Basin Environmental Service Technologies, LLC

3100 Plains Highway
P. O. Box 301
Lovington, New Mexico 88260
bjarguijo@basinenv.com
Office: (575) 396-2378 Fax: (575) 396-1429

Effective Solutions

REVISED SPILL REMEDIATION PROPOSAL

FASKEN OIL & RANCH, LTD.
DENTON SWD #3 1/2015
Lea County, New Mexico
Unit Letter "M" (SW/SW), Section 12, Township 15 South, Range 37 East
Latitude 33° 01' 21.14" North, Longitude 103° 09' 35.13" West
NMOCD Reference #: 1RP-3602

Prepared For:

Fasken Oil & Ranch, Ltd.
303 West Wall, Suite 1800
Midland, TX 79701

Prepared By:

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

May 2015

Ben J. Arguijo
Project Manager

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

1.0 INTRODUCTION & BACKGROUND INFORMATION

Basin Environmental Service Technologies, LLC (Basin Environmental), on behalf of Fasken Oil & Ranch, Ltd. (Fasken), has prepared this *Revised Spill Remediation Proposal* for the release site known as Denton SWD #3 1/2015. The legal description of the release site is Unit Letter "M" (SW/SW), Section 12, Township 15 South, Range 37 East in Lea County, New Mexico. The geographic coordinates of the release site are 33° 01' 21.14" North latitude and 103° 09' 35.13" West longitude. The property affected by the release is owned by Mr. Darr Angel. Please reference Figure 1 for a "Site Location Map".

On January 21, 2015, Fasken discovered a release had occurred at the Denton Salt Water Disposal (SWD) #3 facility. A pin pulled out of the collar of an injection line, resulting in a release of approximately seventy barrels (70 bbls) of produced water. During initial response activities, the collar was repaired, and a vacuum truck was utilized to recover free-standing liquid.

The release was reported to the New Mexico Oil Conservation Division's (NMOCD) Hobbs District Office on January 22, 2015. The "Release Notification and Corrective Action" (Form C-141) indicated approximately sixty-five barrels (65 bbls) of the released fluid were recovered, resulting in a net loss of approximately five barrels (5 bbls) of produced water. The release impacted an area of pastureland adjacent to Denton SWD #3 measuring approximately six hundred square feet (600 ft^2).

The Form C-141 is provided as Appendix A. General photographs of the release site are provided as Appendix B.

2.0 NMOCD SITE CLASSIFICATION

A search of the New Mexico Water Rights Reporting System (NMWRRS) database maintained by the New Mexico Office of the State Engineer (NMOSE) indicates groundwater in Section 12, Township 15 South, Range 37 East should be encountered approximately fifty-five (55) to sixty feet (60') below ground surface (bgs). Based on the NMOCD ranking system, ten (10) points will be assigned to the site as a result of this criterion.

A search of the NMWRRS database indicated there are no 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 Denton SWD #3 1/2015 release site has an initial ranking score of ten (10) points. The soil remediation levels for a site with a ranking score of ten (10) points are as follows:

- Benzene – 10 mg/kg (ppm)
- Benzene, toluene, ethylbenzene, and total xylene (BTEX) – 50 mg/kg (ppm)
- Total petroleum hydrocarbons (TPH) – 1,000 mg/kg (ppm)

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

3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES

On February 19 and 20, 2015, Basin Environmental conducted delineation activities at the release site. A series of seven (7) delineation trenches (TT-1 through TT-7) were advanced in the area affected by the release in an effort to determine the vertical and horizontal extent of impacted soil. The delineation trenches were spaced approximately fifty feet (50') apart and were advanced in ten-foot (10') horizontal increments. The delineation trenches were advanced vertically to the hard rock layer running underneath the site and ranged in depth from approximately two (2) to four feet (4') bgs. Further vertical advancement of the trenches was deemed impracticable without specialized equipment.

Delineation trench TT-1 was advanced north-to-south across the inferred southern boundary of the release. Trenches TT-2 through TT-4 were advanced west-to-east along the inferred eastern boundary of the release. Trench TT-5 was advanced southwest-to-northeast across the inferred northeastern boundary of the release. Trench TT-6 was advanced south-to-north across the inferred northern boundary of the release, between a high-pressure, fiberglass pipeline ranging in diameter from four (4) to six inches (6"), which bisects the release site north-to-south, and two (2) four-inch (4"), high-pressure, fiberglass pipelines running north-to-south along the western boundary of the release. Due to safety and environmental concerns, a buffer zone of five (5) to seven feet (7') was left between the delineation trench and the fiberglass pipelines. Trench TT-7 was advanced northwest-to-southeast across the inferred southeastern boundary of the release. Locations of the delineation trenches are depicted in Figure 2, "Site & Sample Location Map".

Soil samples collected during the advancement of the delineation trenches were field-screened with a chloride test kit. A total of eight (8) confirmation samples (TT-1B, TT-1E, TT-2B, TT-3A, TT-4B, TT-5C, TT-6A, and TT-7A) were submitted to Cardinal Laboratories, in Hobbs, New Mexico, for analysis of chloride, TPH, and BTEX concentrations using the Environmental Protection Agency (EPA) analytical methods listed in Section 4.1, "Soil Sampling", below. Laboratory analytical results indicated chloride concentrations ranged from 32.0 mg/kg in samples TT-2B and TT-4B to 688 mg/kg in sample TT-6A. TPH and BTEX constituent concentrations were less than the appropriate laboratory method detection limit (MDL) in all submitted samples. Table 1 summarizes the "Concentrations of Benzene, BTEX, TPH & Chloride in Soil". Field-test results are summarized in Table 2. Laboratory analytical reports are provided as Appendix C.

Review of laboratory analytical results and field-screens indicated horizontal delineation had been achieved in the areas represented by delineation trenches TT-1 through TT-5 and TT-7. However, the release commingled with a historical release (or releases) of unknown volume and composition to the north, in the area represented by delineation trench TT-6. Additional delineation to determine the extent of the historical contamination was required.

On March 24, 2015, delineation of the historical release(s) commenced. A series of six (6) delineation trenches (TT-8 through TT-13) were advanced to the north of the inferred boundary of the January 21, 2015, release in an effort to determine the extent of the historical contamination. The delineation trenches were spaced approximately fifty feet (50') apart and were advanced in

ten-foot (10') horizontal increments. The trenches were advanced vertically to the hard rock layer running underneath the site and ranged in depth from approximately one and one-half (1.5) to two and one-half feet (2.5') bgs. Again, further vertical advancement of the trenches was deemed impracticable without specialized equipment.

