11/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	103	% 89.4-12	6						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	09/12/2014	ND	400	100	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/11/2014	ND	198	99.1	200	4.65	
DRO >C10-C28	<10.0	10.0	09/11/2014	ND	198	98.9	200	8.84	
EXT DRO >C28-C35	<10.0	10.0	09/11/2014	ND					
Surrogate: 1-Chlorooctane	115 9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	126	% 63.6-15	4						

Cardinal Laboratories \*=Accredited Analyte

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Basin Environmental Service JOEL LOWRY

P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 09/11/2014 Sampling Date: 09/10/2014

Reported: 09/12/2014 Sampling Type: Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Jodi Henson

Project Location: EDDY COUNTY, NM

### Sample ID: SSW #1 (EASTERN) (H402824-06)

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	09/11/2014	ND	1.82	91.1	2.00	6.49	
Toluene*	< 0.050	0.050	09/11/2014	ND	1.68	83.8	2.00	5.95	
Ethylbenzene*	< 0.050	0.050	09/11/2014	ND	1.75	87.5	2.00	6.27	
Total Xylenes*	< 0.150	0.150	09/11/2014	ND	5.34	89.0	6.00	6.76	
Total BTEX	<0.300	0.300	09/11/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	103 %	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	09/12/2014	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/11/2014	ND	198	99.1	200	4.65	
DRO >C10-C28	<10.0	10.0	09/11/2014	ND	198	98.9	200	8.84	
EXT DRO >C28-C35	<10.0	10.0	09/11/2014	ND					
Surrogate: 1-Chlorooctane	111 %	65.2-14	0						
Surrogate: 1-Chlorooctadecane	121 9	63 6-15	1						

Cardinal Laboratories \*=Accredited Analyte

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Basin Environmental Service JOEL LOWRY P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 09/11/2014 Sampling Date: 09/10/2014

Reported: 09/12/2014 Sampling Type: Soil

Project Name: QPQASU #10 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

### Sample ID: SSW #2 (EASTERN) (H402824-07)

BTEX 8021B	mg/	'kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/11/2014	ND	1.82	91.1	2.00	6.49	
Toluene*	<0.050	0.050	09/11/2014	ND	1.68	83.8	2.00	5.95	
Ethylbenzene*	<0.050	0.050	09/11/2014	ND	1.75	87.5	2.00	6.27	
Total Xylenes*	<0.150	0.150	09/11/2014	ND	5.34	89.0	6.00	6.76	
Total BTEX	<0.300	0.300	09/11/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	105 9	% 89.4-12	6						
Chloride, SM4500CI-B	mg/	'kg	Analyze	ed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	09/12/2014	ND	400	100	400	0.00	
TPH 8015M	mg/	'kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/11/2014	ND	198	99.1	200	4.65	
DRO >C10-C28	<10.0	10.0	09/11/2014	ND	198	98.9	200	8.84	
EXT DRO >C28-C35	<10.0	10.0	09/11/2014	ND					
Surrogate: 1-Chlorooctane	117 %	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	127 9	% 63.6-15	4						

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 whistoever 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 related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



### **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

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 whistoever 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 related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg D. Freene