Delineation trenches TT-8, TT-9, and TT-11 were advanced north of trench TT-6, between the high-pressure fiberglass pipelines running through the release site, to determine the northern extent of the historical contamination. Trenches TT-10, TT-12, and TT-13 were advanced east-to-west to the east of the four-to-six-inch (4 - 6"), fiberglass pipeline to determine the eastern and northeastern extent of the historical contamination. A safety buffer zone of five (5) to ten feet (10') was left between the delineation trenches and the high-pressure fiberglass pipelines.

Soil samples collected during the advancement of the delineation trenches were field-screened with a chloride test kit, and a total of six (6) confirmation samples (TT-8A, TT-9A, TT-10D, TT-11A, TT-12A, and TT-13B) were submitted to Cardinal Laboratories for analysis of chloride, TPH, and BTEX concentrations. Laboratory analytical results indicated chloride concentrations ranged from less than the laboratory MDL in sample TT-13B to 3,280 mg/kg in sample TT-9A. TPH and BTEX constituent concentrations were less than the appropriate laboratory MDL in all submitted samples.

Review of laboratory analytical results and field-screens indicated delineation of the eastern and northeastern horizontal extents of the historical contamination had been achieved. Delineation to the north and west was hampered by the high-pressure fiberglass pipelines running through the release site.

4.0 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) PROCEDURES

4.1 Soil Sampling

Soil samples were delivered to Cardinal Laboratories in Hobbs, New Mexico, for chloride, TPH, and/or BTEX analyses using the methods described below:

- Chloride concentrations in accordance with EPA Method SM 4500 Cl-B
- TPH concentrations in accordance with modified EPA Method SW-846 8015M
- BTEX concentrations in accordance with EPA Method SW-846 8021b

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 PROPOSED ACTIVITIES

Fasken proposes to conduct the following activities to progress the Denton SWD #3 1/2015 release site to an NMOCD-approved, risk-based closure:

- The excavation will be advanced vertically to the hard rock layer running underneath the site, which is commonly encountered between approximately one and one-half (1.5) to four feet (4') bgs. The excavation sidewalls will be advanced to the areas represented by confirmation samples TT-1B, TT-2B, TT-3A, TT-4B, TT-5C, TT-7A, TT-10D, TT-12A, and TT-13B. Soil samples will be collected at approximate ten-foot (10') horizontal intervals from the floor and sidewalls of the excavation and field-screened with a chloride test kit. Confirmation soil samples will be collected at approximate twenty-five-foot (25') horizontal intervals and submitted to Cardinal Laboratories for analysis of chloride, TPH, and/or BTEX concentrations using the analytical methods listed in Section 4.1 above. The excavation will be fenced off during periods of inactivity to prevent injury to oilfield personnel, livestock, and wildlife.

- Due to safety and environmental concerns, impacted material atop, adjacent to, and between the high-pressure fiberglass lines running through the site (i.e., the area represented by delineation trenches TT-6, TT-8, TT-9, and TT-11) will be left in-situ. In addition, a safety buffer zone of ten feet (10') of impacted material will be left in-situ to the east of the four-to-six-inch (4 - 6"), high-pressure, fiberglass pipeline bisecting the site.

- Excavated soil will be stockpiled on-site on six (6) mil polypropylene plastic, pending final disposition. Visibly stained soil and soil exhibiting chloride concentrations over 500 mg/kg and/or TPH concentrations over 1,000 mg/kg will be transported to Lea Land, Inc. (NMOCD Permit # WM-01-035), for disposal. Up to three (3) discrete, or "grab", soil samples will be collected from the stockpiled material and submitted to Cardinal Laboratories for waste characterization prior to disposal.

- Up to three (3) soil borings will be advanced at the site to delineate the vertical extent of impact from both the January 2015 release and the historical release(s). Soil samples will be collected at five-foot (5') drilling intervals and field-screened using a chloride test kit and/or photo-ionization detector (PID). Selected soil samples will be submitted to Cardinal Laboratories for analysis of chloride, TPH, and/or BTEX concentrations.

- Prior to backfilling, the floor of the excavation will be swept in an attempt to remove residual chloride contamination from the exposed surface of the hard rock layer. The excavation floor will then be lined with approximately two feet (2') of clay, which will serve to inhibit vertical migration of contaminants both upward to the vegetative zone and downward to the underlying groundwater. The remaining portion of the excavation will be backfilled with locally purchased, non-impacted material, compacted, and contoured to fit the surrounding topography.

- Reseeding of the site with vegetation acceptable to the landowner will take place at the conclusion of the proposed remediation activities.

6.0 REPORTING

Upon review and approval of this *Revised Spill Remediation Proposal* by the NMOCD, Fasken is prepared to begin field activities and perform the corrective actions summarized herein. Upon completion of the corrective actions, Fasken will submit a *Remediation Summary* to the NMOCD, documenting remediation activities and results of confirmation soil samples.

7.0 LIMITATIONS

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

This report has been prepared for the benefit of Fasken Oil & Ranch, Ltd. 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 Fasken Oil & Ranch, Ltd.

8.0 DISTRIBUTION:

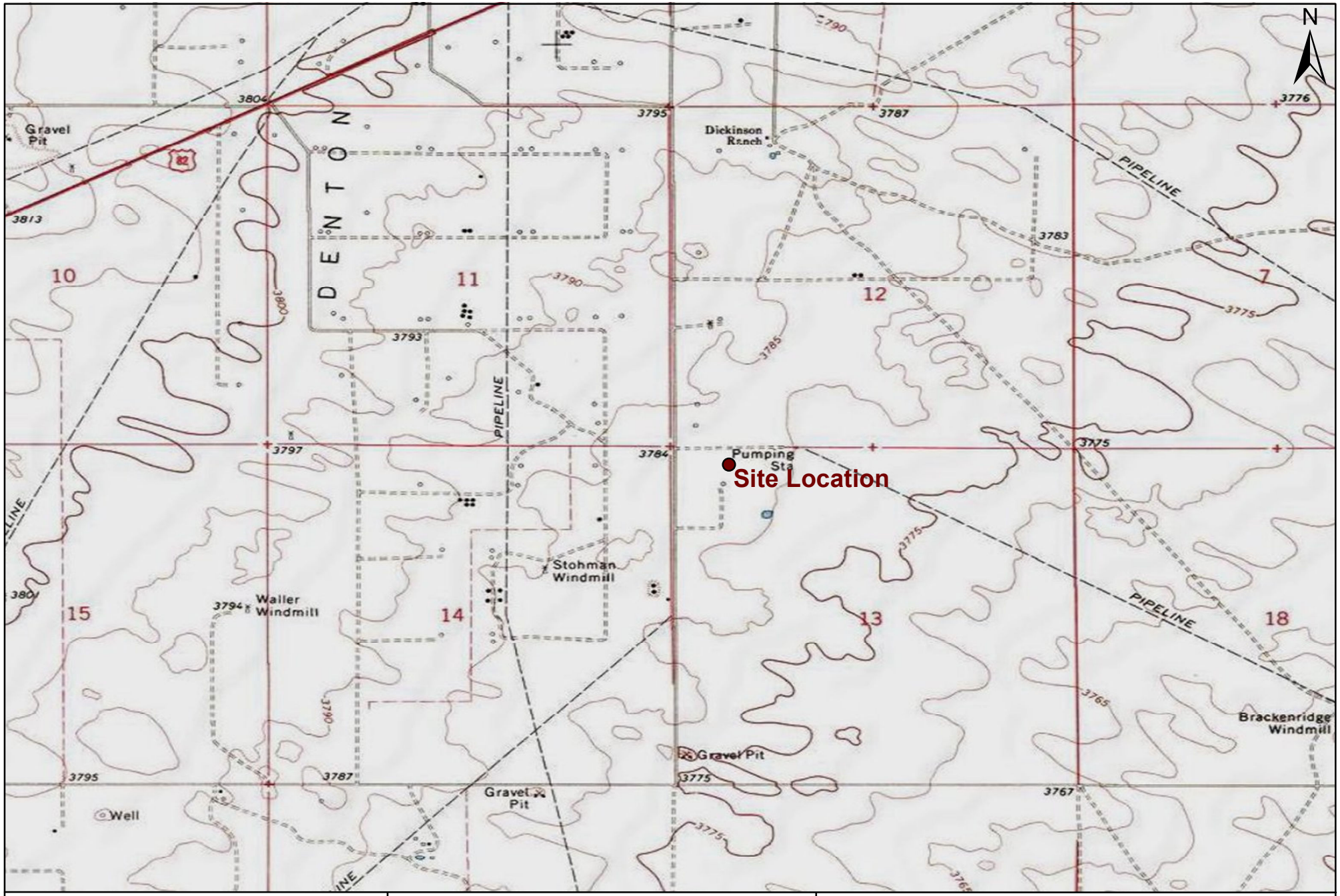
Copy 1: Tomas Oberding
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division (District 1)
1625 N. French Dr.
Hobbs, NM 88240

Copy 2: Aaron Pachlhofer
Fasken Oil & Ranch, Ltd.
6101 Holiday Hill Road
Midland, TX 79707

Copy 3: Jimmy Carlile
Fasken Oil & Ranch, Ltd.
303 West Wall, Suite 1800
Midland, TX 79701

Copy 4: Basin Environmental Service Technologies, LLC
P.O. Box 301
Lovington, NM 88260

Figures



1,000 500 0 1,000 2,000

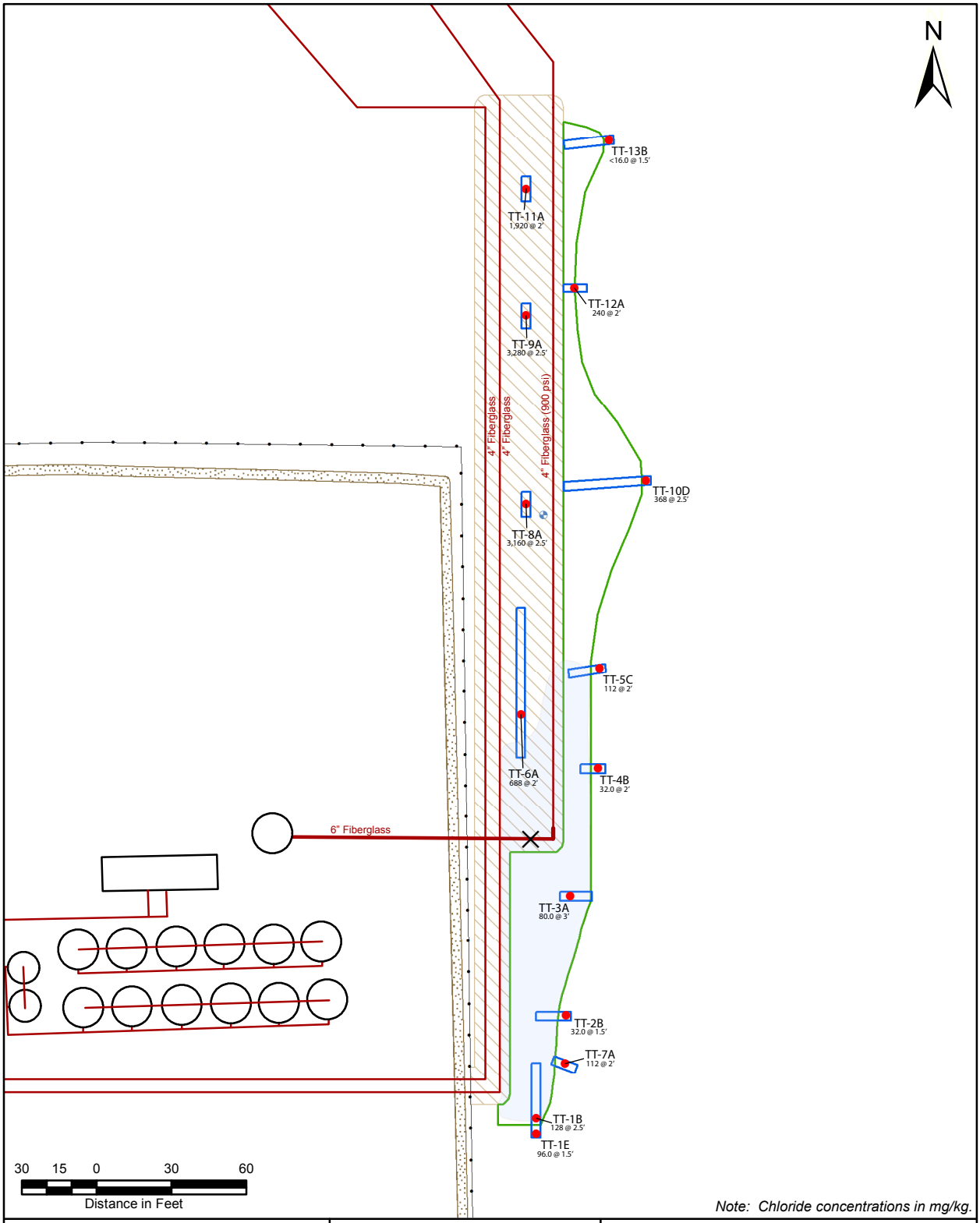
Distance in Feet

Figure 1
Site Location Map
Fasken Oil & Ranch, Ltd.
Denton SWD #3 1/2015
Lea County, New Mexico
NMOCD Reference #: 1RP-3602