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



### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Basin Environmental Service Tech	nolog	ies,	LLC	;						BII	LL TO						ANALY	SIS REQUE	ST	
Project Manager:	Joel Lowry							P.	0. #	ŧ:										1	
Address: P.O. E	3ox 301							C	omp	any	<i>y</i> :	Mewbourn	ne Oil Co								
City: Lovington	State: NM	Zip	: 8	826	0			At	tn:			Zack Thom	as								
Phone #: (575)3	96-2378 <b>Fax #</b> : (575)3	96-1	429					A	ddre	ss:				1							
Project #:	Project Owne	r:						Ci	ty:								I				
-	QPQASU #10 Flowline								ate:			Zip:			Σ.	BTEX (8021B)	НОСБ FOR ТРН				
Project Location:	Eddy Co., NM								none			p.		Chloride	TPH (8015M)	802	OR	RUSH			
Sampler Name:	JOST COWRY								x #:					욹	8) H	×	DF	⊋			
FOR LAB USE ONLY	See COURT	Т	Т	Г	M	ATR	XIX	1. 4	-	ESE	RV.	SAMPLIN	NG	ľ	1	BTE	2				
Lab I.D. H402824	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME								
1	NSW #1 (Eastern)	g	1			х				X		9/10/14	810	х	х	х		4			
2	NSW #2 (Eastern)	g	1			х				Х		9/10/14	820	х	х	х		a l			
3	NSW #3 (Eastern)	g	1			x				x		9/10/14	830	х	х	х		V			
ŭ	WSW #1 (Eastern)	g	1			X				x		9/10/14	840	х	х	х		Q.			
5	ESW #1 (Eastern)	g	1			x		1		х		9/10/14	850	х	х	х		A			
56	SSW #1 (Eastern)	g	1			х				х		9/10/14	900	х	х	х		X			
7	SSW #2 (Eastern)	g	1	H		x		+	ŀ	x		9/10/14	910	х	х	х		V			
	Darmages. Cardinal's liability and client's exclusive remedy for a								L				# P # *				- 8				

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 the client for the 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 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental 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 s	ervices hereunder by Card	nal, regardless of whether such claim is based upo	on any of the above stated reason	ions or otherwise.					The second second
Relinquished By:	Date:	Received By:	, ,	Phone Result:	□ Yes	□ No	Add'l Phone #:	1992	
7.1.4	2/11/14	11 11 11		Fax Result:	☐ Yes	□ No	Add'I Fax #:		
Callory	Time: 8:30	101 Como	esel	REMARKS:					
Relinquished By:	Date: // //	Received By:							
Al lake	Time:/2:0	Ddi Rens	Lon	Please en zthomas@			@basinenv.com,		
Delivered By: (Circle One)		Sample Condition	CHECKED BY:						
Sampler - UPS - Bus - Other:	4.	Cool intact     Yes   Yes   No   No   No	(Initials)						

FORM-006 Revision 1.0



September 22, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: QPQASU #10

Enclosed are the results of analyses for samples received by the laboratory on 09/16/14 10:30.

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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> 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.

Celey D. 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: 09/16/2014

Reported: 09/22/2014
Project Name: QPQASU #10
Project Number: NONE GIVEN

Project Location: EDDY COUNTY, NM

Sampling Date: 09/15/2014

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

### Sample ID: TT-3B @ 18' (H402864-01)

BTEX 8021B  Analyte	mg/kg		Analyzed By: CK						
	Result	Reporting Limit	Analyzed	Method Blank	BS 9	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<1.00	1.00	09/17/2014	ND	1.73	86.6	2.00	8.13	
Toluene*	2.49	1.00	09/17/2014	ND	1.65	82.3	2.00	7.44	
Ethylbenzene*	3.46	1.00	09/17/2014	ND	1.55	77.3	2.00	8.98	
Total Xylenes*	14.7	3.00	09/17/2014	ND	4.55	75.8	6.00	9.70	
Total BTEX	20.6	6.00	09/17/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	106	% 89.4-12	6						
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	09/18/2014	ND	384	96.0	400	4.08	
TPH 8015M	mg/kg		Analyzed By: ms						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	1180	200	09/17/2014	ND	227	113	200	4.96	
DRO >C10-C28	5140	200	09/17/2014	ND	191	95.6	200	11.0	
EXT DRO >C28-C35	439	200	09/17/2014	ND					
Surrogate: 1-Chlorooctane	146	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	169	% 63.6-15	4						

Cardinal Laboratories \*=Accredited Analyte

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Basin Environmental Service JOEL LOWRY

P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 09/16/2014 Sampling Date: 09/15/2014

Reported: 09/22/2014 Sampling Type: Soil

EDDY COUNTY, NM

Project Name: QPQASU #10 Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Jodi Henson

Sample ID: TT-3B @ 24' (H402864-02)

Project Location:

BTEX 8021B	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	09/17/2014	ND	1.73	86.6	2.00	8.13	
Toluene*	0.495	0.200	09/17/2014	ND	1.65	82.3	2.00	7.44	
Ethylbenzene*	0.737	0.200	09/17/2014	ND	1.55	77.3	2.00	8.98	
Total Xylenes*	3.89	0.600	09/17/2014	ND	4.55	75.8	6.00	9.70	
Total BTEX	5.12	1.20	09/17/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	107 9	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	896	16.0	09/18/2014	ND	384	96.0	400	4.08	
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	272	100	09/17/2014	ND	227	113	200	4.96	
DRO >C10-C28	2240	100	09/17/2014	ND	191	95.6	200	11.0	
			09/17/2014	ND					

Surrogate: 1-Chlorooctane 119 % 65.2-140 Surrogate: 1-Chlorooctadecane 136 % 63.6-154

Cardinal Laboratories \*=Accredited Analyte

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### **Notes and Definitions**

S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or

matrix interference's.

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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# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Basin Environmental Service Technologies, LLC	nolog	ies,	LLC				81	BILL TO						ANALYSIS	YSI	- 1	REQUEST	TS		
Project Manager:	Joel Lowry				9	P.O. #:	"											7	1		
Address: P.O. Box 301	»x 301				ဂ္ဂ	Company:	any		Mewbourne Oil Co	ne Oil Co			_								
City: Lovington	State: NM	Zip:		88260	A	Attn:			Zack Thomas	as											
Phone #: (575)396-2378	6-2378 <b>Fax #</b> : (575)396-1429	96-14	129		Ad	Address:	SS:														
Project #:	Project Owner:				City:	?							)	H							
Project Name: Q	QPQASU #10 Flowline				St	State:			Zip:		е	5M)	1B)	TP							
Project Location:	Eddy Co., NM				Ph	Phone #:	#				orid	3015	802	OR	SH						
Sampler Name:					Fa	Fax #:					Chlo	H (8	EX (	DF	RU						
FOR LAB USE ONLY		P		MATRIX	1	PR	PRESERV.	RV.	SAMPLING		(	TP	ВТІ	HOL							
Lab I.D. H4028/64	Sample I.D.	(G)RAB OR (C)OMF	# CONTAINERS	GROUNDWATER WASTEWATER SOIL OIL SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME											
	TT-3b @ 18'	9	_	×			×		9/15/14	1245	×	×	×					$\top$			
2	TT-3b @ 24'	9	_	×			×		9/15/14	1300	×	×	×								
													Ш.								
			1					_						1							
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PLEASE NOTE: Liability and Damages. Cardinal's liability and client' analyses. All claims including those for regigence and any other cau service. In no event shall Cardinal be liable for incidental or consequa affiliates or successors arising out of or related to the performance of	s exclusive ruse whatsoen ental damag	claim ar emed wa ithout lin	ising waived unitation	emedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the strail be deemed walved unless made in writing and received by Cardinal within 30 days after completion of the ser is that be deemed walved unless made in writing and received by Cardinal working without limitation, business interruptions, loss of use, or loss of profits notured by cleint, its subsidiaries sunder by Cardinal repartless of whether such claim is based inton around the above stand research accession.	tort, si eceive s of us	hall be d by C se, or l	limite ardina oss of	d to the d to the profits	le amount paid by to 30 days after con incurred by client,	he client for the pletion of the app its subsidiaries,	licable										L
Relinquished By:	14kg	Rec	eiv	Received By:  ADU HUNDEY	2	0	8	2	(	Phone Result: Fax Result: REMARKS:		□ Yes	N N		Add'l Phone #: Add'l Fax #:	hone #	"				
	Time:	-								Please email results to pm@basinenv.com,	ema	il resul	ts to p	m@t	asine	INV.CC	Ĭ,				
Dallimand B. (C.	inde One)		-							711101119	Swi	Hewbo	urne.c								

FORM-006 Revision 1.0 Delivered By: (Circle One)
Sampler - UPS - Bus - Other:

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

## 54

Sample Condition
Cool Intact
PYes PYes
No No

Page 5 of 5



January 22, 2015

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: QPQASU #10 FLOW LINE

Enclosed are the results of analyses for samples received by the laboratory on 01/13/15 13:20.