Basin Environmental Service Technologies
Effective Solutions

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

Drawn By: BJA	Checked By: BRB
April 10, 2015	Scale: 1" = 2,000'



Note: Chloride concentrations in mg/kg.

Legend

- Delineation Trench
- Proposed Excavation
- Pipeline
- Fence
- Safety Buffer Zone
- Berm
- Release Point
- Sample Location
- Monitor Well
- Release Margins

Figure 2
Site & Sample Location Map
Fasken Oil & Ranch, Ltd.
Denton SWD #3 1/2015
Lea County, New Mexico
NMOCD Reference #: 1RP-3602

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

Drawn By: BJA	Checked By: BRB
April 29, 2015	Scale: 1" = 60'

Tables

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

FASKEN OIL & RANCH, LTD.
DENTON SWD #3 1/2015
LEA COUNTY, NEW MEXICO
NMOCD REFERENCE #: 1RP-3602

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M			TPH C_6-C_{28} (mg/Kg)	EPA: 300
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C_6-C_{12} (mg/Kg)	DRO C_{12}-C_{28} (mg/Kg)	ORO C_{28}-C_{35} (mg/Kg)		CHLORIDE (mg/Kg)
TT-1B	2.5'	2/19/2015	In-Situ	<0.050	0.056	<0.050	<0.150	0.056	<10.0	<10.0	<10.0	<10.0	128
TT-1E	1.5'	2/19/2015	In-Situ	<0.050	0.063	<0.050	<0.150	0.063	<10.0	<10.0	<10.0	<10.0	96.0
TT-2B	1.5'	2/19/2015	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.0
TT-3A	3'	2/19/2015	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	80.0
TT-4B	2'	2/20/2015	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32.0
TT-5C	2'	2/20/2015	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	112
TT-6A	2'	2/20/2015	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	**688**
TT-7A	2'	2/20/2015	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	112
TT-8A	2.5'	3/24/2015	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	**3,160**
TT-9A	2.5'	3/24/2015	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	**3,280**
TT-10D	2.5'	3/24/2015	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	368
TT-11A	2'	3/24/2015	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	**1,920**
TT-12A	2'	3/24/2015	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	240
TT-13B	1.5'	3/24/2015	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<16.0
NMOCD Recommended Remediation Action Level				**10**				**50**				**1,000**	**500**

- = Not analyzed.

TABLE 2
FIELD-TEST RESULTS

FASKEN OIL & RANCH, LTD.
DENTON #3 SWD 1/2015
LEA COUNTY, NEW MEXICO
NMOCD REFERENCE #: 1RP-3602

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	Hach Quantab CHLORIDE (PPM)
TT-1A @ 2.5'	2.5'	2/19/2015	In-Situ	**1,204**
TT-1B @ 2.5'	2.5'	2/19/2015	In-Situ	**1,292**
TT-1C @ Surface	Surface	2/19/2015	In-Situ	252
TT-1C @ 3.5'	3.5'	2/19/2015	In-Situ	**644**
TT-1D @ 3.5'	3.5'	2/19/2015	In-Situ	188
TT-1E @ 1.5'	1.5'	2/19/2015	In-Situ	<120
TT-2A @Surface	Surface	2/19/2015	In-Situ	**592**
TT-2A @ 2'	2'	2/19/2015	In-Situ	**1,952**
TT-2B @ 1.5'	1.5'	2/19/2015	In-Situ	<132
TT-2B @ 4'	4'	2/19/2015	In-Situ	<132
TT-3A @ Surface	Surface	2/19/2015	In-Situ	200
TT-3A @ 3'	3'	2/19/2015	In-Situ	<120
TT-3B @ 2.5'	2.5'	2/19/2015	In-Situ	<120
TT-4A @ Surface	Surface	2/20/2015	In-Situ	89
TT-4A @ 2.5'	2.5'	2/20/2015	In-Situ	249
TT-4B @ Surface	Surface	2/20/2015	In-Situ	89
TT-4B @ 2'	2'	2/20/2015	In-Situ	177
TT-5A @ Surface	Surface	2/20/2015	In-Situ	91
TT-5A @ 2'	2'	2/20/2015	In-Situ	369
TT-5B @ Surface	Surface	2/20/2015	In-Situ	90
TT-5B @ 2'	2'	2/20/2015	In-Situ	340
TT-5C @ Surface	Surface	2/20/2015	In-Situ	92
TT-5C @ 2'	2'	2/20/2015	In-Situ	148
TT-6A @ Surface	Surface	2/20/2015	In-Situ	**764**
TT-6A @ 2'	2'	2/20/2015	In-Situ	**514**
TT-6B @ Surface	Surface	2/20/2015	In-Situ	**501**
TT-6B @ 2'	2'	2/20/2015	In-Situ	**712**
TT-6C @ 2'	Surface	2/20/2015	In-Situ	**1,927**
TT-6D @ 2'	2'	2/20/2015	In-Situ	**3,514**
TT-6E @ Surface	Surface	2/20/2015	In-Situ	**848**
TT-6E @ 2'	2'	2/20/2015	In-Situ	**941**
TT-7A @ Surface	Surface	2/20/2015	In-Situ	85
TT-7A @ 2'	2'	2/20/2015	In-Situ	115
Surface SP #1	Surface	2/20/2015	In-Situ	**3,621**
Surface SP #2	Surface	2/20/2015	In-Situ	**3,490**

TABLE 2
FIELD-TEST RESULTS

FASKEN OIL & RANCH, LTD.
DENTON #3 SWD 1/2015
LEA COUNTY, NEW MEXICO
NMOCD REFERENCE #: 1RP-3602

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	Hach Quantab CHLORIDE (PPM)
TT-8A @ 2.5'	2.5'	3/24/2015	In-Situ	**2,464**
TT-9A @ 2.5'	2.5'	3/24/2015	In-Situ	**2,712**
TT-10A @ 2.5'	2.5'	3/24/2015	In-Situ	**592**
TT-10B @ 2.5'	2.5'	3/24/2015	In-Situ	**892**
TT-10C @ 2.5'	2.5'	3/24/2015	In-Situ	**636**
TT-10D @ 2.5'	2.5'	3/24/2015	In-Situ	260
TT-11A @ 2'	2'	3/24/2015	In-Situ	**964**
TT-12A @ 2'	2'	3/24/2015	In-Situ	252
TT-13A @ 1.5'	1.5'	3/24/2015	In-Situ	**964**
TT-13B @ 1.5'	1.5'	3/24/2015	In-Situ	<120

Appendices

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

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: Fasken Oil and Ranch, Ltd	Contact: Aaron Pachlhofer, P.G.
Address: 6101 Holiday Hill Road	Telephone No.: 432-687-1777
Facility Name: Denton SWD No.3	Facility Type: SWD Injection Line

Surface Owner: Darr Angell	Mineral Owner: Fee	API No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	12	15S	37E	660”	South	330’	West	Lea

Latitude__33 deg 01’ 21.14”_____ **Longitude**__-103 deg 9’ 35.13”_____

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 70	Volume Recovered: 65
Source of Release: Injection line	Date and Hour of Occurrence: 1/21/15	Date and Hour of Discovery: 1/21/15 ~17:00
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Tomas Oberding	
By Whom? Aaron Pachlhofer, P.G.	Date and Hour 1/22/15 ~15:00	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
Pin pulled out of collar on injection line. Collar repaired and returned to service

Describe Area Affected and Cleanup Action Taken.*
Approximately 20’ x 30’ area affected. Pooled fluid recovered. Further remedial action pending assessment and scheduling.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Aaron Pachlhofer, P.G.	Approved by Environmental Specialist:	
Title: Environmental Coordinator	Approval Date:	Expiration Date:
E-mail Address: aaronp@forl.com	Conditions of Approval:	Attached ☐
Date: 1/23/15 Phone: 432-687-1777		

* Attach Additional Sheets If Necessary

Appendix B

Photographs

Denton SWD #3 1/2015 – Point of Release

Denton SWD #3 1/2015 - Release Site (Looking South)

Denton SWD #3 1/2015 – Release Site (Looking Southwest)

Denton SWD #3 1/2015 – Release Site (Looking West-Southwest)

Denton SWD #3 1/2015 – Historical Release(s) (Looking South)

Denton SWD #3 1/2015 – Delineation of January 2015 Release (Looking West Southwest)

Denton SWD #3 1/2015 - Delineation of January 2015 Release (Looking Northwest)

Denton SWD #3 1/2015 - Delineation of Historical Release(s) (Looking Southwest)

Denton SWD #3 1/2015 - Delineation of Historical Release(s) (Looking North-Northwest)

Appendix C
Laboratory Analytical Reports

CARDINAL Laboratories

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

March 06, 2015

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: DENTON SWD #3

Enclosed are the results of analyses for samples received by the laboratory on 03/02/15 16:20.

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 www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/02/2015	Sampling Date:	02/19/2015
Reported:	03/06/2015	Sampling Type:	Soil
Project Name:	DENTON SWD #3	Sampling Condition:	Cool & Intact
Project Number:	FASKEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: TT-1B (H500577-01)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/04/2015	ND	1.97	98.3	2.00	4.17	
Toluene*	**0.056**	0.050	03/04/2015	ND	1.79	89.4	2.00	2.85	
Ethylbenzene*	<0.050	0.050	03/04/2015	ND	1.97	98.7	2.00	4.44	
Total Xylenes*	<0.150	0.150	03/04/2015	ND	5.29	88.1	6.00	4.80	
Total BTEX	<0.300	0.300	03/04/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.7 %* *61-154*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	03/03/2015	ND	416	104	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/03/2015	ND	180	90.0	200	1.71	
DRO >C10-C28	<10.0	10.0	03/03/2015	ND	175	87.5	200	5.84	
EXT DRO >C28-C35	<10.0	10.0	03/03/2015	ND					

Surrogate: 1-Chlorooctane *80.5 %* *47.2-157*

Surrogate: 1-Chlorooctadecane *83.6 %* *52.1-176*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/02/2015	Sampling Date:	02/19/2015
Reported:	03/06/2015	Sampling Type:	Soil
Project Name:	DENTON SWD #3	Sampling Condition:	Cool & Intact
Project Number:	FASKEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: TT-1E (H500577-02)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/04/2015	ND	1.97	98.3	2.00	4.17	
Toluene*	**0.063**	0.050	03/04/2015	ND	1.79	89.4	2.00	2.85	
Ethylbenzene*	<0.050	0.050	03/04/2015	ND	1.97	98.7	2.00	4.44	
Total Xylenes*	<0.150	0.150	03/04/2015	ND	5.29	88.1	6.00	4.80	
Total BTEX	<0.300	0.300	03/04/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.7 %* *61-154*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	03/03/2015	ND	416	104	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/03/2015	ND	180	90.0	200	1.71	
DRO >C10-C28	<10.0	10.0	03/03/2015	ND	175	87.5	200	5.84	
EXT DRO >C28-C35	<10.0	10.0	03/03/2015	ND					

Surrogate: 1-Chlorooctane *78.6 %* *47.2-157*

Surrogate: 1-Chlorooctadecane *80.5 %* *52.1-176*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/02/2015	Sampling Date:	02/19/2015
Reported:	03/06/2015	Sampling Type:	Soil
Project Name:	DENTON SWD #3	Sampling Condition:	Cool & Intact
Project Number:	FASKEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: TT-2B (H500577-03)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/04/2015	ND	1.97	98.3	2.00	4.17	
Toluene*	<0.050	0.050	03/04/2015	ND	1.79	89.4	2.00	2.85	
Ethylbenzene*	<0.050	0.050	03/04/2015	ND	1.97	98.7	2.00	4.44	
Total Xylenes*	<0.150	0.150	03/04/2015	ND	5.29	88.1	6.00	4.80	
Total BTEX	<0.300	0.300	03/04/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.4 %* *61-154*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	03/03/2015	ND	416	104	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/03/2015	ND	180	90.0	200	1.71	
DRO >C10-C28	<10.0	10.0	03/03/2015	ND	175	87.5	200	5.84	
EXT DRO >C28-C35	<10.0	10.0	03/03/2015	ND					