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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> 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)

Celey D. Keine

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



Basin Environmental Service JOEL LOWRY P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 01/13/2015 Sampling Date: 01/12/2015

Reported: 01/22/2015 Sampling Type: Soil

Project Name: QPQASU #10 FLOW LINE Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Applymed By MC

Project Location: LEA COUNTY, NM

### Sample ID: SB-1 @ 40' (H500122-01)

DTEV 0021D

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	01/16/2015	ND	1.57	78.6	2.00	12.3	
Toluene*	<0.050	0.050	01/16/2015	ND	1.58	79.1	2.00	11.8	
Ethylbenzene*	<0.050	0.050	01/16/2015	ND	1.56	78.2	2.00	12.1	
Total Xylenes*	<0.150	0.150	01/16/2015	ND	4.69	78.2	6.00	12.7	
Total BTEX	<0.300	0.300	01/16/2015	ND					
Surrogate: 4-Bromofluorobenzene (PID	102	% 61-154	!						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8800	16.0	01/15/2015	ND	400	100	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/14/2015	ND	189	94.4	200	2.45	
DRO >C10-C28	<10.0	10.0	01/14/2015	ND	202	101	200	3.96	
EXT DRO >C28-C35	<10.0	10.0	01/14/2015	ND					
Surrogate: 1-Chlorooctane	97.0	% 47.2-15	7						
Surrogate: 1-Chlorooctadecane	114	% 52.1-17	6						

### Cardinal Laboratories \*=Accredited Analyte

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

Fax To: (575) 396-1429

Received: 01/13/2015 Sampling Date: 01/12/2015

Reported: 01/22/2015 Sampling Type: Soil

Project Name: QPQASU #10 FLOW LINE Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: LEA COUNTY, NM

### Sample ID: SB-1 @ 50' (H500122-02)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8400	16.0	01/15/2015	ND	400	100	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/14/2015	ND	189	94.4	200	2.45	
DRO >C10-C28	<10.0	10.0	01/14/2015	ND	202	101	200	3.96	
EXT DRO >C28-C35	<10.0	10.0	01/14/2015	ND					
Surrogate: 1-Chlorooctane	94.5	% 47.2-15	7						
Surrogate: 1-Chlorooctadecane	110	% 52.1-17	6						

### Sample ID: SB-1 @ 60' (H500122-03)

Sample 151 55 1 @ 66 (1156	J JJ,								
Chloride, SM4500Cl-B	mg/l	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4560	16.0	01/15/2015	ND	400	100	400	0.00	
TPH 8015M	mg/l	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	01/14/2015	ND	189	94.4	200	2.45	
DRO >C10-C28	<10.0	10.0	01/14/2015	ND	202	101	200	3.96	
EXT DRO >C28-C35	<10.0	10.0	01/14/2015	ND					
Surrogate: 1-Chlorooctane	92.4 %	6 47.2-15	7						
Surrogate: 1-Chlorooctadecane	104 %	6 52.1-17	6						

Cardinal Laboratories \*=Accredited Analyte

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

Fax To: (575) 396-1429

Received: 01/13/2015 Sampling Date: 01/12/2015

Reported: 01/22/2015 Sampling Type: Soil

Project Name: QPQASU #10 FLOW LINE Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: LEA COUNTY, NM

### Sample ID: SB-1 @ 70' (H500122-04)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	01/15/2015	ND	400	100	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/14/2015	ND	189	94.4	200	2.45	
DRO >C10-C28	<10.0	10.0	01/14/2015	ND	202	101	200	3.96	
EXT DRO >C28-C35	<10.0	10.0	01/14/2015	ND					
Surrogate: 1-Chlorooctane	89.2	% 47.2-15	7						
Surrogate: 1-Chlorooctadecane	96.3	% 52.1-17	6						

### Sample ID: SB-1 @ 75' (H500122-05)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	01/15/2015	ND	400	100	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/14/2015	ND	189	94.4	200	2.45	
DRO >C10-C28	<10.0	10.0	01/14/2015	ND	202	101	200	3.96	
EXT DRO >C28-C35	<10.0	10.0	01/14/2015	ND					
Surrogate: 1-Chlorooctane	96.3	% 47.2-15	7						
Surrogate: 1-Chlorooctadecane	109	% 52.1-17	6						