Surrogate: 1-Chlorooctane *82.2 %* *47.2-157*

Surrogate: 1-Chlorooctadecane *84.9 %* *52.1-176*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/02/2015	Sampling Date:	02/19/2015
Reported:	03/06/2015	Sampling Type:	Soil
Project Name:	DENTON SWD #3	Sampling Condition:	Cool & Intact
Project Number:	FASKEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: TT-3A (H500577-04)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/04/2015	ND	1.97	98.3	2.00	4.17	
Toluene*	<0.050	0.050	03/04/2015	ND	1.79	89.4	2.00	2.85	
Ethylbenzene*	<0.050	0.050	03/04/2015	ND	1.97	98.7	2.00	4.44	
Total Xylenes*	<0.150	0.150	03/04/2015	ND	5.29	88.1	6.00	4.80	
Total BTEX	<0.300	0.300	03/04/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *93.8 %* *61-154*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	03/03/2015	ND	416	104	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/03/2015	ND	180	90.0	200	1.71	
DRO >C10-C28	<10.0	10.0	03/03/2015	ND	175	87.5	200	5.84	
EXT DRO >C28-C35	<10.0	10.0	03/03/2015	ND					

Surrogate: 1-Chlorooctane *77.1 %* *47.2-157*

Surrogate: 1-Chlorooctadecane *79.1 %* *52.1-176*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/02/2015	Sampling Date:	02/20/2015
Reported:	03/06/2015	Sampling Type:	Soil
Project Name:	DENTON SWD #3	Sampling Condition:	Cool & Intact
Project Number:	FASKEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: TT-4B (H500577-05)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/04/2015	ND	1.97	98.3	2.00	4.17	
Toluene*	<0.050	0.050	03/04/2015	ND	1.79	89.4	2.00	2.85	
Ethylbenzene*	<0.050	0.050	03/04/2015	ND	1.97	98.7	2.00	4.44	
Total Xylenes*	<0.150	0.150	03/04/2015	ND	5.29	88.1	6.00	4.80	
Total BTEX	<0.300	0.300	03/04/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.8 %* *61-154*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	03/03/2015	ND	416	104	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/03/2015	ND	180	90.0	200	1.71	
DRO >C10-C28	<10.0	10.0	03/03/2015	ND	175	87.5	200	5.84	
EXT DRO >C28-C35	<10.0	10.0	03/03/2015	ND					

Surrogate: 1-Chlorooctane *75.7 %* *47.2-157*

Surrogate: 1-Chlorooctadecane *78.8 %* *52.1-176*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/02/2015	Sampling Date:	02/20/2015
Reported:	03/06/2015	Sampling Type:	Soil
Project Name:	DENTON SWD #3	Sampling Condition:	Cool & Intact
Project Number:	FASKEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: TT-5C (H500577-06)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/04/2015	ND	1.97	98.3	2.00	4.17	
Toluene*	<0.050	0.050	03/04/2015	ND	1.79	89.4	2.00	2.85	
Ethylbenzene*	<0.050	0.050	03/04/2015	ND	1.97	98.7	2.00	4.44	
Total Xylenes*	<0.150	0.150	03/04/2015	ND	5.29	88.1	6.00	4.80	
Total BTEX	<0.300	0.300	03/04/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.6 %* *61-154*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	03/03/2015	ND	416	104	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/03/2015	ND	180	90.0	200	1.71	
DRO >C10-C28	<10.0	10.0	03/03/2015	ND	175	87.5	200	5.84	
EXT DRO >C28-C35	<10.0	10.0	03/03/2015	ND					

Surrogate: 1-Chlorooctane *80.8 %* *47.2-157*

Surrogate: 1-Chlorooctadecane *80.0 %* *52.1-176*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/02/2015	Sampling Date:	02/20/2015
Reported:	03/06/2015	Sampling Type:	Soil
Project Name:	DENTON SWD #3	Sampling Condition:	Cool & Intact
Project Number:	FASKEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: TT-6A (H500577-07)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/04/2015	ND	1.97	98.3	2.00	4.17	
Toluene*	<0.050	0.050	03/04/2015	ND	1.79	89.4	2.00	2.85	
Ethylbenzene*	<0.050	0.050	03/04/2015	ND	1.97	98.7	2.00	4.44	
Total Xylenes*	<0.150	0.150	03/04/2015	ND	5.29	88.1	6.00	4.80	
Total BTEX	<0.300	0.300	03/04/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *93.4 %* *61-154*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**688**	16.0	03/03/2015	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/03/2015	ND	180	90.0	200	1.71	
DRO >C10-C28	<10.0	10.0	03/03/2015	ND	175	87.5	200	5.84	
EXT DRO >C28-C35	<10.0	10.0	03/03/2015	ND					

Surrogate: 1-Chlorooctane *83.0 %* *47.2-157*

Surrogate: 1-Chlorooctadecane *83.8 %* *52.1-176*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/02/2015	Sampling Date:	02/20/2015
Reported:	03/06/2015	Sampling Type:	Soil
Project Name:	DENTON SWD #3	Sampling Condition:	Cool & Intact
Project Number:	FASKEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: TT-7A (H500577-08)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/04/2015	ND	1.97	98.3	2.00	4.17	
Toluene*	<0.050	0.050	03/04/2015	ND	1.79	89.4	2.00	2.85	
Ethylbenzene*	<0.050	0.050	03/04/2015	ND	1.97	98.7	2.00	4.44	
Total Xylenes*	<0.150	0.150	03/04/2015	ND	5.29	88.1	6.00	4.80	
Total BTEX	<0.300	0.300	03/04/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *93.6 %* *61-154*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	03/03/2015	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/03/2015	ND	180	90.0	200	1.71	
DRO >C10-C28	<10.0	10.0	03/03/2015	ND	175	87.5	200	5.84	
EXT DRO >C28-C35	<10.0	10.0	03/03/2015	ND					

Surrogate: 1-Chlorooctane *77.3 %* *47.2-157*

Surrogate: 1-Chlorooctadecane *78.2 %* *52.1-176*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Basin Environmental Service Technologies, LLC	**BILL TO**	
Project Manager:	Ben Arguijo	**P.O. #:**	
Address:	P.O. Box 301	**Company:**	Fasken Oil & Ranch, Ltd.
City:	Lovington **State:** NM **Zip:** 88260	**Attn:**	Aaron Pachlhofer
Phone #:	(575)396-2378 **Fax #:** (575)396-1429	**Address:**	6101 Holiday Hill Rd.
Project #:	**Project Owner:** Fasken Oil & Ranch, Ltd.	**City:**	Midland
Project Name:	Denton SWD #3 1/2015	**State:** TX **Zip:**	79707
Project Location:	Lea Co., NM	**Phone #:**	(432)687-1777
Sampler Name:	Ben J. Arguijo	**Fax #:**	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST													
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**	Chloride	TPH (8015M)	BTEX (8021B)											
H500577																											
1	TT-1B	G	1			X					X		2/19/15	1330	X	X	X										
2	TT-1E	G	1			X					X		2/19/15	1700	X	X	X										
3	TT-2B	G	1			X					X		2/19/15	1500	X	X	X										
4	TT-3A	G	1			X					X		2/19/15	1530	X	X	X										

Relinquished By:	**Date:** 3/2/15	**Received By:**	
	Time: 1400		
Relinquished By:	**Date:** 3-2-15	**Received By:**	
	Time: 1620		
Delivered By: (Circle One)		**Sample Condition** Cool ☑ Yes ☐ No / Intact ☑ Yes ☐ No	**CHECKED BY: (Initials)**
Sampler - UPS - Bus - Other:	-1.4°C		

Phone Result:	☐ Yes	☐ No	**Add'l Phone #:**
Fax Result:	☐ Yes	☐ No	**Add'l Fax #:**
REMARKS:			

Please e-mail results to bjarguijo@basinenv.com, jimmyc@forl.com & aaronp@forl.com

FORM-006
Revision 1.0

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

#54

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Basin Environmental Service Technologies, LLC	**BILL TO**	
Project Manager:	Ben Arguijo	**P.O. #:**	
Address:	P.O. Box 301	**Company:**	Fasken Oil & Ranch, Ltd.
City:	Lovington **State:** NM **Zip:** 88260	**Attn:**	Aaron Pachlhofer
Phone #:	(575)396-2378 **Fax #:** (575)396-1429	**Address:**	6101 Holiday Hill Rd.
Project #:	**Project Owner:** Fasken Oil & Ranch, Ltd.	**City:**	Midland
Project Name:	Denton SWD #3 1/2015	**State:** TX **Zip:**	79707
Project Location:	Lea Co., NM	**Phone #:**	(432)687-1777
Sampler Name:	Kyle Humphrey	**Fax #:**	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	ANALYSIS REQUEST: Chloride	TPH (8015M)	BTEX (8021B)
H5005T7																	
5	TT-4B	G	1			X					X		2/20/15	0930	X	X	X
6	TT-5C													1035			
7	TT-6A													1100			
8	TT-7A													1400			

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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: Kyle Humphrey	**Date:** 2-20-15 **Time:** 3:00	**Received By:**	
Relinquished By:	**Date:** 2/21/15 **Time:** 1100	**Received By:**	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: Jodi Henson		**Sample Condition** Cool: ☐ Yes ☐ No; Intact: ☐ Yes ☐ No	**CHECKED BY: (Initials)**

Phone Result: ☐ Yes ☐ No **Add'l Phone #:**
Fax Result: ☐ Yes ☐ No **Add'l Fax #:**
REMARKS:

Please e-mail results to bjarguijo@basinenv.com, jimmyc@forl.com & aaronp@forl.com

FORM-006
Revision 1.0

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

1620
-1.40°
#54

CARDINAL Laboratories

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

March 31, 2015

BEN J. ARGUIJO

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: DENTON SWD #3

Enclosed are the results of analyses for samples received by the laboratory on 03/24/15 15:09.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/24/2015	Sampling Date:	03/24/2015
Reported:	03/31/2015	Sampling Type:	Soil
Project Name:	DENTON SWD #3	Sampling Condition:	Cool & Intact
Project Number:	FASKEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: TT-8A (H500790-01)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/27/2015	ND	2.27	113	2.00	4.46	
Toluene*	<0.050	0.050	03/27/2015	ND	2.05	102	2.00	4.48	
Ethylbenzene*	<0.050	0.050	03/27/2015	ND	2.02	101	2.00	5.26	
Total Xylenes*	<0.150	0.150	03/27/2015	ND	6.10	102	6.00	4.73	
Total BTEX	<0.300	0.300	03/27/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *61-154*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3160**	16.0	03/26/2015	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/26/2015	ND	188	94.1	200	0.988	
DRO >C10-C28	<10.0	10.0	03/26/2015	ND	194	96.9	200	4.52	
EXT DRO >C28-C35	<10.0	10.0	03/26/2015	ND					

Surrogate: 1-Chlorooctane *95.5 %* *47.2-157*

Surrogate: 1-Chlorooctadecane *111 %* *52.1-176*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/24/2015	Sampling Date:	03/24/2015
Reported:	03/31/2015	Sampling Type:	Soil
Project Name:	DENTON SWD #3	Sampling Condition:	Cool & Intact
Project Number:	FASKEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: TT-9A (H500790-02)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/27/2015	ND	2.27	113	2.00	4.46	
Toluene*	<0.050	0.050	03/27/2015	ND	2.05	102	2.00	4.48	
Ethylbenzene*	<0.050	0.050	03/27/2015	ND	2.02	101	2.00	5.26	
Total Xylenes*	<0.150	0.150	03/27/2015	ND	6.10	102	6.00	4.73	
Total BTEX	<0.300	0.300	03/27/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *61-154*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3280**	16.0	03/26/2015	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/26/2015	ND	188	94.1	200	0.988	
DRO >C10-C28	<10.0	10.0	03/26/2015	ND	194	96.9	200	4.52	
EXT DRO >C28-C35	<10.0	10.0	03/26/2015	ND					