Cardinal Laboratories \*=Accredited Analyte

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Basin Environmental Service JOEL LOWRY

P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 01/13/2015 Sampling Date: 01/12/2015

Reported: 01/22/2015 Sampling Type: Soil

Project Name: QPQASU #10 FLOW LINE Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Analyzed By: MC

Project Location: LEA COUNTY, NM

ma/ka

### Sample ID: SB-1 @ 80' (H500122-06)

RTFY 8021R

B1EX 8021B	mg,	' KY	Allalyze	а ву: м5					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/15/2015	ND	1.68	84.2	2.00	9.55	
Toluene*	<0.050	0.050	01/15/2015	ND	1.65	82.4	2.00	9.56	
Ethylbenzene*	<0.050	0.050	01/15/2015	ND	1.62	80.8	2.00	9.21	
Total Xylenes*	<0.150	0.150	01/15/2015	ND	4.86	80.9	6.00	9.66	
Total BTEX	<0.300	0.300	01/15/2015	ND					
Surrogate: 4-Bromofluorobenzene (P.	ID 99.2	% 61-154	1						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	01/15/2015	ND	400	100	400	0.00	
TPH 8015M	mg,	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/14/2015	ND	189	94.4	200	2.45	
DRO >C10-C28	<10.0	10.0	01/14/2015	ND	202	101	200	3.96	
EXT DRO >C28-C35	<10.0	10.0	01/14/2015	ND					
Surrogate: 1-Chlorooctane	98.3	% 47.2-15	7						
Surrogate: 1-Chlorooctadecane	110 9	% 52.1-17	6						
Surrogate: 1-Chlorooctane	98.3	% 47.2-15	7	ND					

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Basin Environmental Service JOEL LOWRY

P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 01/13/2015 Sampling Date: 01/12/2015

Reported: 01/22/2015 Sampling Type: Soil

Project Name: QPQASU #10 FLOW LINE Sampling Condition: Cool & Intact NONE GIVEN Sample Received By: Project Number: Jodi Henson

Project Location: LEA COUNTY, NM

### Sample ID: SB-3 @ 25' (H500122-07)

BTEX 8021B	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<1.00	1.00	01/15/2015	ND	1.68	84.2	2.00	9.55	
Toluene*	3.79	1.00	01/15/2015	ND	1.65	82.4	2.00	9.56	
Ethylbenzene*	5.38	1.00	01/15/2015	ND	1.62	80.8	2.00	9.21	
Total Xylenes*	21.8	3.00	01/15/2015	ND	4.86	80.9	6.00	9.66	
Total BTEX	31.0	6.00	01/15/2015	ND					
Surrogate: 4-Bromofluorobenzene (PID	105	% 61-154	1						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	01/15/2015	ND	400	100	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	1560	100	01/15/2015	ND	189	94.4	200	2.45	
DRO >C10-C28	10200	100	01/15/2015	ND	202	101	200	3.96	
EXT DRO >C28-C35	1420	100	01/15/2015	ND					
Surrogate: 1-Chlorooctane	211	% 47.2-15	7						
Surrogate: 1-Chlorooctadecane	221	% 52.1-17	6						

Surrogate: 1-Chlorooctadecane

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Basin Environmental Service JOEL LOWRY P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 01/13/2015 Sampling Date: 01/12/2015

Reported: 01/22/2015 Sampling Type: Soil

Project Name: QPQASU #10 FLOW LINE Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Jodi Henson