Surrogate: 1-Chlorooctane *87.9 %* *47.2-157*

Surrogate: 1-Chlorooctadecane *97.3 %* *52.1-176*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/24/2015	Sampling Date:	03/24/2015
Reported:	03/31/2015	Sampling Type:	Soil
Project Name:	DENTON SWD #3	Sampling Condition:	Cool & Intact
Project Number:	FASKEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: TT-10D (H500790-03)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/27/2015	ND	2.27	113	2.00	4.46	
Toluene*	<0.050	0.050	03/27/2015	ND	2.05	102	2.00	4.48	
Ethylbenzene*	<0.050	0.050	03/27/2015	ND	2.02	101	2.00	5.26	
Total Xylenes*	<0.150	0.150	03/27/2015	ND	6.10	102	6.00	4.73	
Total BTEX	<0.300	0.300	03/27/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *61-154*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**368**	16.0	03/26/2015	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/26/2015	ND	188	94.1	200	0.988	
DRO >C10-C28	<10.0	10.0	03/26/2015	ND	194	96.9	200	4.52	
EXT DRO >C28-C35	<10.0	10.0	03/26/2015	ND					

Surrogate: 1-Chlorooctane *83.5 %* *47.2-157*

Surrogate: 1-Chlorooctadecane *93.2 %* *52.1-176*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/24/2015	Sampling Date:	03/24/2015
Reported:	03/31/2015	Sampling Type:	Soil
Project Name:	DENTON SWD #3	Sampling Condition:	Cool & Intact
Project Number:	FASKEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: TT-11A (H500790-04)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/27/2015	ND	2.27	113	2.00	4.46	
Toluene*	<0.050	0.050	03/27/2015	ND	2.05	102	2.00	4.48	
Ethylbenzene*	<0.050	0.050	03/27/2015	ND	2.02	101	2.00	5.26	
Total Xylenes*	<0.150	0.150	03/27/2015	ND	6.10	102	6.00	4.73	
Total BTEX	<0.300	0.300	03/27/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *61-154*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1920**	16.0	03/26/2015	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/26/2015	ND	188	94.1	200	0.988	
DRO >C10-C28	<10.0	10.0	03/26/2015	ND	194	96.9	200	4.52	
EXT DRO >C28-C35	<10.0	10.0	03/26/2015	ND					

Surrogate: 1-Chlorooctane *88.6 %* *47.2-157*

Surrogate: 1-Chlorooctadecane *99.6 %* *52.1-176*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/24/2015	Sampling Date:	03/24/2015
Reported:	03/31/2015	Sampling Type:	Soil
Project Name:	DENTON SWD #3	Sampling Condition:	Cool & Intact
Project Number:	FASKEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: TT-12A (H500790-05)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/27/2015	ND	2.27	113	2.00	4.46	
Toluene*	<0.050	0.050	03/27/2015	ND	2.05	102	2.00	4.48	
Ethylbenzene*	<0.050	0.050	03/27/2015	ND	2.02	101	2.00	5.26	
Total Xylenes*	<0.150	0.150	03/27/2015	ND	6.10	102	6.00	4.73	
Total BTEX	<0.300	0.300	03/27/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *61-154*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**240**	16.0	03/26/2015	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/26/2015	ND	188	94.1	200	0.988	
DRO >C10-C28	<10.0	10.0	03/26/2015	ND	194	96.9	200	4.52	
EXT DRO >C28-C35	<10.0	10.0	03/26/2015	ND					

Surrogate: 1-Chlorooctane *95.0 %* *47.2-157*

Surrogate: 1-Chlorooctadecane *97.7 %* *52.1-176*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/24/2015	Sampling Date:	03/24/2015
Reported:	03/31/2015	Sampling Type:	Soil
Project Name:	DENTON SWD #3	Sampling Condition:	Cool & Intact
Project Number:	FASKEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: TT-13B (H500790-06)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/27/2015	ND	2.27	113	2.00	4.46	
Toluene*	<0.050	0.050	03/27/2015	ND	2.05	102	2.00	4.48	
Ethylbenzene*	<0.050	0.050	03/27/2015	ND	2.02	101	2.00	5.26	
Total Xylenes*	<0.150	0.150	03/27/2015	ND	6.10	102	6.00	4.73	
Total BTEX	<0.300	0.300	03/27/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *61-154*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	03/26/2015	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/26/2015	ND	188	94.1	200	0.988	
DRO >C10-C28	<10.0	10.0	03/26/2015	ND	194	96.9	200	4.52	
EXT DRO >C28-C35	<10.0	10.0	03/26/2015	ND					

Surrogate: 1-Chlorooctane *80.1 %* *47.2-157*

Surrogate: 1-Chlorooctadecane *88.8 %* *52.1-176*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Basin Environmental Service Technologies, LLC	**BILL TO**	
Project Manager:	Ben Arguijo	**P.O. #:**	
Address:	P.O. Box 301	**Company:**	Fasken Oil & Ranch, Ltd.
City:	Lovington **State:** NM **Zip:** 88260	**Attn:**	Aaron Pachlhofer
Phone #:	(575)396-2378 **Fax #:** (575)396-1429	**Address:**	6101 Holiday Hill Rd.
Project #:	**Project Owner:** Fasken Oil & Ranch, Ltd.	**City:**	Midland
Project Name:	Denton SWD #3 1/2015	**State:** TX **Zip:**	79707
Project Location:	Lea Co., NM	**Phone #:**	(432)687-1777
Sampler Name:	Ben J. Arguijo	**Fax #:**	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST													
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	Chloride	TPH (8015M)	BTEX (8021B) added 3/26											
H500790																											
1	TT-8A	G	1			X					X		3/24/15	0830	X	X	X										
2	TT-9A	G	1			X					X		3/24/15	0845	X	X	X										
3	TT-10D	G	1			X					X		3/24/15	1045	X	X	Hold										
4	TT-11A	G	1			X					X		3/24/15	0900	X	X	X										
5	TT-12A	G	1			X					X		3/24/15	0915	X	X	X										
6	TT-13B	G	1			X					X		3/24/15	1030	X	X	X										

Relinquished By: Date: 3/24/15 Time: 1315 **Received By:**

Relinquished By: Date: 3-24-15 Time: 3:09 **Received By:**

Delivered By: (Circle One)

Sampler - UPS - Bus - Other: 1.4°C

Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No

CHECKED BY: (Initials)

Phone Result: ☐ Yes ☐ No **Add'l Phone #:**
Fax Result: ☐ Yes ☐ No **Add'l Fax #:**
REMARKS:

**** Run BTEX if TPH is <= 1,000 ****

Please e-mail results to bjarguijo@basinenv.com, jimmyc@forl.com & aaronp@forl.com

FORM-006
Revision 1.0

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

#54