Analyzed By: me

Project Location: LEA COUNTY, NM

ma/ka

### Sample ID: SB-3 @ 35' (H500122-08)

RTFY 8021R

B1EX 8021B	mg/	кд	Anaiyze	a By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2015	ND	1.58	78.8	2.00	14.6	
Toluene*	<0.050	0.050	01/22/2015	ND	1.51	75.7	2.00	15.2	
Ethylbenzene*	<0.050	0.050	01/22/2015	ND	1.44	72.0	2.00	15.8	
Total Xylenes*	<0.150	0.150	01/22/2015	ND	4.34	72.3	6.00	16.4	
Total BTEX	<0.300	0.300	01/22/2015	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 9	% 61-154	1						
Chloride, SM4500Cl-B	mg/	kg	Analyze	ed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	01/15/2015	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	27.8	10.0	01/15/2015	ND	189	94.4	200	2.45	
DRO >C10-C28	601	10.0	01/15/2015	ND	202	101	200	3.96	
EXT DRO >C28-C35	99.3	10.0	01/15/2015	ND					
Surrogate: 1-Chlorooctane	94.5	% 47.2-15	7						
Surrogate: 1-Chlorooctadecane	113 9	% 52 1-17	'6						

Surrogate: 1-Chlorooctadecane 113 % 52.1-176

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Basin Environmental Service JOEL LOWRY P.O. Box 301

Lovington NM, 88260 Fax To: (575) 396-1429

Received: 01/13/2015 Sampling Date: 01/12/2015

Reported: 01/22/2015 Sampling Type: Soil

Project Name: QPQASU #10 FLOW LINE Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Jodi Henson

Project Location: LEA COUNTY, NM

### Sample ID: SB-3 @ 45' (H500122-09)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	01/15/2015	ND	400	100	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	15.6	10.0	01/15/2015	ND	189	94.4	200	2.45	
DRO >C10-C28	465	10.0	01/15/2015	ND	202	101	200	3.96	
EXT DRO >C28-C35	69.1	10.0	01/15/2015	ND					
Surrogate: 1-Chlorooctane	95.4	% 47.2-15	57						
6	111	0/ 52.1.15	•						

Surrogate: 1-Chlorooctadecane 111 % 52.1-176

### Sample ID: SB-3 @ 50' (H500122-10)

Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	01/15/2015	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/15/2015	ND	189	94.4	200	2.45	
DRO >C10-C28	26.7	10.0	01/15/2015	ND	202	101	200	3.96	
EXT DRO >C28-C35	<10.0	10.0	01/15/2015	ND					
Surrogate: 1-Chlorooctane	99.0 9	% 47.2-15	7						
Surrogate: 1-Chlorooctadecane	109 9	% 52.1-17	6						

Cardinal Laboratories \*=Accredited Analyte

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Basin Environmental Service JOEL LOWRY P.O. Box 301

P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 01/13/2015 Sampling Date: 01/12/2015

Reported: 01/22/2015 Sampling Type: Soil

Project Name: QPQASU #10 FLOW LINE Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: LEA COUNTY, NM

### Sample ID: SB-3 @ 55' (H500122-11)

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	01/15/2015	ND	1.68	84.2	2.00	9.55	
Toluene*	<0.050	0.050	01/15/2015	ND	1.65	82.4	2.00	9.56	
Ethylbenzene*	<0.050	0.050	01/15/2015	ND	1.62	80.8	2.00	9.21	
Total Xylenes*	<0.150	0.150	01/15/2015	ND	4.86	80.9	6.00	9.66	
Total BTEX	<0.300	0.300	01/15/2015	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.6	% 61-154	!						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	01/15/2015	ND	400	100	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/15/2015	ND	189	94.4	200	2.45	
DRO >C10-C28	<10.0	10.0	01/15/2015	ND	202	101	200	3.96	
EXT DRO >C28-C35	<10.0	10.0	01/15/2015	ND					
Surrogate: 1-Chlorooctane	95.2	% 47.2-15	7						
Surrogate: 1-Chlorooctadecane	114	% 52.1-17	6						

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### **Notes and Definitions**

S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or

matrix interference's.

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

Company Name:							8	BIL					•		ANAI YSIS REQUEST	Ĕ	T T			
Project Manager:	Joel Lowry					P.O. #:					_	_	4	_	$\dashv$	$\dashv$	-	$\dashv$	1	$\neg$
Address: P.O. E	P.O. Box 301					Com	Company:	Mewbourne Oil Co	ne Oil Co					_	_	_				
City: Lovington		State: NM Z	į.	<b>Zip</b> : 88260		Attn:		Zack Thomas	as							_				
Phone #: (575)3	(575)396-2378 Fa	Fax #: (575)396-1429	-142	29		Address:	ess:							-						
Project #:	Pr	Project Owner:				City:							H					_		
Project Name: (	QPQASU #10 Flow Line					State:	N N	Zip:		е	5M)	21B)	TP		_					
Project Location:	Lea Co, NM					Phone #:				orid	801	_		JSH						
Sampler Name:	J. Lowry					Fax #:	77	· A		Chl	H (			RU	_		_	-		
FOR LAB USE ONLY			4		MATRIX	PI	PRESERV.	SAMPLING	iG		TF		IOL					_	9	
				TER									-							
Lab I.D.	Sample I.D.		AB OR (	ONTAINE OUNDWA STEWATE		DGE ER : D/BASE:	COOL													
	SB-1 @ 40'		_		× 8		×	1/12/15	940	×	×	×	4	4	+	+	+	+	1	T
N	SB-1 @ 50'		9	_	×		×	1/12/15	945	×	×			$\dashv$	-	-	$\dashv$			
W	SB-1 @ 60'		9		×		×	1/12/15	950	×	×			_	_	-				
4	SB-1 @ 70'		9	_	×		×	1/12/15	955	×	×					+	$\dashv$			
S	SB-1 @ 75'		9	_	×		×	1/12/15	1000	×	×					-	+		XI	
6	SB-1 @ 80'		9	_	×		×	1/12/15	1005	×	×	×			-	-				
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† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

Relinquished By

Phone Result: Fax Result: REMARKS:

□ Yes

O No

Add'l Phone #: Add'l Fax #:

Please email results to pm@basinenv.com,

Sampler - UPS - Bus - Other: Delivered By: (Circle One)

#54

Revision 1.0 FORM-006

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

0 0 0 0 0 0 0 0 0 ARDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

Company Name:								_				8	ī	BILL TO						ANALYSIS REQUEST	YSIS	K	5	C	-				
Project Manager: Joel Lowry									P.O.	.#	"		11			4							┪	_			$\dashv$	$\dashv$	
Address: P.O. Box 301									00	ᇕᅵ	Company:	۶.		Mewbourne Oil Co	Co														
City: Lovington	State: NM	Zip:		88260	0				Attn:	2				Zack Thomas														_	
Phone #: (575)396-2378	Fax #: (575)396-1429	6-14	29						βA	dre	Address:																	_	
Project #:	Project Owner:	••							City:	×								)	Н									_	
Project Name: QPQASU #10 Flow Line	ow Line								Sta	State:		Z		Zip:		le	5M)	21B	TP										
Project Location: Lea Co, NM									Phone #:	9	#					oric	801	(80	OR	JSH									
Sampler Name: J. Lowry									Fax #:	#						Chl	H (	EX	D I	RI									
FOR LAB USE ONLY			4	١	ار	MATRIX	쯽	ı		PR	PRESERV.	찕	읙	SAMPLING		_	TF	вт	IOI										
Lab I.D. Samı	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	OTTLET.	DATE 1	TIME				١										
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SB SB	SB-3 @ 35'	9	_			×					×		_	1/12/15 1	1135	×	×	X		ac	lde	2	1/	22	11	1			
	SB-3 @ 45'	9	_			×					×		_	1/12/15	1140	×	×								1			-	
SB SH	SB-3 @ 50'	9	<u> </u>			×					×		_	1/12/15	1150	×	×											_	
	SB-3 @ 55'	9	_			×					×		_	1/12/15 1	1200	×	×	×					$\top$	$\perp$			$\top$	+	
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† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

Sample Condition
Cool Intact
A Yes A Yes
No No

CHECKED BY:

Please email results to pm@basinenv.com,

Sampler - UPS - Bus - Other:

Delivered By: (Circle One)

Relinquished B

fquished By:

Date: /-/3-15 Time: 2'15 Bate: 15/5

Phone Result:
Fax Result:
REMARKS:

□ Yes

O No

Add'l Phone #: Add'l Fax #: